

The **MODEL** **BUILDER**



NOVEMBER 1972

volume 2, number 13

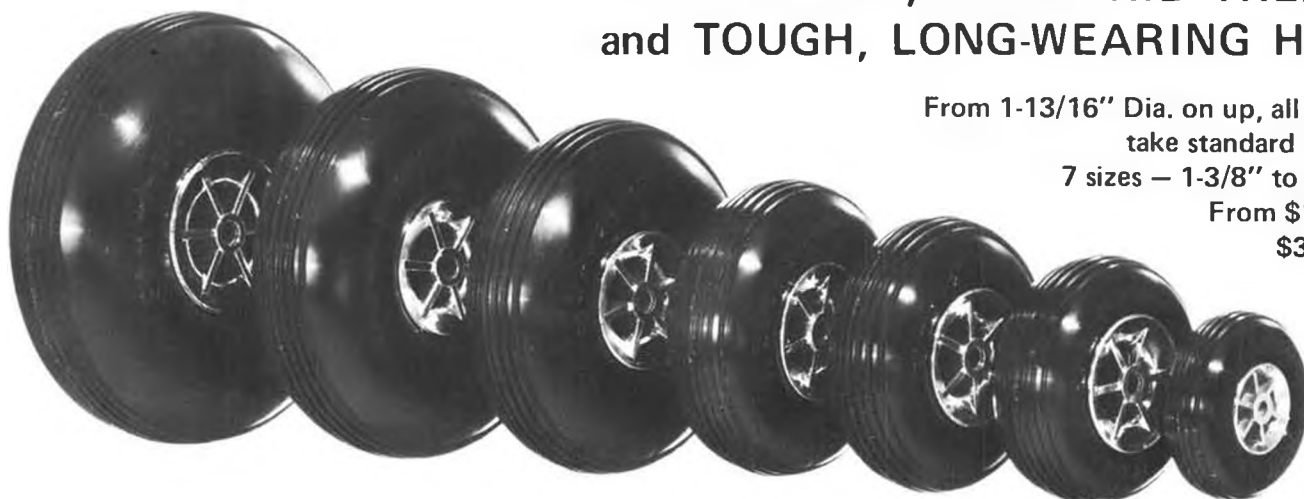
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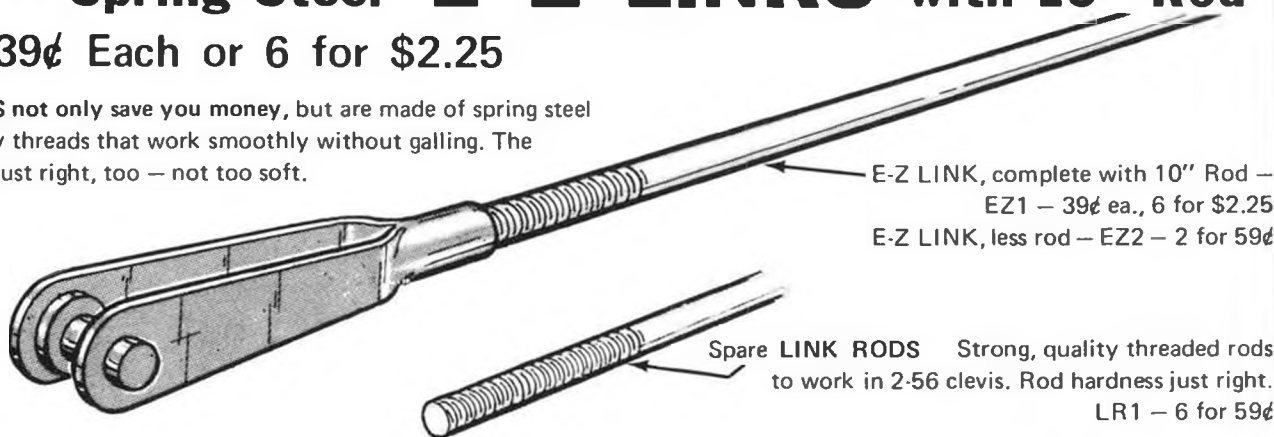
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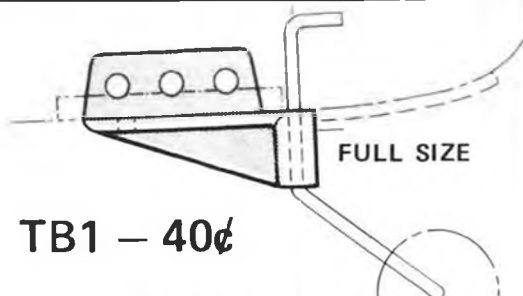
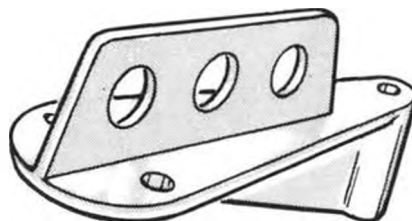
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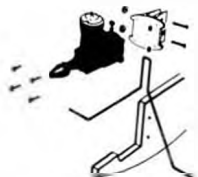
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The MODEL BUILDER

NOVEMBER

1972

volume 2, number 13

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Cover: It's hard to believe that the 1937 Folkerts SK-3 in this photo has only an 18-1/2" wingspan! Built to 1-1/8 inch scale by Jack McCracken, president of the NAR Flightmasters, the 24" long model used 8 strands of 1/4" rubber to win the scale category in the club's recent speed contest . . . flying through the trap at just under 30 mph. Scaled from Aeromodeller and Hirsch drawings, the cream-yellow ship with red lettering features a manual retracting landing gear and plug-in wings. It is now headed for the Russ-Craft museum. Photo by Fernando Ramos



In keeping with our established tradition of giving you a different view of the hobby, here is a picture of the winners at the R/C Masters FAI Team Trials in Huntsville, Ala., Sept. 23 and 24.

from Bill Northrop's workbench . . .

ONE CANDLE ON THE CAKE

●A little over a year ago, when we first launched *The Model Builder*, the question most often asked was, "Who needs another magazine?" Obviously, the question was not asked with the idea that we should produce a list of "who"; it was intended to mean, "Why bother, there are already four magazines in the U.S. that cover it all."

Naturally, if we had felt that way too, we wouldn't have started MB, particularly since we had a pretty good idea of the months of struggling that were ahead and knew there could be great financial loss if the project failed.

Having been a modeler for 40 years (celebrated half a century of life on Sept. 14) and a magazine reader and

collector for most of that time (our files include M.A.N. complete from 1935 with scattered earlier issues, *Flying Aces* from 1935, *Bill Barnes Air Trails* . . . *Now American Modeler* . . . from 1935, *Popular Aviation*, *Flying Models*, *Model Aircraft Builder*, *Aeromodeller*, etc. etc), we felt that the modern magazines have left a few valuable areas open which we would be able to fill. Obviously, there is a great deal of overlapping. When you get right down to it, one general coverage model magazine could do it all, but by the same token, though eating the exact same food every day of the year could keep you alive, who would want it that way . . . unless you're 99 percent robot?

After a year spent in trying to

prove our point . . . that we could offer something to the modeler that may not be available elsewhere . . . we're proud to report that the project is a success. *THE MODEL BUILDER* is here to stay, and we wish at this time to offer our thanks.

Thanks to our advertisers first of all. Without them there would simply be no magazine. And thanks especially to the "Big Nine" . . . the manufacturers who put their advertising money in the pot from the very first deal, knowing it would be quite a while before they could win a hand: Phil Kraft, Bill Hannah of Heathkit, Mike Schlesinger and Sid Axelrod of Top Flite, Jim Whitley of Pro-Line, Jack Stafford, Dan Pruss of Su-Pr-Line, John Tatone, John and Lauri Converse along with Ed Shipe of Vortex, and the Williams Brothers, Larry and Granger.

Thanks to all of our subscribers, but most particularly, the many at the 1971 AMA Nationals, who bought and paid for one and two year subscriptions, sight unseen . . . before the first issue had even gone to the printer!

Thanks to many of our readers who have become self-appointed public relations agents, spreading the good word to other modelers and to dealers in their respective areas who have needed some convincing about "another model magazine."

Thanks to the hobby dealers in the U.S. and abroad who carry and display the magazine for over-the-counter sales. Incidentally, we have also thanked our dealers by continuing our policy of not accepting advertising from high discount rate mail order houses.

Thanks to our excellent staff of feature editors who cover so well their



AMA President Johnny Clemens presented his personal "President's Award" to Rocket City R/C President Gary Martin, for the Masters Tournament job. It's now in the city hall trophy case. (l to r) Gary Martin, Bob Klineyoung, Mayor Joe Davis, and "Dubie" McGuire.

particular facet of our great hobby. Thanks also to the many contributors of special reports, construction articles, and product reviews.

Thanks to the many local modeler and non-modeler friends who have responded to our frantic phone calls, at all hours, to come in and lend a hand with some of the very menial but time consuming tasks that are a part of the complete publishing job.

Thanks to *most* of the other model publications, who have acknowledged our entry into their domain and have moved over just a little to make room.

And a very special thanks to our General Manager, who has duplicated our many hours of labor, who has kept going even when it looked as though we'd have to give up and close the doors the very next day, who has kept another job, selling real estate, in order to keep the project alive, and who has spent most all of her time, when we go to contests and trade shows, tirelessly soliciting subscription and dealer orders . . . talk about the "hard sell," you should hear the routine when some poor guy offers sales resistance!

* * *

LOST AND FOUND DEPT.

Had a nice subscription renewal letter from Bert Pond, one of the real old-timers of modeling. We had a picture of him taken at the Nationals in the October issue, holding, appropriately, a twin-pusher. He lost it in an O.O.S. flight at Bong a short time later. But this isn't what Bert's looking for . . .

In hopes of recontacting some old time modeling buddies, Bert has asked



MB's General Manager tries to convince Huntsville's Mayor, Joe Davis, that model building has many interesting side benefits. Trials R/C judge Chuck Watkins and Johnny Clemens look on.

us to publish their names. If any of our readers have any idea of their whereabouts, contact us, or let Bert know directly. The names are: Paul Shiffersmith — I.M.A.C. in the 1920's, Eugene Docherty — I.M.A.C. in the 1920's, and Donald Burnham — champion flyer in the 1930's.

Bert can be reached at 128 Warren Terrace, Longmeadow, Mass. 01106 phone 413-567-5346.

* * *

THE TROUBLE WITH TWINS IS . . .

Last month we published an article about electric power for model airplanes, particularly R/C. The by-line said Bob Boucher, when instead, it should have been Roland Boucher (pronounce it boo-shay), Bob's twin brother. Actually, they don't look *that* much alike, it was just a plain goof on our part.

The Boucher brothers produce a line

of R/C gliders, F/F power and glider trainers, a hi-start for R/C glider launching, and most recently, two electric power units for model airplanes, which could also be adapted for car and boat use. Their company is the well-known Astro Flight, Inc. 2301 Cheryl Pl., Los Angeles, Ca. 90049.

* * *

THINGS TO DO

The big Second Annual Control Line All Speed Meet will be taking place at Los Alamitos N.A.S. on November 18 and 19. All-in-all, there will be 26 speed events, including 1/2 A Profile Proto, Proto, and Speed; FAI Speed; A Speed; B Profile Proto, Proto and Speed; C Speed; and Jet Speed. Except for Profile Proto 1/2 A and B which is limited to Juniors, all events will be divided into J, S, O.

Contact Bev Wisniewski, CD, 4261



Latest product from Fliteglass Models is this scale Firecracker for Formula II or FAI Pylon racing. Kit features joined fiberglass fuselage, foam wing cores, hardware, canopy, plans and instructions. Wing area is 606 sq. in., suggested retail, \$52.95. For .40's, natch!



Experimental Ross single on Denis Donohue's "El Tigre," which he flew at Huntsville, Ala. You should hear that thing!

Petaluma, Lakewood, Ca. 90713.

* * *

Bruce Paton, secretary of the Model and Craft Shows, Inc., has just sent out announcements confirming that the gigantic MACS trade show will take place again in 1973, at the same location, the Anaheim Convention Center, near Disneyland, Anaheim, California. The dates are June 29, 30, and July 1. Don't miss it!

* * *

OVER THE COUNTER

We'd like to call your attention to Carl Goldberg's advertisement in this issue. At first glance you might think, "Big Deal! More fittings and wheels. We need 'em like a hole in the head!"

Take another look. The subtle refinements may have escaped you. F'rinstance; the new metal EZ Links are similar to others that have been on the market for a number of years . . . but . . . the price of each link, complete with a 10 inch threaded (2-56) rod is only 39 cents, six for \$2.25. Links only sell 2 for 59 cents, and the threaded rods may be purchased separately at 6 for 59 cents.

The Goldberg low-bounce wheels are the same in price as others now on the market . . . seven sizes from 1 3/8 to 3 1/8 inch diameters, selling for \$1.89 to \$3.19 . . . but both the sharp, clean rib threaded tires and the tough chrome plated hubs are of specially selected materials not found in other wheels of similar appearance.

You can blame Jack Stafford and Carl Goldberg for the third new item.



Roland Boucher and his Astro Flight AS-W17, first in scale at North-South Challenge meet. Span is 132 inches, price of kit, \$59.95.

Jack once remarked to Carl, "What this country needs is a new tailwheel bracket." To which Carl replied, "O.K., Jack, you design it and I'll produce it." Voila! The new look in tailwheel brackets after a dry spell of 10 years or more. Jack's design will fit most any fuselage plan view taper, and is installed by simply cutting an appropriate slot in the fuselage bottom and epoxying the bracket in place. Incidentally, the ad shows the bracket, which sells for only 40 cents, full size in the profile view.

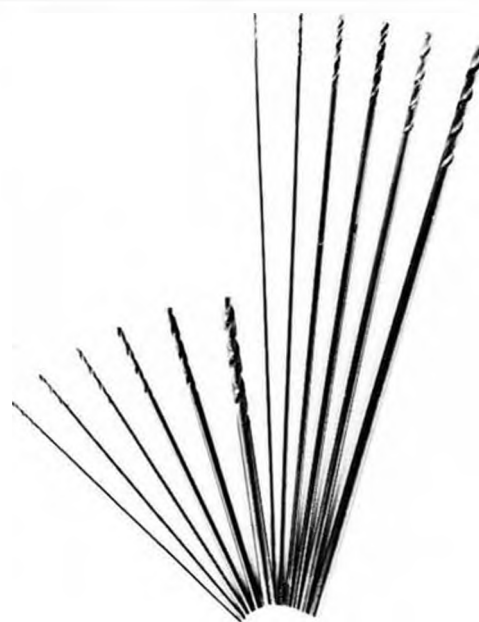
* * *

This month we welcome a long established and well known modeling firm to our list of advertiser's; Sterling Models, Belfield Ave. and Wister St., Philadelphia, Pa. 19144.

Looking at the ad, free flight scalers will be pleased to see three new ships in the line of "stick and tissue" models, each one at \$7.95. The Citabria and Super Cruiser Cub are 1 inch scale, while the P-40 is 3/4 inch. Kits are supplied with material for the rubber powered version, but they may be converted to gas or CO₂ for F/F, U/C, or R/C (using single channel pulse rudder).

The Lancer SL-62 is a new R/C model for .60 engines, designed for sport flying but with competition capabilities. Plane is all balsa and birch plywood construction, featuring full-length fuselage sides, ply doublers that go past the wing opening for maximum strength, shaped nose and cowl blocks, aluminum engine mounts, and formed trike gear.

Wing construction insures no warps,



C & T Model Specialties is making these 6 and 12 inch long drills available. Very handy item.

with sheet covering, tapered strip ailerons, and all hinging and linkage hardware. Wing is attached with nylon screws into provided hardwood nut-blocks. Rudder and fin are solid sheet, stab is a sheet covered framework. Complete Lancer kit sells for \$39.95.

* * *

Fliteglass Models, P.O. Box 98851, Des Moines, Wash. 98188 is now offering a full scale model of the Keith-Ryder "Firecracker" racer, for Formula II or FAI Pylon. The high quality fiberglass and foam kit, according to Ralph White, owner of Fliteglass, can be finished in one week of evenings. The in-line engine and sleek lines of the Firecracker, especially with the addition of Goldberg, or similar retract gear, is a perfect combination for a low drag pylon racer.

This particular Firecracker was designed by Boeing aeronautical engineer Bob Root, and with the original, he has won almost all of the FAI races in the Northwest, including the 1971 Spokane Internats.

The kit includes a joined fiberglass fuselage, foam wing cores, hardware, canopy and full size plans and instructions. Wing area is 606 sq. in., and, of course, it's for .40 cu. in. engines. Suggested retail price is \$52.95.

* * *

C&T Model Specialties, 19 Dogwood Road, Boonton, New Jersey 07005, says you'll wonder how you ever modeled without their 6 and 12 inch long drill sets . . . and they're right. We happened to come across a long 1/8 inch drill several years ago, and that thing has had as much use as most any tool in our collection.

C&T makes it even better by offer-



Roman Yerema advertises his model shop on Snoopy's Doghouse! Wanna buy some space?

ing two sets of long drills; a 6 inch set, and a 12 inch set. Both sets include 6 very handy sizes: 1/16, 5/64, 3/32, 1/8, 5/32, and 1/4 inch diameters. The many use possibilities are simply too long to list.

The drills are sold direct only: The 6 inch set costs \$10.00, the 12 inch set is \$15.00, or both for \$22.95. Prices include postage.

* * *

Royal Electronics, 2119 S. Hudson, Box 22204, Denver, Colo. 80222, is selling separately the cable/connector sets used in the 1972 Classic and Tech R/C systems. These items are also replacements for the Kraft systems.

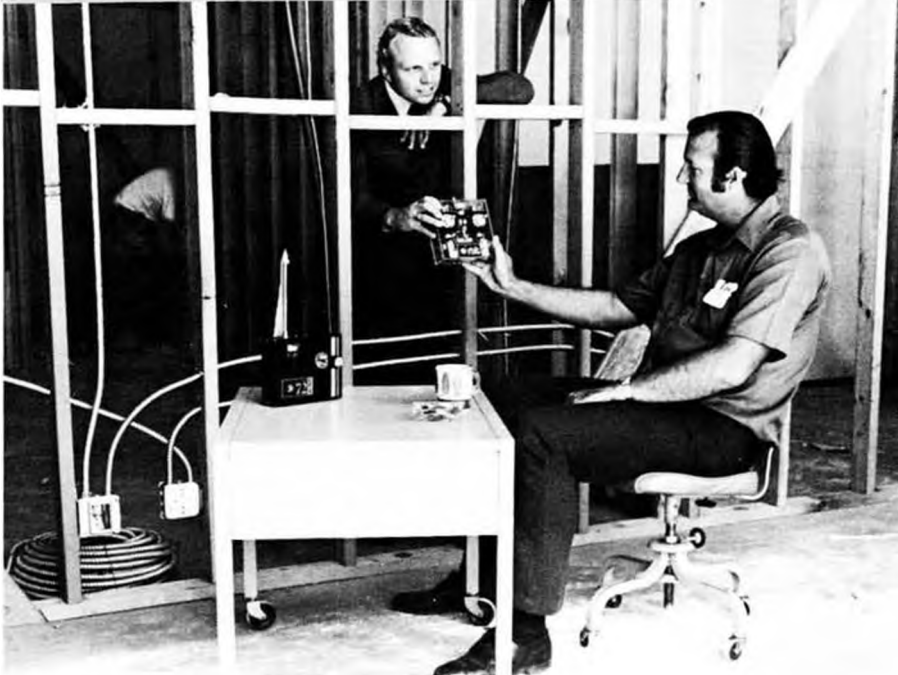
Included are 3 and 4 wire servo connectors, 3 and 4 wire female connectors, 3 and 4 wire aileron extensions, 3 wire battery connection, switch harness, male charging connectors, female charging connectors, and D&R's airborne charge receptacle, and charger connector/cable. Write to the company for a copy or the catalog and price sheet.

* * *

Six months after returning to private ownership, Orbit Electronics, now once more under the guidance of knowing model builders, is making itself recognized again as a prime manufacturer of top quality R/C equipment. Owner-manager Charles Speer and Big John Elliot, sales manager and chief expeditor, have set up the operation in new quarters just around the corner from the previous location.

The new facility, at 1641 Kaiser Ave., Santa Ana, Ca. 92705, is planned specifically for R/C manufacturing. There is filtered, dust-free, conditioned air for both precision assembly and personnel comfort. All R/C systems will be cycled more than 50,000 times in a high temperature chamber prior to delivery to assure maximum reliability.

The company is setting up an R/C museum in the front lobby, and is searching for Orbit systems dating back to 1954. If you have a "museum



Charles Speer, owner-manager, and John Elliot (seated) sales manager, demonstrate the see-thru, reach-thru walls in the new Orbit facility. Makes for more efficient operation. See text for more.

piece" gathering dust, contact Charles Speer, he might work out an interesting trade.

* * *

One of the most fascinating catalogs of special, precision, hard-to-find tools (and many that you didn't even know existed) is available from Brookstone Company, Brookstone Bldg., Peterborough, New Hampshire 03458. The 64 page catalog has an endless variety of items . . . just to throw you a few: Acid pen for marking metals, nylon vise jaws, flexible files, brass hammer, rust eraser, jewelers files, saws, and screwdrivers, many unusual optics,

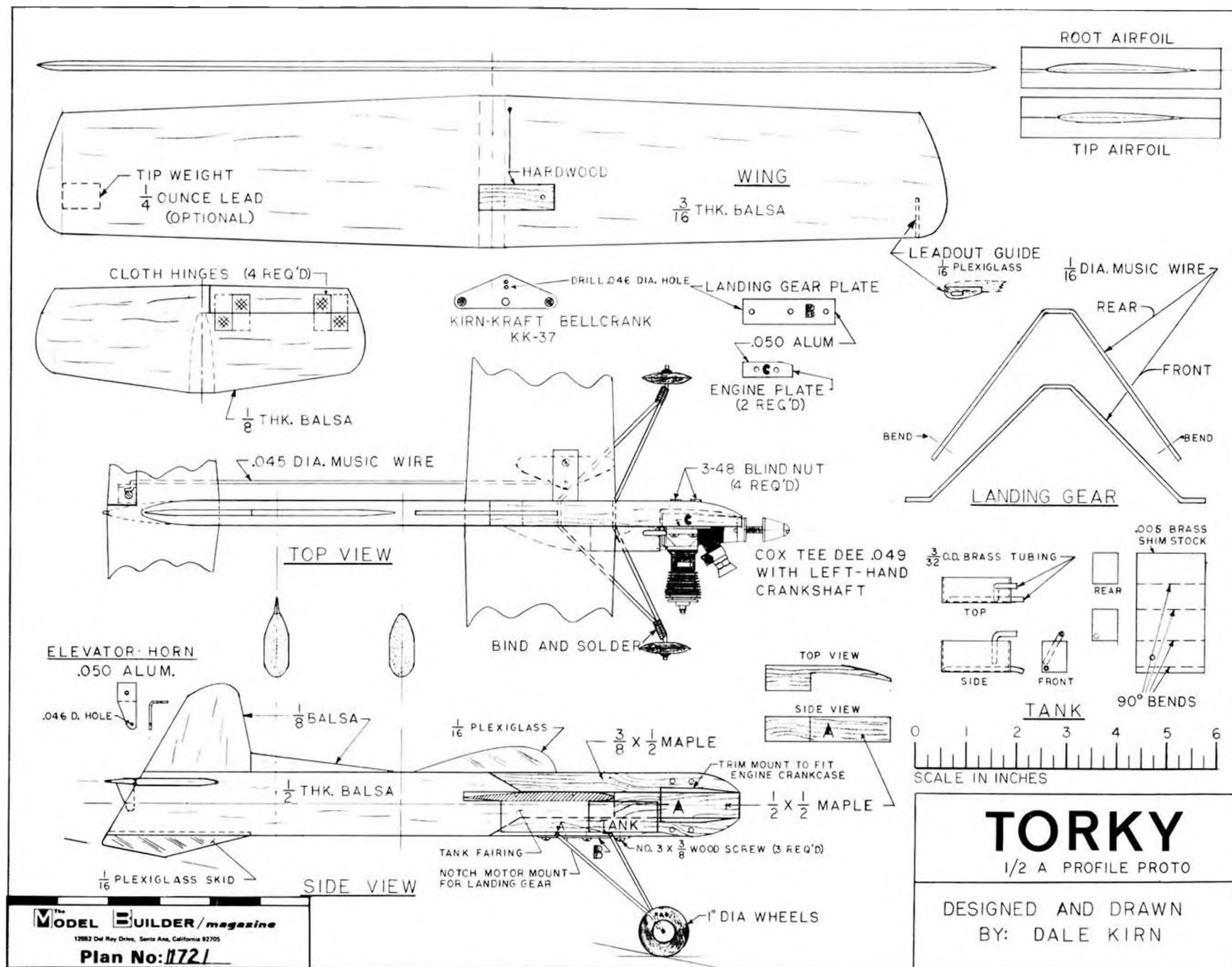
oilstones, heat shrink tape, many special pocket knives, modeling knives with cherry wood handles, a range finder that measures from 50 yards to 2 miles (This one we're getting. Sounds great for measuring glider altitudes, free flight power heights, etc. Will report on it.), brass lined pliers, special drills for plastics, surgical and dental instruments, carbide saws, stainless steel garden tools by Wilkinson Sword Limited (!), small blowtorch, miniature hand vise, stainless steel folding 36 inch rule, umpteen different tweezers, miniature welding torch, iris scissors, and so on. You gotta see it to believe it! ●



Old flying buddy and Nats R/C judge, Arnie Lipschutz, is still flying our T'Winger design, this being No. 5. Fuselage was narrowed to provide head cooling for the Ross twin.

FULL SIZE PLANS AVAILABLE — SEE PAGE 64

The MODEL BUILDER





TORKY

This simple-to-build Half-A Profile Proto ship has many years of experience behind its clean and functional lines. The article alone is like a textbook on 1/2A speed. By Dale Kirn

● It isn't often that the AMA will establish a special event just for Junior flyers only. But that is exactly the case with 1/2A Profile Proto. The idea behind this event is to encourage Juniors to enter a plane in the speed category at a minimum of expense and building time.

The rules were so written that the modeler has to build an airplane that will fly. That may sound a bit silly, but let's take a close look and see why

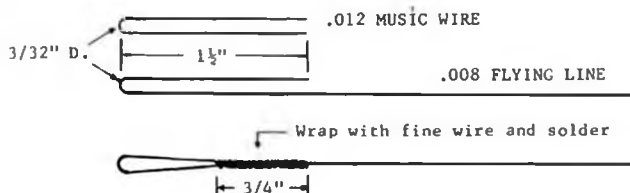
we said it. Ever since 1/2A speed planes have been around, they have achieved the reputation of being the most difficult type of speed plane to fly. Only a few experts can make them fly right and go fast. The average modeler just is not aware of all the "little things" that are necessary to make a successful 1/2A speed plane.

The majority of 1/2A speed planes made are usually too small and improperly balanced. When flown in the

slightest breeze, they either fly erratic or torque will roll 'em right in at the flyer. The logical solution to these problems is to make a larger plane that is easier to fly — even though it may be a bit slower. Thus, the reasoning behind 1/2A Proto.

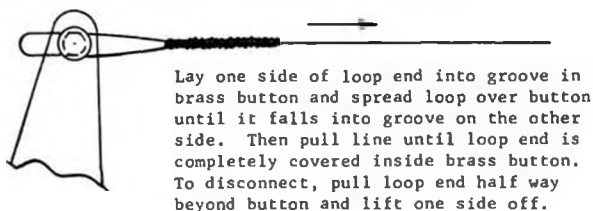
The object of 1/2A Profile Proto is to cover a 1/2 mile (10 laps on 42 feet of .008 lines) from a standing start in the shortest amount of lapsed time. In order to do this, a relatively light (4-1/2

The ends of the flying lines are fitted with a .012 thick wire loop which is placed on top of the .008 line, wrapped with fine wire and soldered.



Solder with acid core solder. Neutralize the acid (after finished solder job) with solution of baking soda and hot water. Put oil on loops to prevent rusting.

Hook-up loop ends to bellcrank per this sketch:



Lay one side of loop end into groove in brass button and spread loop over button until it falls into groove on the other side. Then pull line until loop end is completely covered inside brass button. To disconnect, pull loop end half way beyond button and lift one side off.

The .008 x 42' lines are available from Kirn-Kraft with the loop ends already made up.

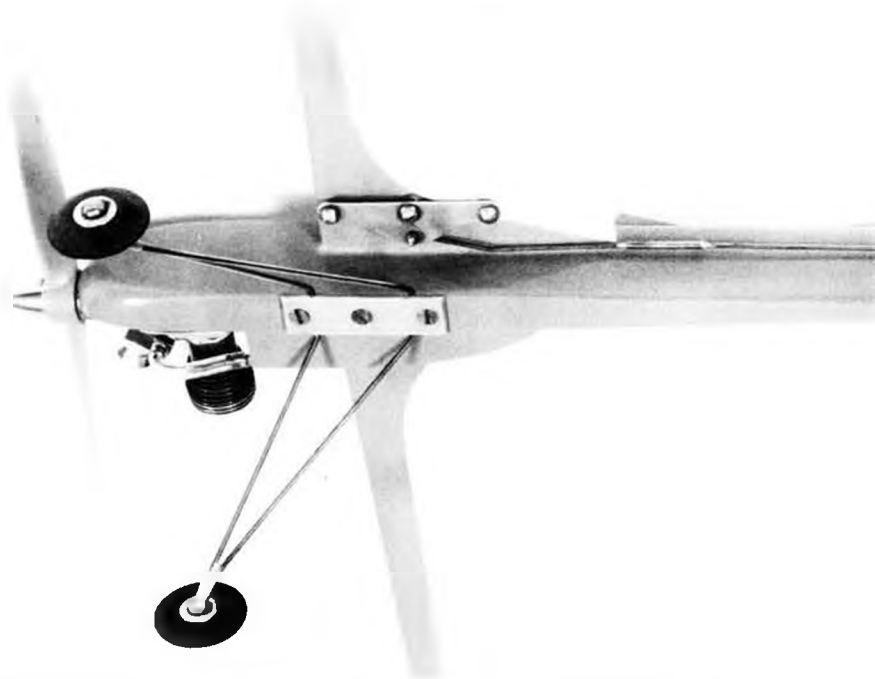
Sketch A. Strong line connections are a vital safety requirement, especially in speed.



On older cylinders, file a flat on the top fin to accommodate the wrench, rather than putting it in the exhaust slots. See text.



Left-hand prop and shaft produce torque that pulls ship away from center, keeping lines tight and aircraft under control. Note TORKY's clean, functional lines; evidence of careful design.



TORKY's underside doesn't have to play second fiddle to the top. Again, very clean, functional design work. Makes for easy clean-up and/or maintenance of parts.

to 5-1/2 ounce) plane is needed. It must build up speed quickly and maintain that speed for at least 10 laps. The rules state that you must have your wrist in the pylon within the first lap. This feat can be quite a problem for the inexperienced flyer, especially if he flies his plane counterclockwise . . . as most modelers do. When the plane is released, the engine torque causes the plane to come in at the flyer. He must run back until centrifical force will keep the plane tight on the end of the lines. In the meantime, he must get his wrist into the pylon before the plane completes the first lap.

This torque problem has been plaguing 1/2A Proto flyers for quite some time, but there are at least three solutions to it:

1. Fly clockwise and let the torque hold the plane out.
2. Fly counterclockwise, but add an excessive amount of lead in the outboard wing tip and balance nose heavy.
3. Fly counterclockwise and use a left-handed shaft and propeller. Torque will keep the plane pulling away during takeoff.

With the solutions listed above, the modeler takes his plane off with his wrist in the pylon. This solves both problems. Solution number 3 was chosen for TORKY. All of the 1/2A Proto (Profile) records since 1969, have been set using this principle. The present record is 83.41 MPH, set by Harvey Dickinson of North Hollywood, California. In 1970, Jimmy Wade,

Anaheim, California, set a record of 86.12 MPH. This record no longer stands, due to a rule change (age classification lowered for Junior flyers).

Availability of a large selection of left-handed propellers undoubtedly has discouraged many modelers from using this torque principle. Grish has made several left-handed 1/2A Props. His 6-4 and 4 1/2-4 props do a fair job, but they are a little too thick and flexible for speed use.

The author has been experimenting with left-handed props for several years and is currently producing a 1/2A Proto prop (4"D x 5"P). These props currently hold the records mentioned earlier.

The left-handed crankshafts have always been available from the L. M. Cox Manufacturing Company, Box 476, Santa Ana, California, 92701. They sell for \$2.25 each, part number 1715. It takes about 10 minutes to disassemble the T.D. 049 and install the left-handed shaft.

All the basics of speed flying can be learned with a 1/2A Proto (profile) plane. It isn't any one item that makes an airplane go fast. Rather, it is a combination of many factors, such as the airplane design, balance, the engine, the fuel, the propeller, the fuel tank and the weather conditions.

Vibration is the most important thing to keep in mind when designing and building a 1/2A Proto. The three areas that must be watched very carefully are the engine mount, tail (stab/elevator) assembly, and the landing gear assembly. Not only can vibration rob R.P.M. from the engine, but it can also start a foaming condition in the tank and cause an erratic engine run during flight. Therefore, if these areas mentioned look a little "beefy" on the drawings, it was done so with this vibration factor in mind.

CONSTRUCTION

FUSELAGE: Cut fuselage outline to shape out of 1/2 inch balsa sheet. Saw 1/8 inch slot for stab. Shape beveled ends of hardwood engine mounts and cement hardwood spacer between them. When these have dried, cement this unit to the fuselage. Be sure there is a 3/16 slot under the top engine mount. This opening is for the wing.

Cut two .050 thick aluminum engine spacers to size and drill clearance holes for engine. Wipe bottom side of engine mounting lugs with alcohol or lacquer thinner to remove any oil film. Temporarily spot glue the two spacers to bottom side of engine mounts. Purpose of aluminum spacers is to provide a hard surface for the engine to seat against and

Continued on page 41



Former Southwest Stunt Champ Stan Brock with his "Oriental." A good, simple design by Dee Rice.



Bill Rutherford's 3rd place Nats winning P-51 stunt ship. A slow flyer but corners not too sharp. Jim Young's newest stunter at far rear.



● Have you ever seen an autogiro ukie ship? I can remember seeing one as a kid and it flew fine, as I recall. Makes me wonder what it would take to make one of my own. Does anyone know of plans from some ancient model mag or does anyone have pictures? I'm obsessed with the idea for some stupid reason . . . maybe it's the lure of a design challenge. Let's share ideas, if anyone else is interested in autogiros. (Did you attend

CONTROL-LINE

By Dick Mathis

the 1971 Nats, Dick? Or was that when you were a kid? An autogiro was flown U-control during the model airshow on Sunday. The rotors came off in flight, and I have movies to prove it! Maybe the owner will fess up. WCN)

While on the wierd idea kick, have you ever considered a twin-engine combat using two hot .15's or a .15 and a .19 to give .35 displacement total? The two .15's would have higher total output than one .35 (bhp per cu. in. gets higher as you go to smaller contest engines), but they would weigh more. They would present much more streamer cutting disc area due to the two prop arcs. But maybe the less efficient small .15 props wouldn't match the bigger .35 prop. You be the judge. Which is more powerful . . . two 7-6's turning 20,000 or one 8-8 turning

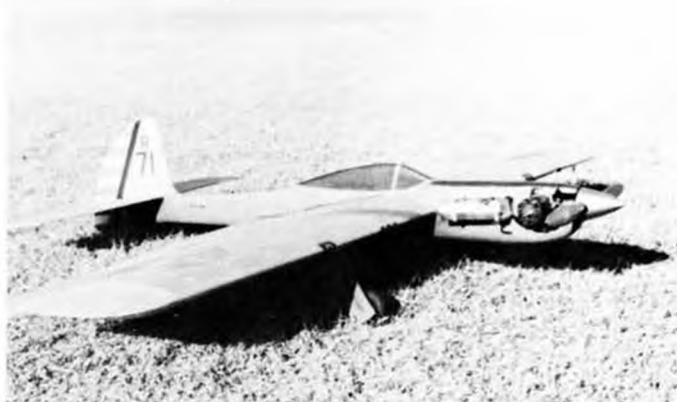
20,000? Obviously, there are complications in starting two engines, and the plane more trouble to build, but we shouldn't reject the notion blindly. Upon hearing this idea, as we worked on slow combats, Matt Smith immediately determined it would not work, but Rick Merriman, who obviously is very smart, liked the idea so much he suggested an even better one. Why not use two .15's and a Tee Dee .049 . . . a tri-motor combat!

There ensue a brief discussion of where to put the third motor which ended when Matt suggested to your columnist it be put in a rather personal place not located on the airplane at all. Other multi-engine applications include three .049's for a Badyear team racer, or how about Sixty Cox .010's for "C" speed?

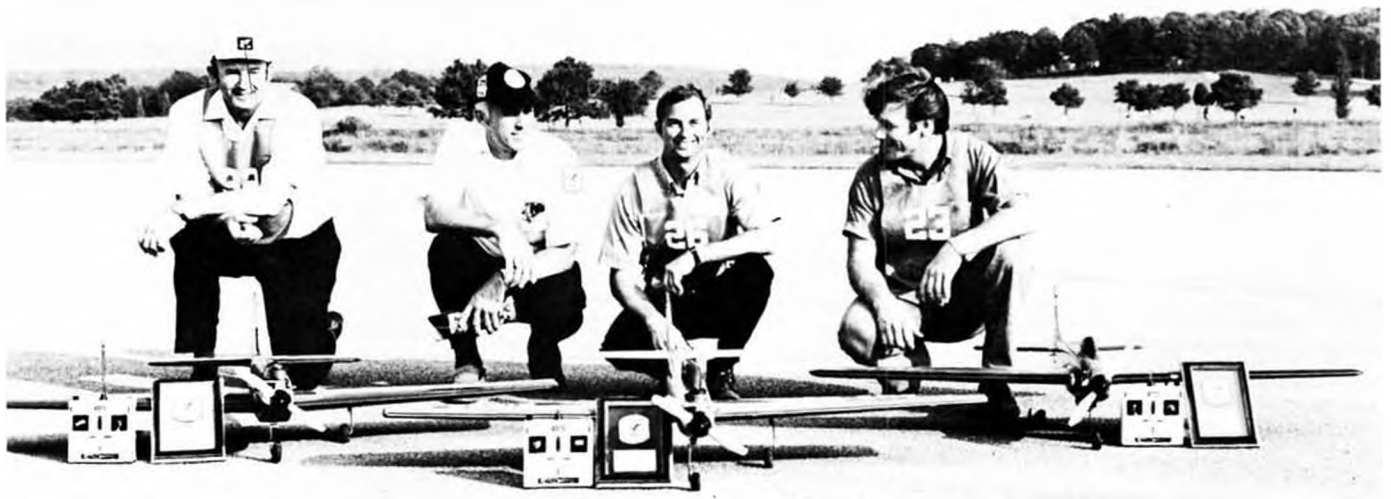
Continued on page 50



Another view of Stan Brock's "Oriental." Was published in M.A.N.



FR's original "Excaliber," dating back to 1966, is a semi-profile design. Winner of many contests around country by other builders.



Our 1973 FAI R/C Pattern Team: Fullback Jim Whitley, Quarterback Tom Rankin, and Halfbacks Norm Page and Jim Martin. Some line up!

RADIO CONTROL REPORT

By
Bill Northrop

The Rocket City Radio Control Club of Huntsville, Alabama hosts the FAI Team Selection Masters Tournament. Eloy Marez describes the annual the Asociacion Jaliciense de Radio Control in Guadalajara, Mexico.

● It has been six years since we last attended an FAI R/C Pattern Team Selection Finals. That last time was in Oklahoma City, 1966, where we judged, and it was the first time that a special contest was organized for the sole purpose of selecting a pattern team to represent the United States in the FAI World Championships.

The Oklahoma contest was such an instant success that the Radio Control Industry Association established the "Master's Tournament" as a continued means of selecting the U.S. team. In the seven World Championships held over the past 12 years, the individual U.S. team members have never placed lower than tenth and have won the individual championship five times (Ed Kazmirski 1960, Tom Brett 1962, Ralph Brooke 1963 and 1955, Phil Kraft 1967). As a team, the U.S.A. placed first 4 times, and second 3 times.

In case you hadn't noticed, the 32 fliers eligible to compete in this year's event qualified to do so in the following manner: the three members of the previous (1971) U.S. team; the top ten placers (who had applied for the team selection program) at the 1972 AMA Nationals; and twenty top point accumulators from AMA sanctioned contests throughout the country. (The 33rd qualifier, Steve Buck, Paradise Valley, Arizona had to cancel at the last minute . . . too late to fill the slot.)

This year's contest was certainly organized, directed, and administered in a manner befitting its importance to our participation in World Champion-

ship competition. The Huntsville R/C Club, Rocket City Radio Controllers, Inc., under the presidential leadership of Gary Martin, did an outstanding job of organizing and directing the contest. Member Red Scholefield, the harried but always polite, good-natured, and cooperative Contest Director, worked closely with Team Selection Program Administrator, Tom Rankin, to keep everything and everyone in working order.

An interesting sidelight to Red's character: There was a wooden bench near the flight line that caught our eye several times. About 8 to 10 feet long and a foot wide, it consisted of a single 2 x 12 plank seat supported by 3 evenly spaced verticals of the same size material. At first glance, it was just another weathered, wooden bench with an extremely warped seat . . . almost looking like a low-pitch propeller blank. However, there was one confusing variation from the normal outdoor wooden bench that caught our attention . . . the three supports were still all exactly vertical to the ground and yet made complete contact with the underside of the seat! The tops of the two outboard supports had been purposely slanted about 10 degrees . . . one in each direction . . . to accommodate the warp!

At this point, we were on hands and knees, eyeballing the bench from an appropriate angle, all of which no doubt appeared rather strange to nearby observers (except those who have known us for some time). Fortunately, a Rocket City R/C'er relieved the situation, but only a little, by pointing out that this

was "Red's Wing Building Board."

Further investigation now became a necessity, and Red himself explained that the club had gotten damn sick and tired of replacing stolen benches . . . so he built one that nobody would want! Wonder if it's still there . . . ?

In addition to providing a fine working force, the Rocket City group also came up with a flying site that could very well be considered as World Championship, and even Nats caliber. Only a few miles south of the city of Huntsville (if you're a native, it's pronounced "HUNTSvul"), it is actually the recently deactivated municipal airport, complete



Leader of the "Teen-age invasion," Steve Ellison, Salem, Ore.; Jim Whitley calling.



An excellent contest site, the former Huntsville Municipal airport, now closed to all full scale aircraft . . . used regularly by the Rocket City R/Cers.

with two long, smoothly-paved runways. The club uses the facility, with city permission, for its regular weekly flying activities.

To complete the facility end of the set-up, the headquarters motel, the Ken-Bar Inn is situated at the north end of the field, accessible by a short dirt road connecting directly to a taxi strip leading to the main runway.

The contestants assembled for the team trials were an excellent cross-section of the best U.S. fliers. It was interesting to note that there were three teen-agers (Steve Buck would have made it four) competing; Steve Ellison (Salem, Ore.), Mike Mueller (Chicago, Ill.), and Bill Richards (Arlington Hqts., Ill.). Steve Ellison, 18, came hauntingly close to making the team; only 165 points away from the third place total of 22,065! Even at that, he ended up in 5th place, 95 points below Rod Chidgey, who in turn was only 70 points below Jim Whitley, the owner of that third spot! Remember too, we're talking about scores that have been multiplied by a K-factor of 10 or 15, meaning that the actual judges scoring of 0 to 10 points was, in fact, microscopically close for these three contestants after six rounds of flying. This brings to focus the one unfortunate situation that developed during the otherwise flawless weekend.

Good-natured kidding and fooling around among the contestants is a part of all competitive sports. It is not only just plain fun, but it is also necessary to help keep down the tension that naturally builds up in the heat of battle. Of course, the horse-play comes to an end during actual competition. This is a part of the respect that each man feels for his sport and for his fellow combatants. Unfortunately, this respect was apparently not felt by one of the fliers at Huntsville. His barnstorming antics between maneuvers, and the very obvious misplacement of maneuvers, to the detriment of his own scores, was quite recognizable to even the casual observer.

This close-in, low-level flying, although performed by a highly skilled

R/C pilot, was not only unsafe, but totally out of place in a competition of this magnitude. To every official and contestant (but one) in attendance, this tournament was second only in importance to the World Championships itself. We feel that the officials responsible were remiss in not following up their first warning to this individual, in Round One. Continued violations during Round Two, should have resulted in a final warning of immediate disqualification for a third offense.

Could it have made a difference in the results? We think so. Ron Chidgey's last round flight was made during the barnstormer's last and most blatant demonstration. Hopelessly out of the running, he nevertheless insisted on flying and repeated the earlier performance, with low, five-foot-off-the-deck return passes . . . one not more than 15 or 20 feet from where Ron was standing . . . and close-in, ground-clipping loops, placed in front of Ron's judges instead of his own.

During one of these close-in maneuvers, Ron was attempting his final landing, following a surprisingly good flight considering the conditions. His "Tiger Tail" was just a little too low, and, unable to hear the engine respond to a slight amount of throttle because of the nearby roar of the poorly muffled barnstormer's engine, he added too much



Contest Director Red Scholefield turns 1st place winner, Norm Page toward our camera.

throttle, ballooned 3 feet into the air, and then plopped roughly into, we believe, the 15K circle. The landing perfection couldn't have been worth more than 3 or 4 points at best; this from a two-time Nats winner and previous U.S. team member!

Assuming a 7 or 8 landing under normal conditions, Ron would have scored 3 or 4 points higher per judge, times 15 equals 45 or 60, times 5 judges equals 225 to 300 points, much more than the mere 70 point spread between 3rd and 4th. Even *one* (1) more point per judge would have given Ron 75, or 5 more points than Jim



AMA's Executive Director John Worth, Huntsville's Mayor Joe Davis, and U.S. delegate to FAI Aeromodeling Committee Maynard Hill (l to r) at the Saturday night banquet.



Jack Spalding (standing) and Cecil Rogers check weight of Col. Hank Walker's "Hi-Lo," co-designed with George Hill and kitted by them.



Continuous roll score sheets kept spectators aware of current flyer's progress. Scores relayed by phone from flight line.

Whitley's 3rd position score.

Of course, "IF" is a big word when talking about something like this, and no one could truthfully say that our 1973 team would be any different in strength with Jim Whitley, Ron Chidgey, or Steve Ellison in that 3rd spot. The whole idea here is to point up how critical a situation it can be, and how careful we must be to see that everyone deserving it has an equal chance.

The first and second team spots, as most everyone connected into the modeling grapevine knows, were captured by two well known modelers who have been flirting with the top for several years, and have now moved in, lock, stock, and barrel (guess we should say "prop, fuel, and battery," or "wing, stab, and fuselage," or . . .), Norm Page (Mt. Prospect, Ill.) and Jim Martin (Bloomfield, N.J.).

Norm wasted no time getting started; one of only three to post an over-7,000 score in Round One. In Round Two, he scored 7,405, highest single mark so far, but his two-round total was still second to Chidgey's 14,540 by 105 points. Steve Ellison was already well on the way with his teen-age invasion, getting two 7,000

plus scores.

In Round Three, Norm ate up Ron's lead, and then some, with another new high single mark of 7,480, a score that was eventually the *lowest* of his three best! Again, the teen-age monster came back with a 7,265 and Ron "Jack Armstrong" Chidgey added a 7,255 to maintain a grip on 2nd spot above Steve. As yet, Jim Martin had not passed 7,000, but had a Second Round 6,965 to build on.

Incidentally, for point of reference, a perfect score would be 9,250 (eight 10K factor maneuvers plus seven 15K factor maneuvers equals 1850, times 5 judges, equals 9,250) and the final scores would be the total of a contestant's best three flights. The judges weren't giving anything away!

In Round Four, both Norm and Ron backed off slightly, with 7,175 and 7,180 respectively. Norm's score was better than his First Round 7,030, so this boosted him to 22,060, while Ron remained at 21,795, only 20 points ahead of Ellison, who improved his First Round score by 240 points in Round Four. In this round it does not appear that Martin had yet made his move, but the 6,735

score was deceiving. Jim was putting up a beautiful flight but apparently ran out of time before landing. Assume an 8 landing in the 15K circle and you've got 600 more points, or a possible 7,335!

In Round Five, things really started happening. Norm Page hung up a tremendous 7,650 that boosted his 3-flight total by 475 to 22,535, which, although no one could know at the time, was enough to bring home the bacon. Jim Whitley put up his best so far, 7,385, and quietly sneaked into 4th spot, just 200 points below Steve Ellison, who did not improve on his Fourth Round total. Ron Chidgey scored his best flight in this round, to improve by 200 and remain in what seemed to be a comfortable second spot. And what did "Joisey Jim" Martin do? He put it *all* together and slammed the streaking banshee into the highest flight score of the contest, 7,735! This was 1000 points higher than his previous round score, and all of a sudden, he was in 5th spot; only 90 points behind Whitley, 290 behind Ellison, 510 points from Chidgey . . . Forget about Page; he was out looking for eggs to go with



Never saw Jimmy Grier so serious! Jerry Worth calls for him, as judge Carl Olson watches.



Alabama dentist Don Coleman; 4th runner up Ron Chidgey calling, judge Chuck Watkins.



Mike Mueller, his Dad calling; another teen-age invader who did very well. Note technique.



"Start it up, Dave Brown, your time is on." He's from Mason, Ohio, and ship is "Phoenix 5," Don Lowe's design. That's Mrs. B. holding.

his bacon!

The stage was really set now for Act Six. Of course, Norm found the eggs, also the coffee and toast, to go with the bacon. A steady and consistent flyer, Norm put himself safely out of reach with a strong 7,555 finish, boosting his final score to 22,685.

Jim Martin had everything to gain and nothing to lose. He had shown everyone, and himself, that he could do the job in Round Five, and to prove it wasn't a fluke, he came within 100 points of doing it again in Round Six, 6,635. This boosted his 3-round total by 850 points! A tough act to follow. At this point, many people came up to shake Jim's hand and congratulate him for grabbing second place, but Jim refused the offers, keeping his hands in his pockets. He knew what could and has happened in the past. The congratulations could come later, as far as Jim was concerned, when the word was final . . . and official.

And now, Act Six, Scene II, that most critical time for Ron Chidgey; sitting on top of third spot . . . the hot seat, with Ellison just 200 points away and Whitley a little further out at 420.



"Say 'Cheese', Ralph." AMA's John Worth gets a picture of dentist Ralph Brooke; twice World Champion and always in contention.

So what happens? Enter the clown, that's what!

Ron's score was his worst in the meet, 7,105, and we've already explained it. Jim Whitley put the best of his "Daddy Rabbit" clan through its paces and racked up his highest mark of the contest, a solid 7,505, to bring his top-3 score up by 490 to 22,065. This meant that Steve Ellison would need a 7,530 to tie for third, or even more to take it. His best-of-the-meet score (for him), 7,365, was a great effort, but not enough, and so it was Page, Martin, Whitley, Chidgey, Ellison . . . et al.

"Et al" down to tenth place, by 3-flight totals were Jim Kirkland (Valpariso, Fla.), Phil Kraft (Oceanside, Ca.), Dave Brown (Mason, O.), Ralph Brooke (Seattle, Wash.), and Joe Bridi (Harbor City, Ca.).

Winners in the World Championships are determined in the same manner as used at Huntsville; total of the best three flights. Analyzing scores, it is interesting to note the revised finishing order that would result if *consistency* were the prime factor. Remember, conditions at World Championships are not always ideal; due to weather or

confusion in operation, there may not be as many rounds flown from which the all-important 3 flights are chosen. Could it be that our team selection should be made with this as the prime consideration? Let's see what would have happened.

Norm Page and Rod Chidgey were the only ones to score over 7,000 in every round, with Norm still holding first because of the higher single flight. Third would be Steve Ellison with 5 flights over 7,000. Jim Whitley would have been 4th with four over 7,000. The remaining top ten order would have been Kirkland, Brooke, Kraft, Martin, Brown, and Bridi.

Wanna try it another way? How about highest single flight: Martin (7,735), Page (7,650), Whitley (7,505), Brown (7,400), Chidgey (7,395), Ellison (7,365), Kirkland (7,310), Mike Mueller and Brooke (7,280), Bridi (7,200).

Juggle 'em however you want, we've still got an excellent team going to Italy next year, and any one of the members could end up on the highest platform of that 3-level podium. The individual winner will *not* be the best flyer! With competition such as Matt,



Gastien Mathelin and son Roberto, with HP-40 powered QM Ballerina; won Open Pylon.



Mexicana Airlines donated 1st Place trophy, held by Elia de Santos. Look at those dimples!



Lolita Davila holds Open Pylon racer for husband Marcial. Did he propose that way, Lolita?



Feliciano Pratt receives 3rd place Expert Patter trophy from Mrs. Yturbe, wife of well known Mexican entertainer, Victor, left.



Everywhere there is ham! Gaston Mathelin acknowledges Open Pylon First Place trophy from Elia Santos.

Prettner, Giezendanner, Page, Martin, Whitley, Wester, Schaden, Sugawara, Hardaker, etc., all with equal flying ability, the top man will be the one who makes the least mistakes . . .

* * *

GUADALAJARA, 1972 by Eloy Marez

The Asociacion Jaliciense de Radio Control (AJRC) (Radio Control Association of Jalisco) held their annual contest on September 15th thru the 17th of this year. The site, as usual, was the capital city of the state of Jalisco, Guadalajara. The second largest city in Mexico, with a population approaching one and a half million, Guadalajara is located about 300 miles WNW of Mexico City, and an easy two hours via Mexicana Airlines from Los Angeles. The altitude of 5200 feet, while creating some problems for the flyers from lower altitudes, combines with the 20 degree latitude into an ideal modeler's climate. Warm and sunny, with temperatures in the low 80's in the daytime, yet, cool coat wearing weather in the evenings.

The flight down for the southern California group, consisting of Louie Zienneker (Century Hobby, Garden Grove), John Elliot and Yours Truly (Orbit Electronics) was a revelation. Having read and heard about the problems of traveling with models via the

airlines, we approached the various ticket counters and gate checkers with some misgivings, two full sized birds, and big grins. Other than the expected curiosity, no problems were encountered. Quite the contrary, we were relieved of the fuselages and wings by two of Mexicana's fairest, who then placed them in empty seats, padded them with pillows and blankets and tenderly applied seat belts. I'm sure, had we asked for them, they could have found some 20% nitro Margaritas for the OS-60s. The de-planing at Guadalajara was the reverse, with plenty of TLC, handshakes, and a big 'Buena Suerte.'

The site of the contest was the flying field of the AJRC, one of the two RC clubs in Guadalajara, and a nicer one would be hard to find. Paved runway, plenty of open area, club house, fenced area for the spectators, hot meals, and no lack of cold 'Corona' beer and soft drinks. The Contest Director was Jose 'Pepé' Calderon, a modeler since the days when contests consisted of rubber power only, and now owner of 'La Casa del Modelista', Guadalajara's finest hobby shop and the hub of modeling activity in that city. The list of entrants from Mexico read like 'Who's Who in RC in Mexico', with 'aficionados' being present from as far away as Puebla and Monterrey, a few of us from the U.S., and Mr. Teodoro Tinetti, President of the Asocia-

cion Salvadorena de Aero Modelismo, in San Salvador, El Salvador.

Mr. Tinetti has hopes of hosting the third annual Central American contest in his country in April or May of next year. The two previous contests have been held in San Jose, Costa Rica, and the change is desirable since the more central location would be convenient to a larger number of enthusiasts.

The competition was in four categories: FAI Pattern, expert and novice; FAI Pylon, and Open Pylon, with trophies going to the first three places in each category. Winners of Expert Pattern were: 1st, Salo Feiner; 2nd, Benjamin Castaneda; and 3rd, Feliciano Pratt. Novice Pattern 1st, 2nd, and 3rd places were won by Richard Mattenberg, Manuel Santos, and Jose Calderon, Jr., in that order. FAI Pylon; 1st to 3rd places went to Roberto Mathelin, Benjamin Castaneda, and Manuel Sierra, respectively.

The Open Pylon race was without a doubt the most interesting to flyers and spectators alike. Some of the entrants used their pattern ships, either current ones or obviously resurrected ones, though a large number of ships, made especially for the event, were flown. Most in evidence were Middle Sticks, minus gear and hand launched,

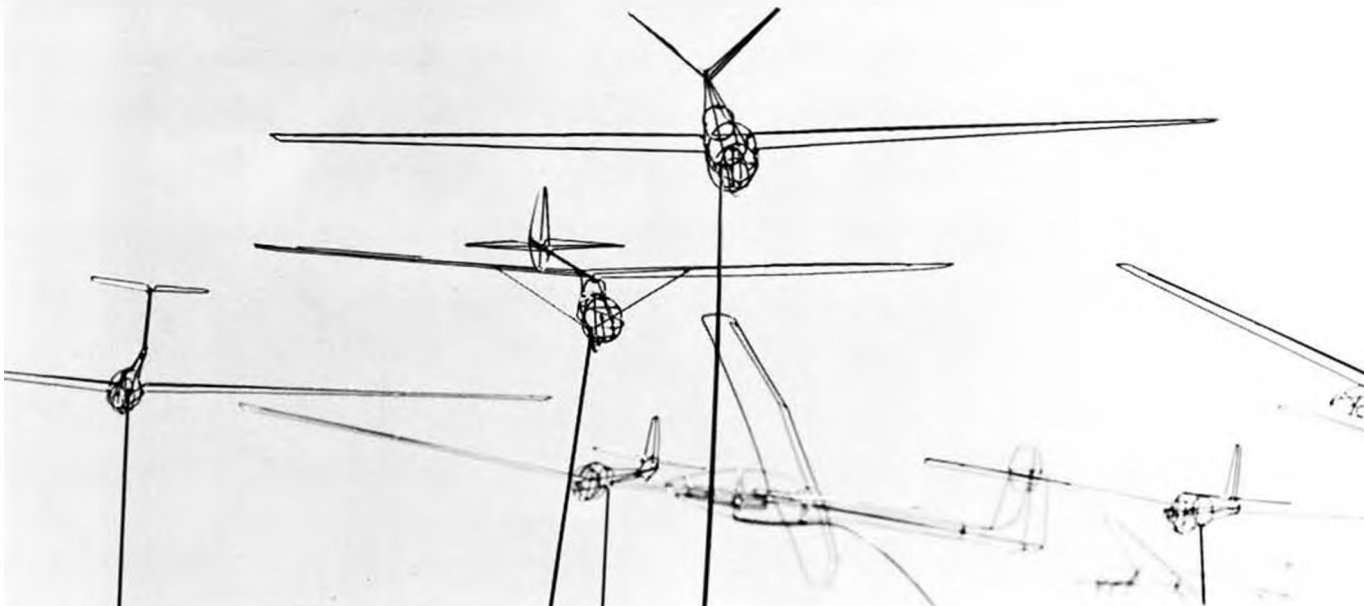
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One of Mexico's best, Dr. Alejandro Elizondo, Mexico City. He has flown Scale in the AMA Nationals.



Another of Mexico's famous fliers, Luis Castaneda, of Puebla. He was a member of the Mexican team competing in Doylestown last year.



Besides the fame and recognition, contestants at the tournament were inspired by the graceful trophies created by sculptor, George Popa.

1972 L.S.F. **SOARING** TOURNAMENT

R/C By Le Gray

● Barbara Henon, LSF/250, of Pacific Palisades, California, topped a line-up of more than 100 pilots and waltzed away with First Overall in the League of Silent Flight 1972 RC Soaring Tournament, 26 and 27 August, at Fountain Valley, California. The petite dynamo flew her Blushing Red and Purity White Graupner "Cumulus 2800" sailplane through the pack of male contenders to a take-it-all 6,244 out of 7,000 possible points. Rick Walters of Saratoga, California and his famous "White Trash" . . . the winning combo in the LSF 1971 Tournament . . . trailed this year at 6,147. Andre "Buck" Faure, Encinitas, flew his Mark's Models "Windfree" to Third Overall with 6,086 points.

The LSF 1972 RC Soaring Tournament was produced by the San Fernando Valley Silent Flyers, a club of more than 130 flying members, headquartered in Woodland Hills, northwest of the Los Angeles megalopolis. The Tournament, AMA Sanction No. 548, was co-sponsored again this year by leading commercial organizations which are heavily oriented to the soaring sport: DU-BRO, KRAFT, MIDWEST, MODEL AIRPLANE NEWS, ORBIT, R/C MODELER, TOP FLITE and WINDSPIEL MODELS.

Barbara's brilliant performance topped some of the most experienced competition pilots in the country, including class winners and other high

scorers from the recent RC Soaring Nationals, Chicago, Illinois. The on-field male contingent had travelled from most areas of California as well as Arizona, Illinois, Indiana, Michigan, New Mexico, Oklahoma, Texas, Washington and Canada.

Competition flight tasks in the Tournament were set up in accordance with the AMA Rules for Radio Control Sailplanes (Provisional) with participation in various events scheduled for each pilot.

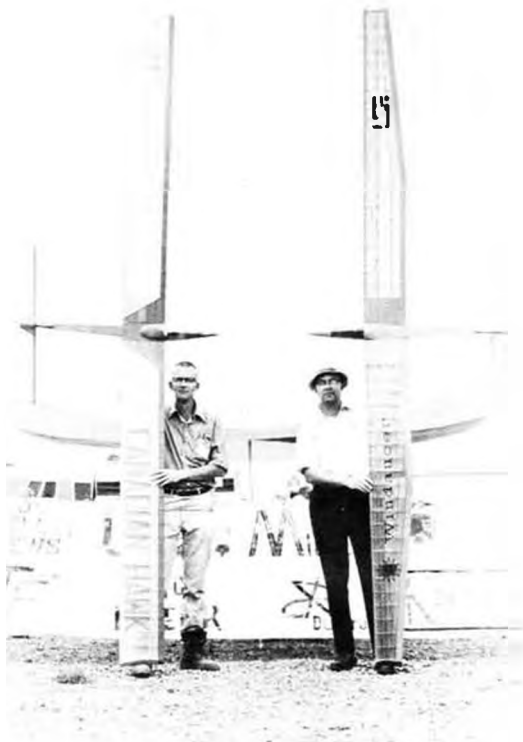
In building her lead, Barbara placed first in the Duration Task which required consistently high scores in four

flight rounds. Other tasks contributing to her overall win were two rounds each of Precision Time/Spot Landing and Speed.

According to Jack Seeley, SFVSF President and '72 Tournament Manager, Ms. Henon has been active in the host club since its founding in early 1971. Few club activities or events have been accomplished without her enthusiastic participation. At the 1972 Tournament, Barbara's assignment was assistant to close friend and flight tutor Dick Shilling, Fieldmaster. Her work schedule started at 6:30 in the morning on both contest days, with



Official timer Perry Neuschatz can't believe the whole thing as Barbara Henon continues to pile up points on her way to the championship. Helper Dick Shilling offers words of encouragement.



Canadian Ralph Dodsworth (left) and SFVSF member Jim Balch with 12' span YANKEE GULLs, from MB plans. Jim added taper.



"OK, girls, together now, 'First you put your two knees . . .'" Le Gray, LSF President and Tournament Director.



Barry Glenn, hobby shop owner, made sure this winch wouldn't move. Eight identical units designed by Bill Whitney, built by son Darryl.

the setup of the Transmitter Impound Area. The days ended only after all other field activities were secured.

Between the early start and late finish, Barbara helped wherever extra hands were needed . . . scoring, timing, errand "boy", pilot assistant. To the subsequent chagrin of the 100 plus male contestants, she also found a few minutes in her frantic hours to fly her imported sailplane in each round of competition.

Scoremaster Jim Hale's crew kept current tallies of all pilots' standings posted on a huge scoreboard erected outside his on-field office. By close of the fourth round on Saturday, it was obvious to all that "some girl"

was one of the high scorers. Not a winner, of course, but right up there with the Walters, Willards, Smiths, Tennisons and other based-on-past-performance favorites. Some unofficial score keepers ranked Barbara in fifth place.

Saturday evening's banquet at the Sheraton Beach Inn saw the very feminine young woman, in the most stylish of gowns, with her escort Dick Shilling, chatting with friends. To visitors, it seemed incongruous that the attractive blonde was "that girl." But the serene exterior was an out-and-out lie. Barbara was aware, almost painfully aware, of the classic opportunity that had developed.

A near sleepless night passed with strategy planning for each upcoming flight detailed with the deliberate care and cunning of a field general. And with just a little luck . . .

Sunday morning dawned with the Tomboy Tigress on deck at the USMC Helicopter Auxiliary Airfield in her flying togs and Mod sunglasses. She was ready, able and most willing to claw away at the never before challenged . . . and soon to be mythical . . . male supremacy in R/C soaring.

As the day progressed, so did interest grow . . . to both casual and competitive . . . in Barbara's continued acquisition of points. The last round on Sunday called for an 8-minute precision



Winchmaster, Don Powell, watches as John Donelson prepares to fly his Guenther-Wolsleger kitted HP-14 scale entry. Kirk Hansen holds.



Kraft's Joe Martin finds gliders quite a change from pylon racers, "They turn left AND right!"

time flight which offered bonus points for landing within an 82-foot diameter circle. The unofficial touts put Rick Walters and his "White Trash" in the lead, with "that girl" a close second. To the on-lookers... which now included all but the top scoring 40 pilots... the two-day, eight-flight annual competition had been resolved to a two man... or, rather, a two pilot... race. Reportedly, the two leaders were so close in overall standings that the final flight could throw First Overall into either camp.

The every-afternoon Pacific winds were straight down the 2,500 foot asphalt runway at 10 to 12 knots. Earlier fliers in the last round had identified what seemed to be a wave of lift, standing up-wind, high into the sun. A thermal elevator was the only way to reach its silent sustenance. But where there is strong lift there is also strong "down." Some of the country's top competition pilots had bombed-out within the preceding hour. Ken Willard and his beautifully efficient Top Sailer... soon to be released by Top Flite... touched down in 2:29. Almost a minute quicker than normal dead-air time. John Donelson's Guenther-Wolsleger HP-14 dropped out of the sky as if some "Hanging Judge" of Western-days-gone-by had decided to enforce the Law of Gravity. The mighty HP-14 was on the ground in 1:43.

Rick Walters didn't find the big lift with his "White Trash", but with the dexterity and determination of a true champion, he picked about at that lift which was available to him and recorded a flight of just over 4:00.

Rumors ran that "that girl" could win the Tournament. Barbara knew it. She had had a stop watch in hand, timing Walters' last flight.



Line up of winners: (l to r top) Hugh Stock, Dale Nutter, Mat Tennison, Paul CChristian, Andre (Buck) Faure, Dan Christian; (l to r kneeling) Stan Powell, Rick Walters, Randal Holzapple, Barbara Henon, Rod Smith, and Stu Horton.



Bob Crumley's beautiful scale AS-W12 had everything operational but the kitchen sink, including drogue chute! Had highest scale points, but tip stall problems prevented good flight points.

Barbara's two-day sunburn paled just a bit with anxiety and anticipation. Shilling helped with the winch line hookup and operation. Going for broke and maybe just a little immortality in the legends of her chosen sport, Barbara was "up"... she was ready to fly with every ounce of skill and

shred of imagination her eighteen months of experience could summon.

A beautiful launch, high and straight, straining for every inch of altitude. And then the search, sinking all the while, with rapidly decreasing potential; the lift, the elusive lift... the elevator up

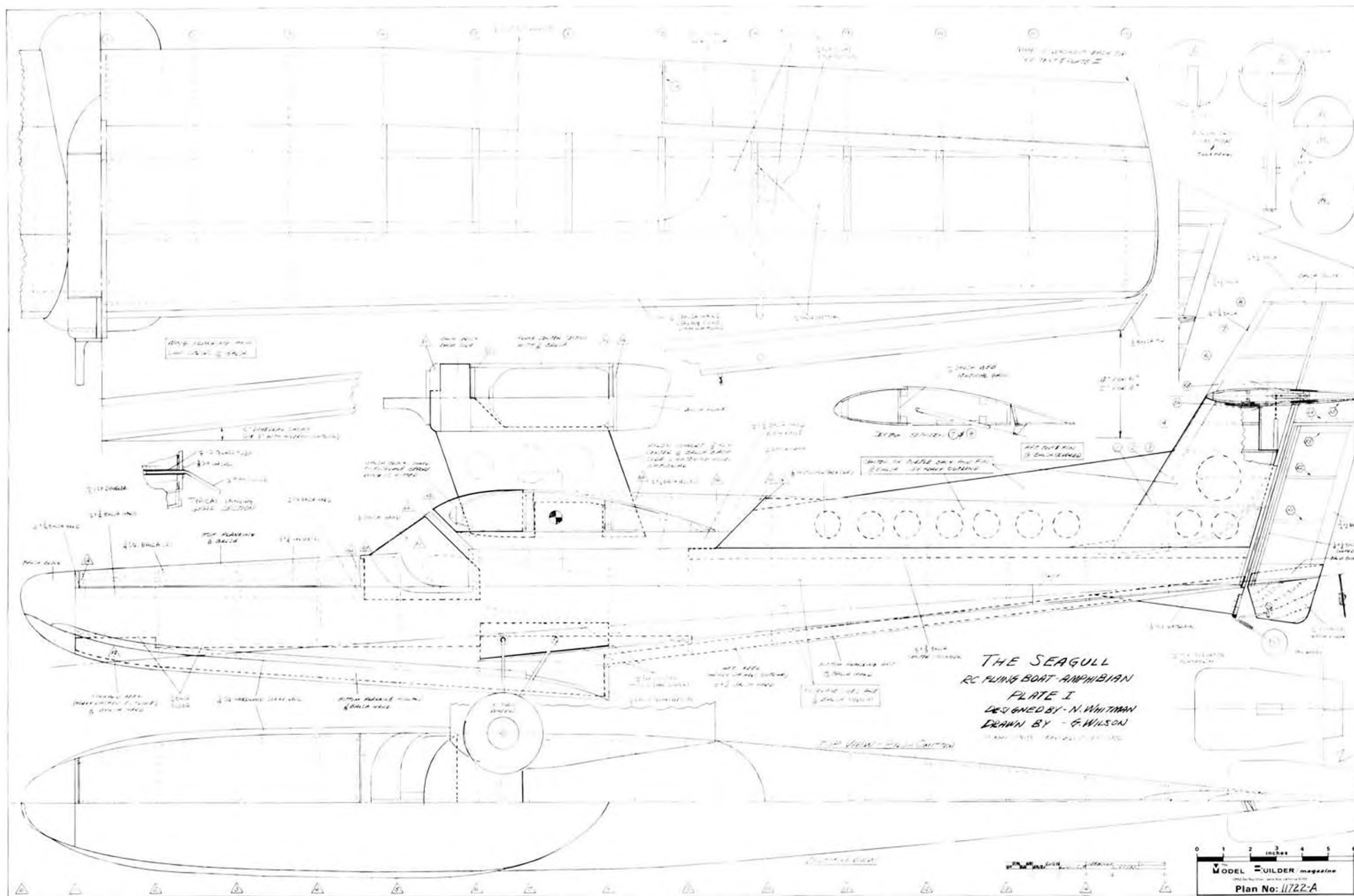
Continued on page 56



Our visibility author, Hugo van Paassen (Sept. '72 MB) releases his JP Models Dart II. No water; those are land sailers in background.



Retired Air Force Colonel, Bob Thacker, with his scale 'Wik' Kestrel. An active R/C soarer, Bob has his Level 4 in the LSF.



FULL SIZE PLANS AVAILABLE—SEE PAGE 64



THE SEAGULL

A FLYING BOAT — AMPHIBIAN

A well designed, well tested airplane for sensible and realistic flying from water. The design and introduction is by Neil Whitman, the construction text is by fellow seaplane designer George A. Wilson, Jr.

● I cannot remember for certain whether aeroplanes or boats were my first love, but I was building models of both in the late 20's. I have vivid memories of the Ideal Fokker trimotor, built up with hardwood spars, split bamboo wing ribs, reed tips, and a heavy basswood prop driven by umteen strands of flat rubber. Although I wanted to simulate Byrd, I never had the courage to attempt to fly the machine over even the smallest pond. But the yearning persisted and blossomed into premature flower during the WW II years in the form of control line canard seaplanes powered by Ohlsen 19's, all much too heavily built to fly well.

The breakthrough came in 1964 in Wilmington, Del. when I met Bill Northrop and radio control. This immediately regenerated the urge to fly something off water, and resulted in plans for a Tri-Squire, modified to fly off a single G-B float, even before I had become proficient in flying off the ground

with reeds. It is interesting to note that the servos in that reed system were connected to the receiver with circuits pinched from some guy named George Wilson, who lived in Massachusetts somewhere, but whom I'd never met.

The modified Tri-Squire never materialized because I moved to New England, but I did build an .020-powered canard ship scaled down from the twenty year old ukie plans. It flew acceptably with an Adams actuator . . . on hand



The Seagull cruises overhead. Ship is a very docile performer, designed for the pure pleasure of water flying, not barnstorming.



Eleanor Wilson and Seagull . . . two very nice models! Note the plug-in gear (on Seagull, stupid!) for operation off "terrible firma."



launch only. While I liked the simplicity of the small, under 20 ounce planes (Dick Jansson would claim shortly that they would fly only in a "negative wind" condition), I wanted something that would handle as well on water as in the air, and that meant motor and elevator control in addition to rubber.

About this time I met the George Wilson I'd heard about before and his friend Charlie French, both of whom were happily flying Sea Cats. I didn't like the looks of the Sea Cats, but I did admire their capabilities, both on



The prototype Seagull's nose proved to be too short, resulting in its getting buried every time power was added for takeoff. Ship also suffered from lack of power.



Just take one look at this picture and then try to tell us that you couldn't get a big kick out of flying off water!



The high step that makes Seagull so easy to handle when getting off and on the water is evident in this shot during a low pass.

the water and in the air. As a result I designed and built the Seagull's first predecessor, using Wilson's high-step concept, fiberglass hull and conventional balsa and wood wing. Unfortunately, the nose was too short and the ship buried when power was applied for takeoff. With a new nose and a .30 it just wouldn't lift off the water, but it would get up with a .45. It would also come down too, rather hard, so we salvaged the engine, built a new hull, added about a foot to the center section of the wing and came up with the prototype of the Seagull.

It is not a fast ship. It isn't supposed to be, because I cannot fly a bomb. It is able on the water, if given full up elevator while taxiing. The tail should be held up, off the water, during takeoff. There is no need for up elevator until she breaks free, and not much is needed then. Torque effects are marked during takeoff. The left wing will drop and catch a tip float unless enough right rudder (and aileron) is held until flying speed is gained. Indeed, I've been wondering about the necessity of tip floats in a ship of this design, for I've found out that she will taxi and take off without them. The wind itself acts as a float, but it does look awkward on the water, something like a duck with a broken wing, until you

give her power and off she goes. (Art Snyder's "Lake Elsinore Garbage Scow," described and pictured in the September '72 issue of MB, operates in this manner. WCN)

CONSTRUCTION

The original Seagull had a fiberglass hull, vertical fin, and motor pylon. It also had an all flying stab. A special hinge/control-linkage-mechanism allowed the stabilizer halves to be unplugged for transportation.

To make Seagull more simple to duplicate, the fiberglass sections have been redesigned in balsa and a conventional stabilizer/elevator has been substituted. Otherwise, the plans faithfully duplicate the original.

We are assuming that this is not your first model in the description

that follows. Seagull is a docile bird in the air, not a difficult building project. But, it is not recommended for beginners. You will probably want to use your own ideas in many places. The choice of hardware has been left to the builder in most cases.

Before you start construction it may be well to check the section on finishing and waterproofing. Keep these elements in mind as you build.

HULL

The hull is in three parts: (1) the main section below the wing mount and turtle back, (2) the turtle back and, (3) the wing mount.

MAIN SECTION OF THE HULL

1. Build the center keel over the

Continued on page 53



Taxiing back after a flight . . . which brings up a point . . . land before you're out of fuel unless the water's shallow or you have a boat handy . . . or it's hot and you'd like a swim.



FREE FLIGHT

HOW TO WIN CONTESTS

PHOTOS BY GEORGE BAHRMAN

by Mel Schmidt

● This contest plan has been of great help to us and could increase, we believe, the contest winnings of any flyer. It was written in early 1968 and has been followed since. Whenever we do poorly it is because we violated one of these guidelines. This is the best advice we can offer to a flyer who wants to win free flight contests. **HAVE A PROVEN DESIGN FOR EACH POWER AND NON-POWER EVENT YOU INTEND TO ENTER.**

Considerable thought should go into the selection of designs to build and fly. If you have decided to develop your own designs, then be prepared

for some real effort before becoming competitive. Whatever your selections are, they should be based on proven concepts. The need for reliability with performance cannot be overstressed. Fine-trimmed auto-surfaced ships require frequent test flights during the meet and are often unreliable. So, unless you're hooked on FAI power, hesitate and look hard before using them. Top flyers such as Jim Scarborough (Texan), Bob Watson (Shocer), and Bob and Bill Hunter (Satellite), fly simple and uncomplicated ships that always take home the hardware. If you're short on design experience, use a design which

has already been proven.

TAKE ONLY COMPLETELY TESTED SHIPS TO THE MEET. MAKE NO CHANGES IN POWER, FUELS, PROPS OR METHODS DURING THE CONTEST.

This requires many hours of flying over an extended time period and on the same design. It is difficult to achieve because it requires a lot of concentrated effort. The effort can be reduced by always building and flying the same design in the same way. If you should become bored, fly another event for a brief time. Trying different props, fuels, etc., should always be



Lesson for today: Don't park your motorcycle so the rear tire is near the exhaust pipe of a car in which the motor is left running!



Fudo Takagi, member of Orbiteers club, launches his Wakefield. Taft, California.

done on the test field and not at the meet. Save your experimenting for the test field.

KNOW THE FLYING FIELD, ACCESS ROADS AND FIELD CONDITIONS. SURVEY THE FIELD BEFORE THE MEET.

If the field is new to you, get there early and look over the area in which you would expect the plane to D/T. If there are fences, find out how to get over, around, or through them. If there are crops, trees, etc., plan locations for downwind spatters. Have your chase routes planned and know where the local airport is in the event that an overhead search is required. On rough fields, team up with others to form retrieval groups. By being organized and alert, you can get your ships back even in the worst of conditions. Use every possible machine and aid in retrieving and you will almost always get results.

GET SUFFICIENT REST PRIOR TO THE CONTEST. CONSERVE ENERGY FOR AN ALL OUT EFFORT.

We have seen sleepless contestants moving as if in a trance while trying to fly and chase. Forget it! Get in good condition and enjoy flying. Expert athletic coach and flyer, Bob Isaacson, tells us how in his discussion on physical conditioning.

MANAGE CONTEST TIME PROPERLY, WITH LITTLE OR NO TEST FLYING. ASSIGN TIME PERIODS FOR EACH EVENT, LEAVING SOME FLEXIBILITY.

This is absolutely necessary if you're flying for championships or sweepstakes. The time needed for flying an event will depend on chasing conditions, processing and the timer situation. We have found it takes from 45 minutes to three hours to start and complete an event. It takes experience with a particular field and organization to make good predictions. Just remember that rushing to start and launch often results in flying into poor air.

HAVE THE ATTITUDE THAT THE COMPETITION WILL MAX OUT IN ALL FLIGHTS. CHANGE EVENTS WHEN YOU'VE MISSED A MAXIMUM FLIGHT.

The reason for changing events when dropping a flight is to use the flying time to your advantage. Exceptions to this rule are in events where the competition doesn't max out and in flying for a championship. Check the scoreboard later in the day to determine what additional flights might do for your score. Be familiar with the various

Continued on page 53



Bill Hartill with Dave Linstrum's Nordic. Ship was proxy flown by Russ Hartill at Taft.



Former US FAI Team member Doug Galbreath tunes in his FAI power entry.



All wound up and no place to go! Tom Medley waits for the right kind of air. WFFA meet.



By
AL VELA

● This column will be dedicated to one of the most special, difficult, and thrilling types of competition in the universal modeling sport, F.A.I. Free Flight.

Since the discontinuation of a few newsletters published by clubs specializing in F.A.I. events, there is almost complete absence of good fresh information for the dedicated flyer in the international categories; FIB, FIC, and FIA (rubber, power, glider). The need of a source of F.A.I. information, kept bouncing around in my head for some time. Finally, I could wait no longer, so I got Bill Northrop on the phone, talked about the project, and presto . . . he turned me into a columnist!

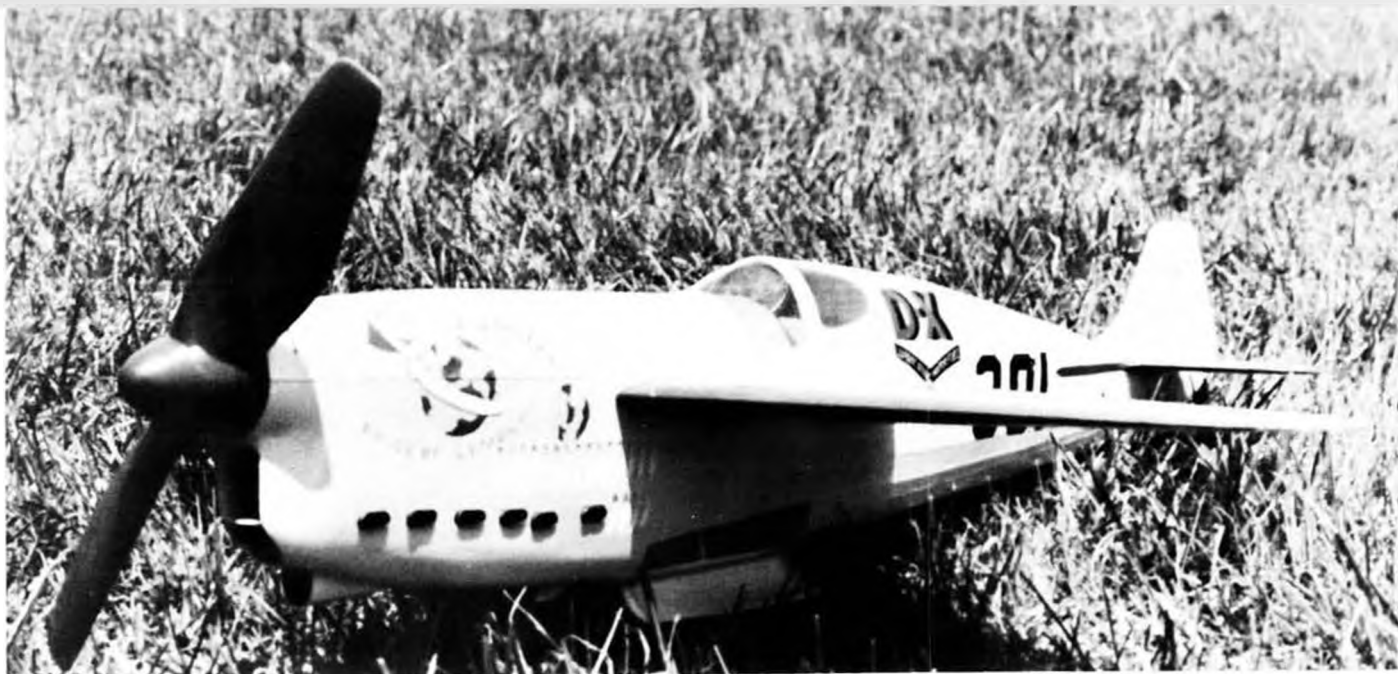
Our aim will be to bring to every month's issue the "most of the best" of what F.A.I.'ers are interested in, such as 3-views, gadgets, photos, proposals on rules changes, team selection programs, etc., etc. Obviously, contributions are welcome. We need your support, especially if you like the idea too. We would also like news from our European F.A.I. F/F readers.

MORE ON CADDO MILLS

Up to now, you have probably read several versions on this subject. However, to the eyes of this mortal who witnessed the events every day, for three days, from 4 a.m. to 3 a.m., I feel that no one can better describe the tragedy than one of those who was a part of it. And he will tell you that this was not a flyoff for performance but sort of F.A.I. Vietnam!

On the very first day, in the early rounds, several qualifiers simply decided not to fly, including a former team member who survived the New Mexico Ordeal. We asked, "Why this?" His answer was, "I don't want to get killed." He was referring to the chasing problem. The next day, Buzz Averill had an accident to confirm this statement. Under the tall grass were hidden foundations, chunks of iron and cement, holes big enough to upset a bulldozer, and you name it! It was during one of Buzz's chases (he uses a competition dirt bike) that he has the misfortune to hit one of those "things," sending

Continued on page 55



Jack McCracken's Folkerts Special, the plane on the cover. Gear is manually extended for appearance; retracted for flying. Took first in scale speed.

FREE FLIGHT ... SPORT & SCALE GOES TO A RUBBER SPEED CONTEST

Photos and story by Fernando Ramos

●One of the most exciting events held this year was the North American Rockwell Flightmasters' 2nd Annual Rubber Speed Contest. The contest included scale, profile scale, and non-scale models. The object of this most unusual event is to fly a rubber-powered model a distance of 88 feet (88 feet per second equals 60 mph) in the fastest time possible. (This is quite a task for any model to do, especially scale.)

The usual configuration of a scale or sport rubber model; having a Clark Y or under-cambered airfoil, positive incidence on the wing, landing gear, en-

larged stabilizer (who does that?), light weight construction, and large free-wheeling prop, does not apply to the speed model. Instead, you usually pick a subject with retract gear to help eliminate drag, use a symmetrical airfoil set at zero degree incidence (and on some occasions, negative incidence), stay with scale stab size, and build the model to withstand some rather severe power dives.

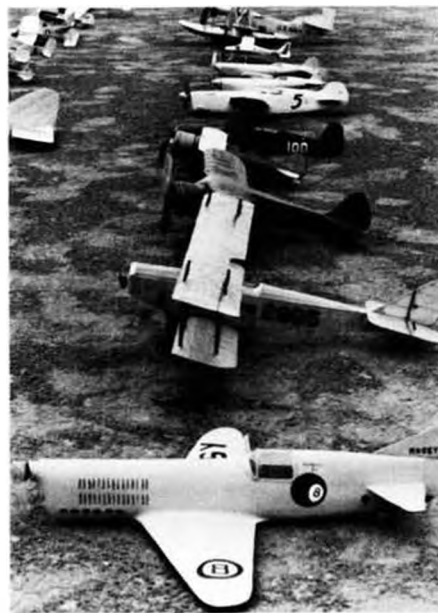
The first test flights for a scale speed job are something else. Tall grass is definitely recommended, since the flight path during those initial flights

is usually straight up then straight down on the nose. For this reason, the front end of the model has to be made especially strong, including the wire hook and bearing. Knock-off wings are also a good idea.

The propellers for these speed merchants do not conform to the usual rubber model. The pitch is somewhat higher and the blade area is considerably less, since the model needs as many RPM's as possible. Power in the form of rubber, of course, is still pretty much determined by the weight and size of the model. However with



Fulton Hungerford's Loening. Visiting the West coast, Fulton didn't have a speed ship, so entered this biplane in the scale speed event ... and placed!



Some of the scale ships lined up for inspection before flying in the speed meet.



A chip off the old "Hangar." Kenny Hannan about to launch his non-scale speed entry.



Mark Smith, of Mark's Models, takes a day off from glider production to try something else.



Bill Stroman, with his scale Firecracker waits for the timer to give him the go-ahead.

not enough power, the model will literally fall to the ground. Speed planes really don't have too much of a glide. (However, I have seen some beautiful scale models fly straight, level extremely fast through the traps, then go into a climbing turn and settle into a shallow glide.) On the other hand, having too much power tends to make the model gyrate all over the sky. One really has to do some serious testing to get these racers trimmed out and ready for competition.

The launch is another factor to consider in F/F speed. In fact, it is just about the most important part, because once the model is trimmed out, it will fly in whatever direction you point it. So, if your follow-through is carried slightly too far, your model is apt to end its flight in a sudden crash at your feet. If not enough of a toss is given, the model will go straight up, then power into the ground.

Another factor in launching is that you do not run to get flying speed, then let the model fly out of your hand. Instead, you remain stationary. Therefore, you have to throw the model with sufficient velocity to get it up to flying speed. With not enough speed, the model falls to the ground, and with too much speed, it goes into wild gyrations. You definitely must develop a different launching technique from that used in all other events.

Profile scale and non-scale models are somewhat easier to fly, and since they usually fly more reliably than scale, they are also much faster.

The timing is handled by two officials. One is situated at the beginning of the trap and has the timer/stop-watch in front of him. The other is situated

at the end of the 88 foot course, and operates a push-button that stops the clock once the model passes the finish line. The clock is accurate to 1/100 of a second.

The speeds obtained this year were much higher than last year in all categories. Scale models are now flying around 40 - 50 mph while the non-scale are closer to 60 mph. You may not think these speeds are very fast, but all you have to do is to try it sometime and you'll change your mind. And rest assured, the top speed of these models will increase, making this rubber speed event more challenging than ever.

As stated earlier, this speed contest is only two years old, yet the amount of interest gained this year over last is quite obvious. One thing which adds to the interest of both contestant and

spectator is the fact that the meet is held in San Marcos, home town of the Russ-Craft Model Museum. Naturally, after the contest, everyone heads for the museum to browse through the huge collection of books and magazines, and the seemingly infinite amount of aeromodel memorabilia.

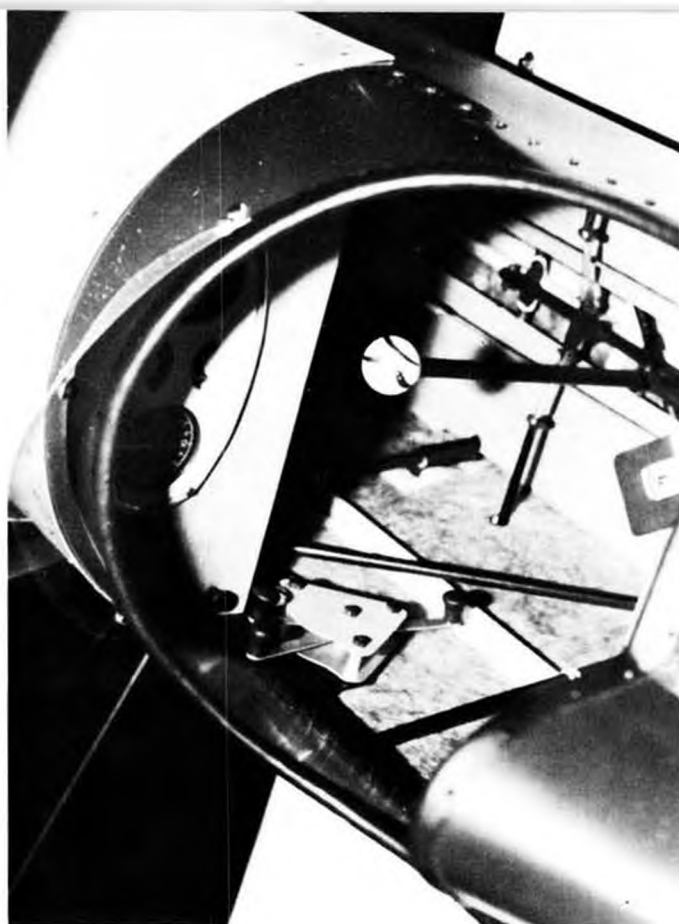
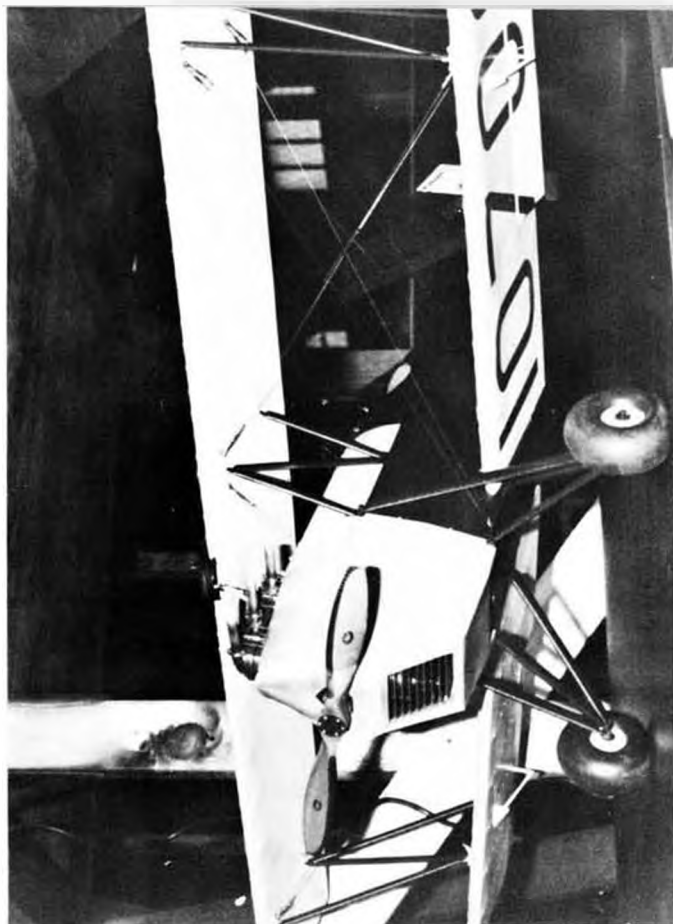
So, you can see that the Flightmasters have recreated another challenging and fun event that everyone will be looking forward to next year.

Those of you who are interested in joining the NAR Flightmasters and receiving their newsletter "Flying Scale News and Views" send \$3.00 to Editor Fernando Ramos, 19361 South Mesa Drive, Villa Park, Calif. 92667. ●

NOTE: NAR Flightmasters Jumbo (48" and over) and Peanut Scale Contest, on Dec. 3, 1972, Sepulveda Basin.



Vince Castanzo entered this Dayton-Wright Racer in the profile category. Span is four feet. Motor length is short . . . speed trap is only 88 feet.



"PHOTOGRAVIEWER"

"PHOTOGRAVIEWER" returns with these photos of Keith Ward's O.S. .15 powered Gere Sport, which was highest in fidelity points at this year's Nats. Scale Judge Fernando Ramos took the pictures.



the Model Builder's Classroom

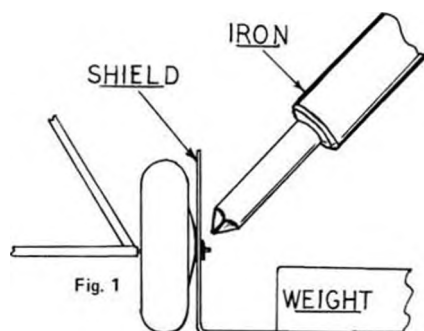


Dave Stott, of the Flying Aces Club, Bridgeport, Conn., is our class lecturer this month, and he brought along a whole notebook full of ideas. Pay attention in the back row, there!

● Although the methods and devices presented here were developed through years of building, flying . . . and crashing rubber scale models, some of them will be useful to modelers in other categories of our fine sport, so why not read on regardless of your particular interest.



Most of us already know the weight advantage in using a Vac-u-form toy in fabricating model details of plastic rather than balsa, especially where duplication, as in the case of the Lockheed P-38. In this model, the spinners, all air scoops including the numerous small ones, chin cowl under both engines, and the superchargers, were formed over a balsa mold; not to mention the compound contours of the canopy top.



Ah, but did you ever try to solder wheels that were made in this manner? Boy, are they ever quick to melt! To prevent this horror befalling you, use a heat shield made of either thin card or aluminum. (Fig. 1) Just cut a slot in the shield so as it will slide over the axle, put a weight on it to steady things, and solder away. The shield also gives just the right clearance for free turning without sloppiness.

Let's talk a bit about stringers. If you are looking for some real scale appearance, and want to put in the true number of stringers on that fabric covered crate you're making, try using some of that "T" section hardwood they use in railroad modeling. It comes as small as 1/16 x 1/16 and is as light and strong as 1/16 square balsa. The real advantage is in the small surface it presents to the covering, resulting in much more realistic appearance than a 1/16 square stringer could give.

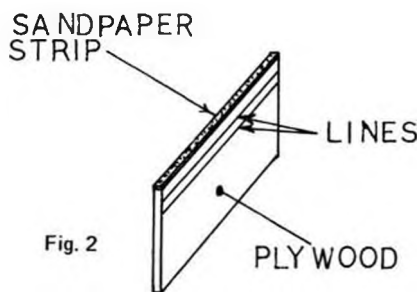


Figure No. 2 shows a handy gadget made of plywood with sandpaper glued to it for notching formers and wing ribs to receive stringers and spars. Make up a couple with different thickness plywood. The lines on the side will serve as a guide to the depth you wish to sand the notch.

If you can get hold of an old washing machine motor or other electric

motor of the same size, you can fix yourself up a swell balsa spinning lathe. Sears Roebuck sells a chuck and adapter to fit 1/2 inch shafts of such motors. When spinning balsa, use sandpaper rather than a steel cutting tool. Sandpaper works better, and no tool rest is needed. The wheels and spinner on the Avia B-534 were turned on such a rig.



That same Avia also sports a wire leading edge on her prop as depicted in Figure No. 3. This is suggested for any model of 3 ounces or greater weight, especially if you think you might have to operate from paved runways in competition. Nothing can be more depressing in the heat of battle than a broken prop. With the wire leading edge, the prop may fracture if it takes a real hard wallop, but it will not break off and no immediate repair is needed. Here's how:

Once you have carved the prop, take a piece of .032 wire and bend a small "V" in it. This "V" is your starting point as you must have a gripping place for pliers to hold the wire while you form it. It is also a "zero" reference point. Summon all your patience and sit down and form the wire, with your fingers, to the shape of the leading edge of the prop; one side, then the other. You need not

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

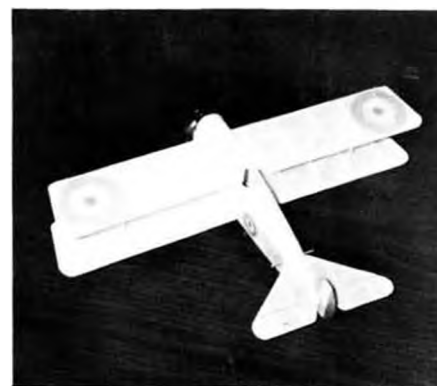
● HANNAN'S HANGAR, by the ORIGINAL author of "Turtles don't make dependable wheel chocks." Some of you have remarked that I have a lot of nerve dishing out corny jokes in this column. But then you must remember, I work without a net! A few of these items appeared several years ago in the Flightmaster newsletter, and have had a chance to season to maximum cornyness. It takes time to develop this sort of thing, you know. Why, just the other day, a stranger dropped by the Hangar and asked if we knew the fellow who invented the rotary engine. We had to admit we didn't Gnome. Oh well.

The tiny cast-iron DO-X toy mentioned in an earlier column generated some interest among readers, and prompted me to visit an antique dealer for more information on the subject. It seems as if many early toys, including airplanes, are listed in antique dealer's publications, together with suggested prices. All prices are approximate, and assume a toy in good-to-fine condition, with no missing parts. A toy in its original box is an especially valuable

item. Here are a few examples of listings: "DARE-DEVIL FLYER". Toy plane and blimp with hangar, manufactured by Marx, 10 inches tall. Retail price \$25.00 to \$50.00. Pressed steel Ford Trimotor, 25 inch span, \$50.00 to \$75.00. Cast-iron single wing aircraft, 4 inches long, \$10.00 to \$25.00. Cast-iron Zeppelin, \$17.00 to \$25.00. So you can see, these early relics have considerable collector's value, in addition to being charming conversation pieces.

Have always wondered how "Professor" Walt Mooney managed to get so many activities into his life (Father of three children, full-size and model aircraft designer, sailplane pilot, FAA II checkout man, AMA CD, writer, etc.) He summed it up this way: "Do as much as you can, as fast as you can." Maybe, but I still wonder what he has for breakfast!

Have you seen the little restaurant type bags of sugar being sold by the American Sugar Company, N.Y., N.Y.? Called "Domino Spreckels Instant Superfine Sugar", they are packaged in one



Austin-Ball A.F.B.1 built from Peanut scale kit by Lee's Hobbies.



Bill Hannan's model of the Russian rubber speed record holder. Fun but not fast.

tablespoon size packets featuring famous aircraft in full color on their covers. Samples I've seen include "The Spirit of St. Louis", Ford Trimotor, Gee Bee, and Pitcairn Mailwing. Each includes a short description printed on the reverse side.

Richard Miller tells me that a friend of John Pond's has been experimenting with using the timer from an old bread toaster as a DT device. Sounds interesting, and he claims low cost plus dependability.

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Taube built by Dave Stott from old ideal plans. Pilot heads are made from ping-pong balls (Backwards it's gnip-gnop, which is what ping-pong sounds like when you play it!)



Rubber powered indoor scale Emdacker, 22" wingspan, built by Warren Shipp, New York. He's well known aircraft photographer.



Vrooom! All 13 inches of AD-4B pass overhead. Has nice proportions for a free flight model.



Modeled after a particular aircraft shown in color in the Profile Publication (No. 60), this model stands out in its basic red and white with black trim. Colored tissue used for covering.

PEANUT SKYRAIDER

By
Walt Mooney

Our "Peanut Vendor" gives us another "Shrink Job." Build the original AD-4B from Full Size Plans, and/or a Peanut version from plans on the next two pages. They're both great flyers!

● The Douglas Skyraider is one of the all time great airplanes. It was Pre-Designed overnight by Ed Heinemann, Leo Devlin, and Gene Root in a Washington Hotel room, in order to meet a Navy deadline, for which several other companies had already been at work on prototype airplanes. The AD emerged, in the long run, to be the best of them all . . . and the one that was built in greatest numbers over the longest period. There is a lesson here somewhere with respect to, "Too many cooks spoil the broth", which could have been helpful to Douglas's competition.

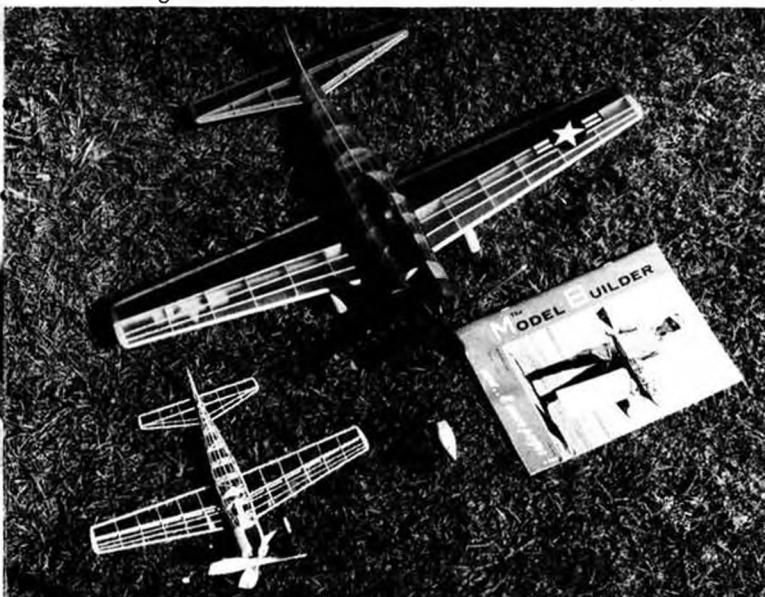
Most military airplanes have rather boring color schemes that tend to cam-

ouflage their true lines. But in 1965, Profile Publications came out with the Skyraider Profile No. 60, and the very last color scheme on the very last page is the one copied on the airplane in this article. It turned me on with its' red, white, and black color scheme, and so, in 1967, I built a 26 inch span model. Recently, I was interested in building a Navy Peanut Scale model and this airplane looked like a good choice. We shot the plans down to half size and, "voila!", there was a Peanut Scale Skyraider. There are seven years between my first view of Profile No. 60 and the Peanut version. If you look closely you'll notice that the Peanut

has a little more dihedral than the original. This is a result of earlier trimming difficulties, and the Peanut version has been stable right from the first flight.

Construction is the standard two-sides-built-over-the-plan-box, with formers and stringers, notched ribs with multiple-spar wings and tails, etc., which have been described so often in the past. We'll skip the basic construction, therefore, and get down to a couple of specific details and a more thorough discussion of how to achieve this color scheme on a Peanut Scale model and still have a relatively light weight

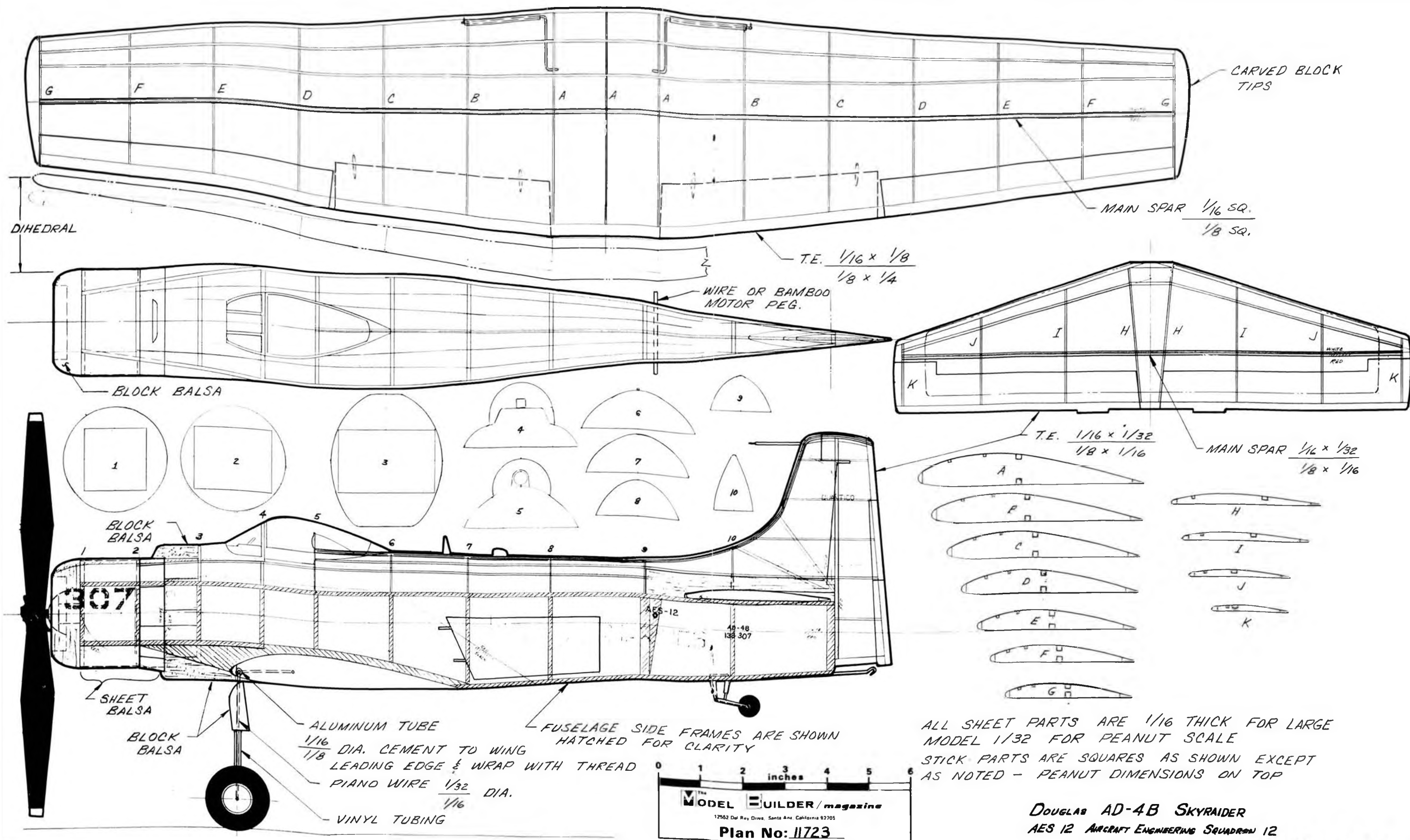
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Now Walt knew we couldn't resist printing this picture! It makes a nice size comparison, though. The choice of size is up to you.



The Skyraider's bones all exposed. Note the size of that giant paddle-blade prop! Ship flies best without any side or down-thrust.





A.M.R.C.A. - 1972 NATIONALS

A report on the American Miniature Racing Car Association Nationals, held at Whittier Narrows, El Monte, California. This sport is enjoying a tremendous comeback.
By Ted Maciag

●The three day national meet for model race cars, held this year at Whittier Narrows, El Monte, California reflected the new growth of this phase of modeling. More cars were entered this year than in the past five years. There was a greater variety of cars and engines than we have seen in a long time.

Much like the Indy 500 race where last year's top speed is an also-ran

this year, model car speeds have taken a big jump. Roy Torrey of California set a new world record of 164.23, eclipsing even a rumored European mark of 163. His son Lloyd had to settle for second place with his 163.93 run.

The weather was interesting, if not the best. Alternating hot and cool, cloudy days made mixing fuel and getting a good time on the cars more of a trick than usual.

While all the cars are powered by 60's, they are divided into four classes to give older cars a chance to compete: Class I is for stock manufactured cars. In the late Forties, the Dooling Arrow was introduced and still dominates this class. One of the things that restricts the speed of the Arrow is the fact that the bevel drive gear is bolted directly to the crankshaft. The side loads imposed slow the car as much as



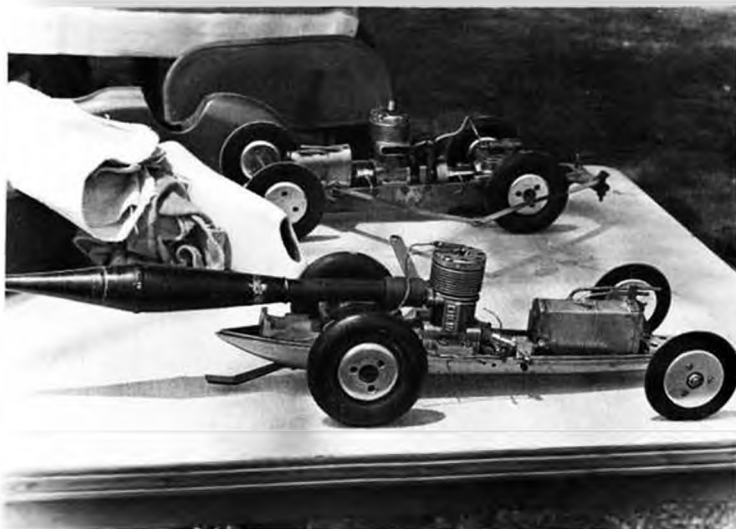
Here's the guy responsible for the fine series of MB articles on tethered cars, Ted Maciag.



Nick Tucci came all the way from New York to run his cars in the AMRCA Nationals.



Dick McCoy (Yep, the real McCoy!) checks Roy Torrey's car after the record run of 164.23 mph.



Jerry Anderson's Dooling Arrow car with an OPS engine. Car had to take a lot of laps before the pipe got hot, but then it really took off!

10 mph. If any of R. C. car fans are looking for a more efficient drive system take note. In addition, no chrome sleeves are allowed in this class.

Class II is also for manufactured cars that were available over-the-counter at a hobby shop. The engines may be modified and chrome sleeves are permitted. In this class, the new Italian engines have their best chance. The OPS, Super Tigre and Rossi require only minor modifications to adapt them to the popular Dooling Arrow car.

Class III is the all out, anything-on-four-wheels-goes class. This is the most spectacular class to run or watch. All of these cars are custom built, and like any racing car of any size, careful work, ingenuity and precision machining results in the top speeds that they reach.

Class IV is for the older manufactured cars (other than the Arrow) with the older engines such as the Hornet or McCoy. In this class, the McCoy cars, and the recently rediscovered Papina, are able to compete with each other rather than with the faster manufactured cars. This class has the most

diverse entries and is run by both newcomers and the old timers who have resurrected a car from the basement.

In addition, each of these four classes is divided into a Hot and Cold fuel division. The "cold" fuel is 25% nitro, since the highly tuned cars probably wouldn't run on FAI type fuel. The hot fuel is anything goes, even to the 80% nitro mix that one brave soul uses when the competition gets tough. These then are the eight classes designed to give each car a place where it will be most competitive.

Let's go to the races!

Typically the first day was a disaster. Of the three timers on hand; ranging from the oldest one made of pinball machine parts, to the new transistorized one, each picked its own reason for not working. They all had worked the day before, but due to the innate perversity of inanimate objects, none would work on race day. While some people worked on the timers, others made practice runs using a stop watch. My own car wouldn't run right due to (I found out later) a bad plug.

Since there wasn't a lot of running,



Dale Springer fuels up for a run with his kinda rare big port Hornet. Famous Whittier Narrows R/C flying site is just 200 yards to right.

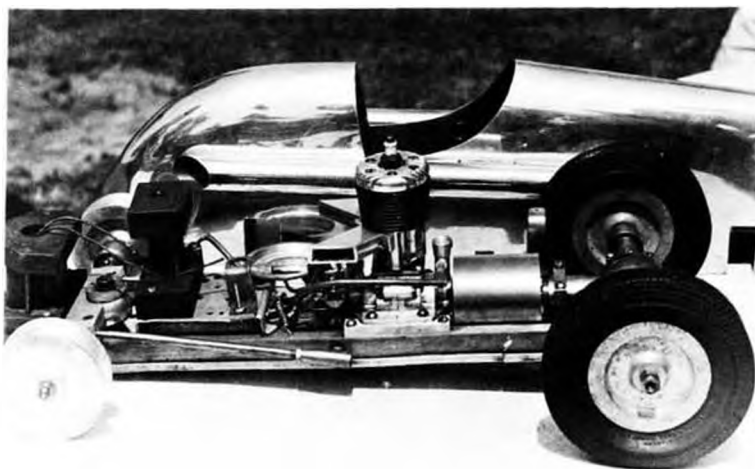
most of the day was taken up with bull sessions among friends who see each other only once a year. Toward the end of the afternoon, at least one timer was working and things looked brighter for the next day.

That evening there was a party at Lloyd Torrey's house in Pomona. Getting there was half the fun, especially for those people who were unfamiliar with the Los Angeles freeways. Everyone attended except for those unfortunate few who were back at home or in the motel desperately working on their cars to find out why they weren't running properly. Those fuel stains and solder blobs on the motel furniture could be worried about later, but the cars come first.

Friday was sunny and hot, with everyone staggering out to the track at 10 o'clock, despite the work that competition would start promptly at 9 a.m.

When Roy Torrey puts his car on the track everyone watches, and today was no exception. A husky push and in two laps the engine was screaming,

Continued on page 55



A nicely restored antique . . . now if he could just find some front tires. Anyone recognize the car and/or engine?

The MODEL BUILDER



You've heard of race car drivers 'walking the track?' This is model version. Kitty Litter plus this shuffle cleans oil and rubber off track.



Three old classics modeled for QM: Don Panek's "Pete," Jim Kelly's "Chief Oshkosh," and Chuck Brown's "Firecracker."

By Don Panek

PYLON/4

Fred Reese has departed for a motor-home tour of the United States. Taking over this month is our new Quarter Midget reporter, Don Panek, an enthusiastic participant in this newest of R/C sports.



Oct. 1 QMRC race winners: (l to r) Paul Lorringer, 3rd, "Minnow"; Jim Kelly, 2nd, "Chief Oshkosh"; and Jack Stafford, 1st, P-51.

● After many years of toil, Fred Reese has decided to retire at an early age, and begin to lead the life of a vagabond. We all wish Fred a "Bon Voyage", and an early return to active modeling.

As with Fred, I will need the help of all readers, in the form of letters, pictures, race reports, articles etc.

This being my first report, I will begin with the results of a survey taken by this writer on the Quarter Midget event, in general. I believe wholeheartedly in this event, and try to promote it every opportunity I get. I find after many queries, the one reason for reluctance to enter the Quarter Midget racing, is the fear, that eventually it will go the route of Formula 1.

We are all aware of some of these problems, and are fortunate at this point, to have the time available to formulate rules to avoid this peril.

The rules must insure that everyone entering this event will be on an even basis as far as plane dimensions and engine/prop combinations. These rules must be the outcome of actual trial and error procedures, not a talk session with a few in attendance.

When the time comes for adoption by the A.M.A., let us be ready with a set of rules for this event that will

Continued on page 52



Bob Penko's OS .15 powered semi-scale "Brown Racer."



Ken Holden's cute little "Sweet Pea."



The Telford/Violett radical but winning FAI Pylon racer. Anhedral stab provides ground stability for centrally mounted wheels.

pylon

By Chuck Smith

Our regular Formula I and FAI Pylon reporter returns to his editorial desk and gives us a second look at the interesting International Championships held in Cranfield, England.

● FAI Pylon Racing took one step further toward World Championship status at Cranfield, England on August 25-28. The Society of Model Aeronautical Engineers (the SMAE is England's "AMA") organized what I felt was the best planned pylon race that our sport has ever seen. The living and dining quarters for the contestants from six nations at the Cranfield Institute were within walking distance of the flying site. We all had individual rooms, and each floor actually had a shower, which we had found to be a luxury in England. We were also

sufficiently nourished three times a day with food that was surprisingly good, and when the sun had set, there was an abundance of entertainment to keep everyone "happy" late into the night.

The flying site had three huge tents for exhibits, catering and a pit area. Everything was arranged so that spectators were segregated from the contestants, but were still allowed to view the aircraft and the action from close range. The frequency monitoring system was the most efficient I've seen. Transmitters for each heat were taken from

an impound area to the flight line by officials. Contestants were not handed their transmitters until the monitor verified that all frequencies were clear. This process saved several aircraft when strong interference was detected before two heats. At one point, the contest was delayed for almost an hour while we waited for a meteorological balloon, transmitting on 26.995, to float out of range.

Unfortunately, even with all this advanced preparation, there were still some problems in the actual operation of the races. The first conflicts to



Allan Mann's HP-40 powered special. British pilot had second best time of 1:46.0, but bad luck put him down to a 12th place finish.



Phil Greeno's original; HP-40, KDH retracts. Came close to matching T/V Bobcat for speed. Covered with Solarfilm.



Doug Spreng (left) calling for Juhani Sederholm of Finland. He had his fastest time ever at the Internats with a 2:11.0. eff Bertken

surface were in the interpretation of the FAI rules. At the pilots briefing, the contest officials stated that a flyer had six minutes to complete his heat, which meant, by their rules, that if an engine quit during a heat, a pilot could land, restart the engine and complete the race. They also stated that it did not matter how long it took for a competitor to get his engine started, as long as he took off and completed his heat within six minutes after the starting flag had dropped. When the American team questioned these procedures, the officials replied that these were our Formula II rules, not their rules. They were amazed that we did not use the same procedures! After some lengthy discussion, the officials would still not change these policies at the meeting, but they must have read the FAI rulebook before the competition began, since they did institute a two minute starting rule.

At one point during the pilots meeting, it looked as though the aircraft would be released at one second intervals. The officials then stated that the winner of a heat would be determined

by the stopwatches. Much discussion followed concerning the unreliability of this method, as was demonstrated during the competition in the heat between Garry Korpi and Alan Mann, in which Garry crossed the finish line ahead of Alan but was timed as .3 of a second slower. This problem was eliminated, however, when simultaneous starts were agreed upon. The fact still remains, though, that the FAI rules do not state how to determine the winner of a heat! After this pilots meeting, it was obvious to everyone that the FAI rules must be rewritten and clarified so that there is no question of their meaning.

For the operation of the heats, the British had a set of "never failed once" lights at the Number One pylon. After these had malfunctioned several times, causing numerous reflies of heats, the lights were replaced with an "even better" set. Garry Korpi placed a small bet with one of the lap counters that these would also fail. It didn't take Garry long to collect, for in their first heat, Larry Leonard received a light only once. Unless someone spends



Jeff Bertken, Lee K & B, Miss B.S. Consistant and fast, he finished 3rd. Best time, 1:53.0.

the time and money to build a light signal system that will work 99.9% (plus 0.1) of the time, I personally don't like to see lights used. I didn't enjoy reflying the same heat three times.

The English also used four pylon judges at both the Number Two and Three pylons, each judge having a colored flag. This system worked very well in relaying information on cuts to the lap counters, but from the aspect of safety and manpower availability, it is definitely undesirable. Since the FAI rules say very little about the actual operations of a race, it is hard to fault the English in this area. There were many complaints about the starter not flagging the aircraft at the finish of a race, but since the FAI rules say nothing about this, how were they to know?



Guy Brouquieres (rt) from France. Not competitive this year, but learned a lot for next time.



Phil Greeno and his interesting original design.

The most controversial aspect of the contest at Cranfield occurred when the Contest Director made three unusual rulings *during* the competition without apparently considering the consequences of the decisions. The details of these incidents were given last month (I still get a funny feeling in my stomach when I think of them). The fact that there was a three-member FAI Jury there to uphold or reject the CD's decision is, I feel, one of the best aspects of FAI procedures. At a contest of the caliber of an International or World Championship, the full load of decision-making should not rest on the shoulders of one man.

In regard to Peter Pilsworth and myself being disqualified for low flying, the rules state that a CD may disqualify a competitor if he considers the model to be flying erratically, dangerously, or so low as to endanger course officials. This rule is necessary for safety and should be included in any rewriting of



Marv Kowalewski cleaned up at the Wright Bros. Memorial with Miss BS and Miss DARA: First in Form I, first in FAI, 2nd in Open, and also 3rd in Stunt!

the rules. Unfortunately, it leaves to the discretion of the Contest Director the determination of the altitude which is to be considered dangerous. The flyers at Cranfield felt that flying 20 feet off the ground was not dangerous, but the CD felt differently. The rules

specifically state that there is "no minimum altitude required for racing." Low flying is not necessarily dangerous flying. *(The rules should be written to specify the exact pylon height, plus optional additional flag pole extension. Officials would then have a better point of*



Bruce Balko, Chicago Pylon Club, was 4th at Wright Bros. Memorial.



Owl Racer, kitted by Bob Buzash, flown by Gary Villard.



Chip Yarger with original Shoestring. Dad is Kraft Great Lakes.



Bill Hager, 2nd at Mentor, Ohio Formula I races. He's organizing the Ohio Pylon Racing Association (OPRA).

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reference. How about 10 feet? WCN)

While it may seem that the heated competition at the flying site could have affected our social relationship with the British, it didn't. The English are second only to Texans when it comes to hospitality and comradeship. I think that we established lasting friendships in England, which I think is the most rewarding aspect of our hobby.

* * *

HP40 - FAI's BEST ENGINE?

Every member of the British team at Cranfield used the HP40R-PR engine, and with few exceptions, they were all very fast. Phil Greeno's aircraft was every bit as fast as Bob Violett's ST-40 powered Bobcat, even though Phil's model has a conventional configuration. I don't think there is any doubt that Cliff Telford has done everything to squeeze the last bit of horsepower from Bob's Supertigre. Since the English were running completely stock engines, it therefore seems that the HP has the greatest potential for the future.

The HP seems to give models tremendous acceleration, even those that weighed more than 5 1/2 lbs. Almost every time I raced a British flyer, I was at least 200 feet behind by the time I turned the Number One pylon

on the first lap. From then on I just had to wait for the other guy to make a mistake.

The English claim that the secret to getting the most from an HP is to run them on the bench for at least three hours. Most of their engines ran at close to 18,000 rpm on the ground. Phil Greeno used a Top Flite 9-7 Pylon Racing prop that had a true pitch of 7 near the hub and 6.5 at the tip. The diameter was reduced to 8 1/2 inches and the prop was coated with a very smooth polyurethane finish. The English found that the MacAllister muffler does not work on the HP, so most of the flyers used either a Kavan or a surprisingly small homemade flow-thru muffler.

FAI AIRCRAFT DESIGN

Of the 32 contestants at Cranfield, only ten had models which resembled full size aircraft. There was some discussion of this fact among the flyers, and their opinions seem to be split right down the middle over whether or not the FAI rules should require that aircraft be at least semi-scale. The proponents of prototype designs prefer the present rules, since it allows them to be more creative when they design their racers. Others think that we should be recreating full size air racing in miniature, which means we should be racing scale or semi-scale models.

The designs of Bob Violett/Cliff Telford and Garry Korpi are the first departures from the conventional configurations usually seen in FAI Pylon. I'm sure that more designs like these will appear next season and I'm hoping they will revitalize what has become a sluggish event which many flyers consider a nuisance. Only 36 FAI entries at the National Championships wasn't very impressive. It remains to be seen whether these prototypes will have the variety of design which the event needs. After seeing at the look-alike designs used in control line FAI team racing, let's hope that FAI Pylon doesn't become a one-design event. I think that there are enough innovative designers in racing to prevent this, and with infinite configurations possible, we really haven't seen anything yet.

The future of FAI Pylon may actually be looking up with the announcement by K&B Manufacturing that it will produce an FAI version of the Schnuerle ported engine. With new timing, porting and compression, these alcohol engines will be readily available and should encourage participation in FAI Pylon by more modelers.

RUMBLINGS AMONG THE TROOPS

I have had much correspondence with modelers from every part of the country in recent months and they have expressed some very interesting opinions. As I stated in this column several months ago, the number one complaint this year concerns the new K&B Schnuerle engine. It seems that John Brodbeck, Jr. has been hung in effigy more than once this year for making only 100 of these engines available. I am surprised that this did not hurt our sport more than it has, this season. Most flyers who were not one of "the selected few" have continued to compete with only slightly dampened enthusiasm, although most were outclassed in the engine department.

Fortunately, this should not be a problem next year, since K&B now claims that it will market the first 1000 production versions of the Schnuerle next March. It has been said that these engines will be up to 1000 rpm faster than the current Schnuerles, since they will incorporate changes discovered from experimentation with the original 100. The 1:20 barrier won't be around very long if this is true. (YIPES! WCN) These original engines used sand cast cases, which is one reason only 100 were made. The casting process used in the old Torpedo K&B 40 must be used in any large-scale production of an engine, and this is a very expensive and time consuming job. Therefore, it will still be several months before the production Schnuerle will appear. Of course, K&B could have originally made 200 of these engines, which would have left less flyers dissatisfied, but K&B wanted the "100 production engine" rule changed. Since this rule has not yet been acted upon, we may have the same problems next year, especially if the rumored Supertigre Schnuerle appears in limited numbers.

I have also heard complaints about the cost of engines. The best ones cost \$60, plus maybe an additional \$25 or more for customizing. Added together and multiplied a few times, this is expensive, though not prohibitive when compared to the other expenses of our hobby . . . which is still one of the least expensive of all competitive sports. It has been suggested that we institute a claiming race to cut costs, limit modifications of engines, and keep them essentially stock. The way this works, any competitor can buy another flyer's engine for the retail price after a contest is over. I still haven't figured out how it can be

Continued on page 43

Torky Continued from page 10

also helps to keep the engine from cutting into the wooden mounts and allowing the screws to work loose.

Bevel the inner sides of the engine mounts with a sharp knife to receive the T.D. 049 crankcase. Use 3-48 screws and 3-48 blind mounting nuts to hold the engine in place.

Saw or file two 1/16 deep grooves on the bottom side of the lower engine mount. These slots receive the two landing gear wires.

Cut rudder/fin to shape and cement to fuselage. Cement tail skid and canopy (both cut from 1/16 inch thick sheet clear plexiglas) to fuselage.

When fuselage parts have completely dried, carve and sand fuselage to cross sections shown on plans.

STAB/ELEVATOR: Cut stab/elevator to shape out of 1/8 inch medium hard balsa. Sand top and bottom surfaces to a symmetrical airfoil section. Cut elevator off from stab and bevel both mating edges. Cement linen hinges in place on both elevator and stab. Form elevator horn out of .060 aluminum and secure to elevator with a 3-48 screw/nut and epoxy glue. Stab can now be cemented to fuselage.

WING: Select a firm, but light sheet of 3/16 balsa. Saw (or cut with knife) to outline shape. Use a sharp knife and cut out opening in center to receive the hardwood bell crank mount. Cement this hardwood piece in place. When dry, carve and sand airfoil to shape. It is suggested that you draw a reference line on both the leading and trailing edge *before* you start carving the airfoil. The type of airfoils used give a lifting section in the center portion of the wing and tapers to a symmetrical section at the wing tips. Cement 1/16 inch thick plexiglas line guide to underside of inboard wing tip. If you are going to use a regular Tee Dee with a conventional shaft and prop, add weight to outboard wing tip. The weight should be inlaid (and cemented) on underside of the outboard wing tip. Wing can now be cemented to fuselage. Fill in gap on top of wing (where it goes through the fuselage) with scrap balsa or plastic wood.

LANDING GEAR ASSEMBLY: Bend the two landing gear wires to shape and solder together as shown. Solder washer on both sides of 1 inch K & B speed wheels. Cut landing gear retainer plate (.050 alum) to shape and drill the three holes as shown. Lay plate over bottom of lower mount and mark the hole locations. Use a 1/16 inch diameter



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drill and start these 3 holes in the wood. Insert landing gear assembly into the two slots and secure aluminum plate with No. 3 wood screws. This assembly can be removed before painting if desired.

TANK: A suction type tank is used to keep things simple and troublefree. Cut tank pieces out of .005 steel (or brass) shim stock. Solder main seam first, using acid core solder. Add front end cover and solder into place. Anneal a piece of 3/32 inch O.D. brass tubing by passing it through a flame and allowing it to get white hot. Let cool. Now it can be bent easily to form the air vent pipe configuration.

Solder the fuel pick-up tube and air-vent tubes into tank. Press tank back cover into place and solder. Flush tank with a solution of hot water and baking soda to remove any acid that is inside the tank. Tank can now be cemented to fuselage. Add balsa fairing behind tank.

NOTE: In order to fill the tank, point the nose of the aircraft down so that the fuel pick-up tube will be at the "top" of the tank. Open needle valve four turns. Fill through the air vent. When the tank is full, fuel will drip out of the venturi.

CONTROL SYSTEM: A Sterling bellcrank was modified to eliminate the need for leadouts. Two Mono-Line type brass "buttons" were riveted onto the bellcrank. These buttons are available from Kirn-Kraft, P.O. Box 224, Anaheim, California, 92805. The modified bellcrank with a brass bearing is also available from Kirn-Kraft. A double Mono-Line end loop is soldered to the end of each .008 line, per sketch "A". Use a 3-48 flathead screw/nut to hold bellcrank in place. Head of screw should be on top-side of wing.

Cut pushrod to length and bend a right angle on each end. Do not solder nut on bellcrank anchor screw or washers on ends of pushrod until plane is painted. This will allow you to remove the bellcrank/pushrod assembly before the painting process.

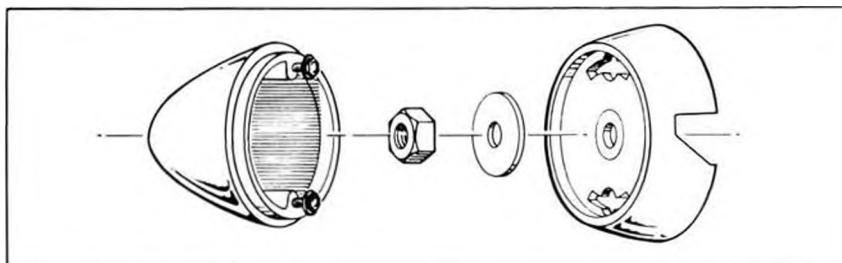
A Cox plastic control handle was modified to allow for adjusting the line lengths. Two brass Mono-Line type buttons were riveted to an aluminum strip that pivots. Loop fittings are also fabricated to "handle end" of control lines. This handle is available from Kirn-Kraft.

FINISH: Sand all surfaces carefully before painting. Use No. 320 wet-or-

Continued on page 45

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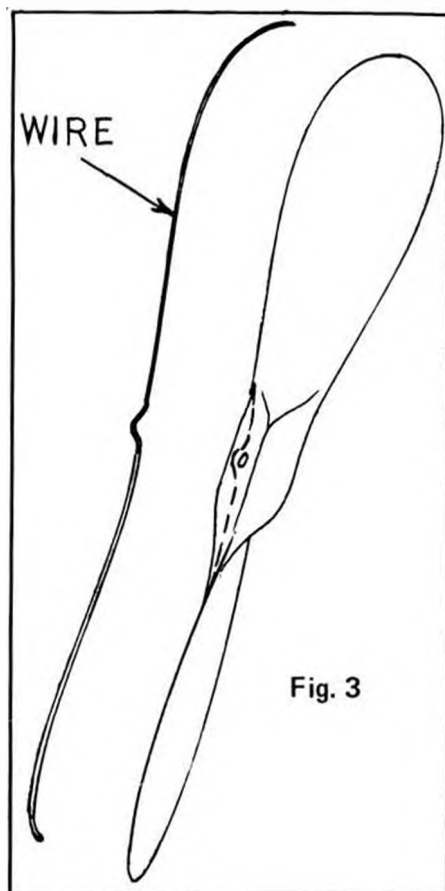
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Classroom . . . Continued from page 29
form the wire past half way around



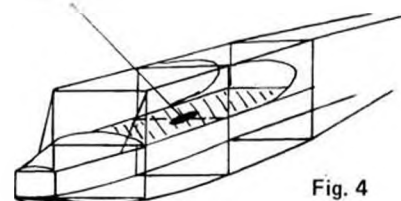
the tip. It also need not fit like a glove, as long as it can be glued to the prop without springing off.

Once this is done cover the prop with silk, being careful to overlap the silk around the wire. Then finish the prop in your usual manner. Don't use wire of less than .032 diameter regardless of prop size. And don't fret over the weight. Most crates need nose ballast anyhow, unless you've got one of those Pinocchio Turbo Porters! It sounds like a lot of hard work, but believe me, it is worth every minute of it.

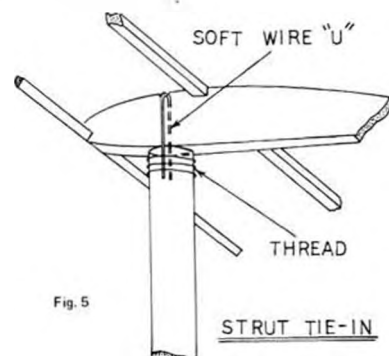
How about the way the rubber lube slops up the windows of your cabin job like the passengers were all deathly air-sick. Well, Figure No. 4 shows the way to cure this without pills. Before you cover the fuselage, fit black photographic paper between the longerons in the cabin area as shown. If your model has a high thrust line, a half tunnel can be rolled and this glued in place in the cabin area over the path of the rubber motor. This can also be done in open cockpit jobs. Besides keeping the windows and windshield clean, it keeps the sun off the rubber. Oh yeah, don't forget to dope the inside of the cabin frames dull black too. We don't want the judges

to see raw balsa through those sparkling clear windows, right?

BLACK PHOTOGRAPHIC PAPER



Want to get those struts on your latest W.W.I job to look like spruce? Well, get your bottle of lemon yellow dope and open it carefully so as not to stir up the pigment. Assuming the struts are sanded smooth, dip a brush into the dope about 1/4 inch where the color is pale and thin. Brush this on your struts as you would a stain. The effect is just about right to give the balsa the appearance of spruce. Clear dope over it to produce the desired gloss.



While on the subject of struts, Figure No. 5 shows a strong way of attaching them to wing ribs or longerons. This method has proven itself on everything from Peanut Scale to 3 foot span heavyweights. The Handley Page transport (see photo) spans 29 1/2 inches and uses this method. On one occasion it crumpled a wing tip without disturbing the strut connections in the least. In another mishap with an aged Nieuport monoplane spanning 36 inches, struts of 1/8 round R.C. balsa splintered without failure at the joint. Another advantage is realized in assembly. The whole ship may be hung together pretty securely while you check incidence and alignment at your leisure.

The "U" is made of soft wire, about .016 diameter, available in hardware stores. In the case of wings, the bottom wing is covered on the top surface first. The "U" is then glued to each rib in it's proper position. The bottom surface is then covered. The top wing is done vice-versa, of course.

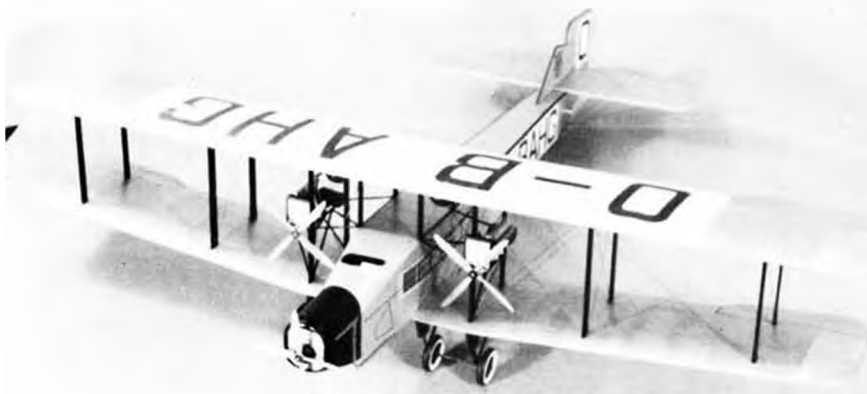
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Fuselages must be covered on the belly, and in some cases the sides, before the wire "U" can be installed. At times it may be done thru cockpit openings or cabin window holes.

In the case of the wing struts, the thread wrapping around the strut can be done when and if thread rigging is used. In all cases, the ends of

the wire "U" are glued to the strut before, during, or after wrapping with thread.

The old straw broom can sure come in handy to a scale modeler, besides sweeping out the workshop. It has a number of diameters of straw that are useful for push rods on dummy radial engines, or any other small, round struts. It is also formable, when soaked in water for 48 hours, for use as half-round wing tip skids, or wing tip and tail outlines. The great advantage here is in the variety of diameters available.

All of you daredevil designers will be interested in the trick shown in Figure No. 6, when drawing up the sweeping curve of your latest design, especially if you don't happen to own a \$50.00 worth of French and Ship's curves. Select a strip of hard balsa

or spruce and pin it down to the drafting board as shown, to use as a spline to guide your pencil in laying out that gradual curve.

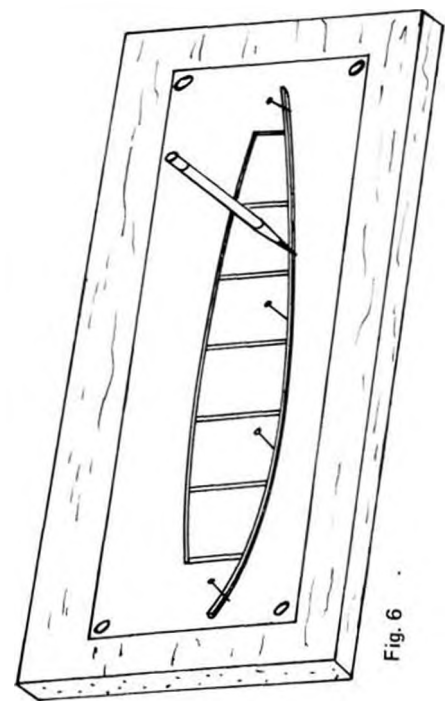


Fig. 6

One of the most aggravating bugaboos to the scale modeler, I think, is the way in which stringers, longerons, and sometimes trailing edges will sink or scallop between formers or ribs due to tissue shrinkage. Most of this is due to shrinkage caused by doping rather than the initial water shrinking. If you still use nitrate dope, as quite a few of the rubber scalers do, mix it with clear lacquer in the following proportions to prevent this unwanted side-effect.

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FIRSTS SECONDS THIRDS

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For fuselages, mix clear lacquer and nitrate dope half-and-half; for flight surfaces, 2/3 lacquer and 1/3 nitrate. If 100 percent lacquer is used, the covering relaxes in humid weather. But, 100 percent lacquer is a good agent for applying covering. If you should get too much in a corner, it will not shrink and pull wrinkles in the covering as dope will do. Another advantage is that two coats of half-and-half is equal in finish to about 3 coats of straight dope.

Straight pigmented nitrate dope may be added over two coats of either half-and-half or 2/3 - 1/3 mix without

changing the shrinkage of the tissue. The truly outstanding gain in all this is the lightweight structures which can resist warp and support a covering that produces a good finish.

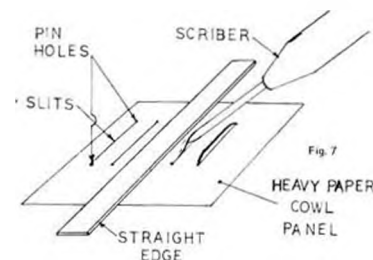
One of the best materials for wing fillets is nothing more than typewriter paper. The fillets on the Jungmeister (see photo) are made of typewriter paper. Patience is required in developing the pattern, but the end result is worth the effort. Apply the fillets with thick lacquer. Do not be concerned if, in the initial application, the edges are not completely lacquered down. They can be sealed in later

with no ill effects.



Window frames or retainers can also be made of typewriter paper, though once again, developing the pattern is time consuming, but rewarding. Look closely at the pilot's enclosure in the P-38 photo. The retainers are made of typewriter paper. The radiused corners of the retainers are made by twirling a piece of sharpened aluminum tubing of the right diameter. The retainers are applied over the already installed plastic, or celluloid, after they are doped the desired color, using lacquer as the adhesive.

How about louvers on the cowl side plate of that Fokker DVII you are making? Want to make 'em real? Here's how. First, get some real thin card or heavy bond paper, about .008 thick. Develop the true outline of your cowl and the location of each louver. At each end of each louver put a pin hole. Next connect the pin holes at each end of each louver with a slit made by a thin razor blade.



Now, to form the louver. Insert the point of a scribe into the slit after backing up the paper panel with a straight edge held at the right point to produce the desired louver width, thus limiting the distance the scribe will penetrate. Now, gently work the scribe back and forth in the slot to form the louver. It will surprise you to see how paper can be formed in this manner.

Let us assume that all louvers are formed. The next thing to do is give the back of the louvered cowl panel a couple of coats of straight nitrate dope to stiffen up the louvers.

Spray the completed cowl panel the desired color on both sides. Dope the surface where the panel is to be applied a dull black to give the effect of the darkened and oily engine compartment. Attach the panel with thick clear lacquer, being careful not to overdo it and smudge the surrounding area. This type of louvered cowl can also take a pretty good roll to form the hood over the Liberty engine on a Douglas M-4 or similar cowl.

That is about it, Model Builder's. And let me assure you, all these aids and devices have been used and proven over many years. They are not simply pipe dreams. Don't hesitate to go through the extra effort they require. It will result in better looking and more reliable scale models, and reliability is the key to contest winning. Happy landings! ●

Torky Continued from page 41
dry sandpaper for final sanding. Then choose one of the following methods for painting:

1. Brush on 2 to 3 coats of clear butyrate dope, sanding lightly between coats. Spray on 2 to 3 coats of colored dope.
2. Brush on a coat of colored epoxy paint — such as Hobbypoxy or K & B Super Pox. When dry, sand with No. 320 wet or dry sandpaper. Spray on two thin finish coats.

After paint has completely dried, bend elevators up and down several times until the hinges loosen up. Attach engine, landing gear assembly and controls and you're ready to go flying.

ENGINE: The Cox Tee Dee .049 puts out a fantastic amount of power for its size. But, like any precision piece of equipment, it requires a certain amount of attention and maintenance to keep it in top condition. The majority of these things just require a little common sense to locate and fix. For example, anything that is loose on the engine is not right. The most common parts coming loose on this engine are the back cover, the glow head, and the front retaining ring that holds the plastic carburetor housing firmly onto the engine. This plastic housing retainer ring should be checked often as the plastic housing will shrink slightly when cold.

There is one point that should be stressed. Do not attempt to rework this engine until you can turn consistent speeds. Should you decide to rework it, only do *one* thing at a time. It isn't often that a reworked engine

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wins consistently. Both the Junior 1/2A Proto AMA records (22a and 22b) were set with virtually stock engines. The only modifications were to run on a pressurized fuel tank (pressure fitting off center of backplate with a .006 hole) and the venturi was opened from .106 I.D. to .128 I.D. These two modifications gave an honest 3 to 4 mph increase in proto speed. There is another area that shows promise, and that is an exhaust extractor. Suggest you spend your "rework the engine" effort in this area.

Now for some specific maintenance items. Many a Tee Dee .049 cylinder

has been ruined by improperly inserting the wrench into the exhaust ports to remove the cylinder from the crankcase. One little slip, and the wrench will put a burr in the cylinder and possibly ruin it. To avoid this situation, it is recommended that you file two parallel "flats" on the top fin of the cylinder (see photo). This will allow you to use a Cox wrench (No. 1230) which was designed to remove the cylinder from the .049 throttle control engines. The newer Cox Tee Dee .049 has these "flats" on the top fin.

After several good runs, you may

Continued on page 48

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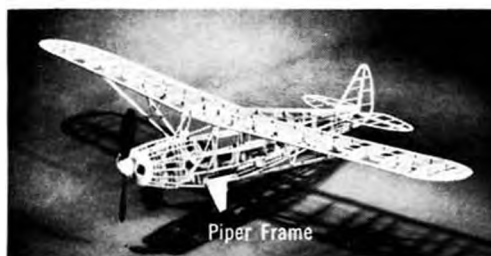
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No. 103L .45-.65

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Torky Continued from page 45 notice a clicking noise when the prop is flipped. This is something to get concerned about. It is an indication that the ball socket area in the piston is coming loose. When it gets too loose, it will actually snap the crankpin off of the crankshaft. The faster the engine is running, the quicker it will break. A special hardened tool is now available to correct this condition. Cost is \$2.95 and it can be ordered from Kirn-Kraft. You merely insert the piston/rod assembly into the tool, turn complete assembly over and place on hard flat surface and strike tool on top . . . until play is removed. The clearance in the ball-socket area should be from .001 to .002. This tool will enable you to save many piston/rod assemblies . . . as well as crankshafts. No need to break in a new piston every time the old one gets a sloppy ball-socket, and a good piston/cylinder fit will last considerably longer if given this maintenance.

Piston and cylinder fit is quite critical for maximum performance. The ideal fit (to accept highly nitrated fuel) occurs when the piston can be pushed up the liner until it is about 1/16 to 3/32 inch above the glow head gasket "shelf" without sticking. This is best checked

with both the piston and liner dry. If it sticks before reaching this height, it is possible that either some varnish has been deposited on the liner walls or that the engine needs additional running.

Varnishing can easily be identified by first wiping the cylinder dry and then holding it up to the light. A light brown color on the walls indicates varnish (caused by castor oil in fuel). To remove varnish, wrap some fine steel wool around a wooden dowel and wipe the liner walls lightly until the varnish is removed. Wash the fine steel wool particles away with alcohol, and dry. Check to see if fit has improved. It it still sticks before reaching the recommended height, check the liner walls for any scratches or grooves. A small magnifying glass is a necessity when checking for these conditions.

Another thing to watch for is aluminum particles coming out of the exhaust. Naturally, this indicates something is wrong. It can be caused by two things. Either the connecting rod is gouging into the crankcase rear cover or some fine sand has been taken into the venturi and is gouging the aluminum crankshaft bearing area.

Check back cover first. If it is obvious that metal is coming from

here, check for these two conditions: Either the crankpin (on the crankshaft) has a taper (smaller O.D. on the outer end) or the connecting rod hole has a taper in it — with a larger I.D. to the front of the crankpin area. At high RPMs this would allow the connecting rod to slide off the crankpin and dig into the rear cover.

Use a 1 inch micrometer and check the O.D. of the crankpin right next to the counter balance area and at the outer end. If the outer end has a smaller O.D., this indicates a defective part (by the manufacturer) and it will have to be replaced. If both ends of the crankpin check out the same, try turning the connecting rod hole around 180 degrees.

To check the crankshaft bearing, it is necessary to remove the crankshaft from the case. To accomplish this, first remove the back cover, cylinder and piston/rod assembly. Lay rear portion of crankcase on flat surface, thread a short 5-40 screw into front of shaft and hit with hammer until the shaft is pushed away from the pressed-on drive washer. Wipe the bearing surface clean and check with a magnifying glass for any deep scratches. If deep scratches are visible in the bearing area, it is best to replace the crankcase. Also check the crankshaft finish grind to see if it has been damaged.

When running this engine on a suction fuel tank, the needle valve can be another source of trouble. Since it normally runs with a setting of about 4 to 5 turns open, the weight of the steel needle valve causes the threads in the needle valve body to wear excessively. They can get so loose that they will allow air to seep in through the thread area and cause the peak adjustment to be quite critical. To correct this condition, cut a short piece of neoprene tubing (about 1/8 inch long) and slip it over the threaded area on the needle valve. When the needle is placed back into the threaded area of the needle valve body, the tubing will completely seal the area off.

Kirn-Kraft also produces a front needle valve assembly for the Tee Dee .049 that eliminates the above problem. It has a needle valve with 128 threads per inch and the needle thread area is sealed (with nylon cap) to prevent air from getting into thread area.

It is a known fact that some Tee Dee .049's are better than standard. Actual flight tests have shown that there can be as much as 10 MPH difference between two "stock" engines (placed in the same plane) using the same fuel and prop combination! The difference can usually be traced

to the cylinder by-pass timing. The critical areas are the heights of the grooves and how "deep" they are into the cylinder wall. Each by-pass consists of 3 grooves; one large groove with a smaller one on each side. The distance from the top of the cylinder (glow plug shelf) to the two smaller grooves should be .315 (and .325 to the top of the big groove). The depth of the grooves should be .480-.485 for the two small grooves (measured diagonally) and .470-.472 for the large groove.

The majority of the cylinders checked had these grooves on the "shallow" side. Also, many had the side grooves even with the center groove. A steady hand and a motor tool can make the necessary corrections. However, if you know a machinist, it is better to have him make the alterations.

FUEL: There are several good fuels that you can buy at your local hobby shop that will turn good speeds. Normally, 1/2A engines require a little more nitro than the larger engines. Fuels such as Cox Racing Fuel and K & B Speed Fuel usually work in a variety of weather conditions. It is suggested that you stay with a commercially available fuel until you achieve consistent results. Then, try mixing your own fuel to see if you can better your speeds. Here is the formula that has set several 1/2A proto records: 60% Nitro, 15% Klotz (poly-oxide oil), 2% lubricin, and 23% propylene oxide. This formula works well in hot (90°-100°) weather that has low (20%-30%) humidity.

FLYING: A hard surface such as smooth asphalt or concrete is recommended for a flying site. Sweep the area where you will be starting the engine and releasing the plane. **THIS IS VERY IMPORTANT!!** Otherwise, fine sand will be picked up by the propeller blast/suction and ruin the engine in a very short time.

Always check the controls before each flight. It is almost unbelievable the number of times a two-line flyer picks up the handle and has the controls reversed. Usually the only damage is a broken prop and frayed nerves.

All test flights with this plane were conducted with left-handed props. A 5-1/2 x 4 Grish prop (cut to 5 inch diameter) would give a proto speed of 63 to 68 miles per hour, depending on fuel and weather conditions. Best speeds were obtained using a left-handed Kirn 5-5 cut to 4-7/8 diameter. Proto speeds of 73 - 78 miles per hour were obtained with this prop.

Experiments with props (altering the

diameter, blade shape, thickness and pitch) and fuels produced more gain in speed than any rework done on the engine. This statement would also apply to conventional "right-hand" props should you decide to fly clockwise. If you fly counterclockwise and do not wish to use the left-handed crankshaft/props be sure to add at least a 1/4 ounce of lead to the outboard wing tip and move the balance point about 3/8 inch forward. This will help to keep the plane from coming in at you during the take-off period.

It is hoped that the information contained in this article will help you achieve faster speeds with your 1/2A proto. If you haven't made one yet, **TORKY** is an ideal plane with which to start. ●

Hannan Continued from page 30

PEANUTS, ANYONE? Dr. John Martin, reporting in **INDOOR NEWS** and **VIEWS**, sez that "Peanut Scale has got to be the most interesting and exciting indoor event" (referring to the recent Nationals contest). No doubt about it, Peanuts have really caught on all over the country, and even in Europe.

It is interesting to note the variety of approaches to the subject. Many fly Peanuts almost exclusively indoors, while in other places, outdoor flying is the rule. In California, it seems most models are a compromise, sometimes flown indoors, but more often outside. Which brings up the subject of performance. Time was when a 20 or 30 second flight was considered quite an achievement for

a one foot span scale model.

But these days, flights approaching one minute are fairly common, and some thermal assisted Peanut flights have been over three minutes. Thus, in outdoor competition, it behooves a serious entrant to really sharpen up his adjusting procedures. Harold (Bill) Warner wrote an excellent summary of the problems involved in the August, 1972 American Aircraft Modeler, and it should be "must reading" for all Peanut fans.

Getting back to the different approaches to trimming, Bob Peck of Peck-Polymers, Peanut Purveyors, sent along the following: "Wish I was at Hannan's Hangar surrounded by all those antique airplanes and enjoying the bull session about Peanut models. Thought perhaps your readers might be interested in learning two different methods of tuning Peanuts for maximum performance. The first is employed by my friend Greg Weissenberger, who sets forth the following suggestions (abstracted from Greg's letter):

"For my 12 inch span Miles M.18 (A Peck Peanut Kit) I have been using 4 strands (two loops) of 1 1/2 mm Pirelli with a motor length of 12 inches. With 800 turns, I usually get a 20-second motor run. This would produce a nearly straight-up climb to 75 feet, a stall and "falling leaf" followed by flat climbing turns back to perhaps 50 ft. altitude. With a switch to a single 9 inch loop of the new 1/8 inch black Sig rubber on 800 turns, the static motor run was 24 seconds, and the model, after climbing to 75 feet, stalls out but recovers fast

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and the plane falls back into a reasonable attitude more quickly.

"The Miles is set up for right power and left glide. Right power is achieved by 5 degrees thrust and 3 degrees down-thrust. Glide to the left comes from stabilizer tilt and right wing tip wash-in. The model is stable under all conditions, except at the top of the power run (stalls) and some wandering in the glide. (Greg attributes this to the small vertical tail). Have about 250 flights on the model so far, in all conditions, including 30-40 crashes under full power. Average times in still air over green grass is 30-40 seconds with 800 turns, or 10-60 seconds with 1,000 turns. (More turns makes for wilder "falling leafs" and less predictable recoveries).

"It occurs to me that other Miles flyers (and most Peanut flyers, for that matter) use long motors made of thin rubber. This gives them limited power, so the initial climb is a graceful spiral, and a long motor run with little or no power-off glide. (*Standard technique for indoor models. W.C.H.*) I don't like that policy. First, the long motors mess up glide trim. Sure, other guys don't even USE glide, but the difference between consistent 30 second times with consistent 90 second times with a small motor must be made up by gliding. So the duration breakthrough happens when you learn how to get good glides. Incidentally, Free-wheeling props are indispensable for this. My Kaysuns are all slotted at the front to accept a prong on the (prop shaft) wire end. It really helps."

Greg goes on to conjecture the possibility of using a loop of rubber which is thick on both ends and thin in the middle, with the objective of providing a more controlled power burst plus a fair amount of midrange power.

Bob Peck himself, has these thoughts on Peanut flying:

"Basically, I adjust and fly my Peanut Scale models as if they were indoor models even though they are flown outdoors. A few points that I would stress are:

1. Build the model as light as possible.
2. Balance about one-third to one-half way back from the wing leading edge.
3. Fly with the largest prop possible and use as high pitch as practical for the model, the reason being to keep the R.P.M. of the prop down, thus increasing the length of the motor run.

4. Use a rubber motor about twice as long as the model and as small in cross-section as possible to still have enough power to make the plane fly in a gentle climb. The reason for the long motor is for getting as many turns as possible for a longer motor run. Also the small size of rubber increases the motor run.

These points are all inter-related to give a long power flight and not necessarily for a good glide, as when you have a long motor, you are not always sure how your motor will lie in the fuselage (could possibly throw model out of trim)."

So there you have it. Two very different types of thinking. Bob Peck shoots for maximum motor run and doesn't worry about gliding, whereas Greg Weissenberger feels that a predictable glide should be the main objective.

Fred Weitzel, of Yonkers, New York, takes issue with the need for free-wheelers on Peanuts. Fred instead, employs prop-stoppers, so that the prop always is positioned in the same place for glide trim. All three of these fellows have obtained good results, which suggests that perhaps there is no single "best" solution to the problem.

Dr. Julian Wolkovitch points out that many of nature's small insects are not

only unstreamlined, but downright hairy, yet they are efficient flyers. Anyone for a felt-flocked Peanut? Not really, sez Mr. Morton Grosser, Peanut builder and entomologist, who notes that the hairs on insects are of a very special configuration. With this fantastic array of practical and scientific minds at work, the 5 minute Peanut may be just around the corner, but I'd like to leave you with this closing thought by Mr. Bill Brown, of Brown Junior fame:

"I am happy to see more Peanut Scales mentioned in the magazines. The tiny flying scale models should be considered an art form."

Amen.

• • • • •

NEW PEANUT KITS!

Latest entries in the Peanut Scale parade are a series of World War One kits being manufactured by Lee's Hobbies, 11902 La Bella Ave., Sunnyvale, California, 94087.

The series features some of the lesser-known aircraft such as the Austin-Ball, Le Pere LUSAC 11, and the Hanza-Brandenberg D-1. Contents of each kit includes well-drawn plans, a construction and flying instruction sheet, a judging 3-view, tissue for covering and decoration, sheet wood, strip wood, a Kaysun plastic prop, rubber, and wire. The choice of subjects is refreshing, and the kit materials in our sample were of high quality. Dealer inquiries are invited.

C/L Continued from page 11

Seriously, it would appear that multiple engines, especially for speed competition might offer advantages. For example, the Rossi .15 is about the ultimate racing engine of any size in the model airplane world. Two of them in a B or Proto ship would be wicked. While we're talking about speed, what

would be wrong with changing the upper limit of class B and Proto to .40 displacement rather than the present .29? In case you haven't noticed, there aren't too many racing 29's being manufactured now . . . it's an out-dated size. While we're at it, let's bump combat's displacement limit up to .40 too. Think of it. The manufacturers who are interested in making hot engines could concentrate on just the .40 rather than .29's, .35's, and .40's. The result would be more manufacturers making contest engines. In addition, the engines would be better, and less expensive. Need I say that contest flying's more fun when you have a variety of engines competing . . . gives you a feeling of individuality if your's is different.

I visited Duke Fox's engine factory recently and got a peek at the new racing .40 he is working on. He was as excited about it as you or I would get about our own latest pride and joy. Duke really knows and loves motors, and if he decides to build this radical new racing engine (and I think he will) it will be something to make Fox fans blow their minds in a year or so. I also have joined the ranks of those (outside the lucky 100) who are panting for the new K&B .40 schnuerle port mill which Johnny Brodbeck (the "B" in K&B . . . anyone remember who the "K" was? Answer is at end of this column) says should come out around January-February of 1973.

Word is that the HP .40 is really a honker in Rat Racing, and that it is even giving the new K&B prototypes a good run. It truly is a beautiful piece of machinery, if you haven't had a chance to play with one yet. Notice how many new .29's and .35's I've been talking about — zero! Please refer back three paragraphs for the moral to this story.

I spent a few hours studying kits last week at Bernie's Hobby House here in Dallas . . . mainly just to see what is available. In many ways, it seems like nothing new ever shows up. Most of the stuff available, in kits was designed 10-20 years ago! The new Midwest kits (Cobra, Mustang, Guardian, P-40, Me 109) are selling well. They are intended to be stunt planes, and they fall in about the same class regarding flying excellence as the Sig Banshee and Midwest Magician, except they would be harder to build than the Banshee or Magician.

It is a shame that the Nobler (Top Flite) is the only kit available that



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flies as well as a Nobler. (*It isn't a shame according to Top Flite's Sid Axelrod! WCN*) A profile kit could be made to fly better, cost less and be easier to build. So why don't we see one? Maybe we will soon. In the meantime, you might try the "Trophy Trainer" (J. G. Models) which I haven't flown; but if its uncanny resemblance to my "Excalibur" design is any indicator, it should be a good one.

There's also the Ringmaster — Flitestreak — Buster — Cosmic Wind — Shoestring, class of "sport stunters." The Ringmaster is really an oldie, but still quite popular. It's no match in flying for the Flitestreak, though. The Flitestreak has a nice fat airfoil which many of the others don't, and this, along with a lighter wing, is the secret.

In all of the kits, the variation of wood quality in a single box was staggering. Most of the kits contained some wood that was harder than I thought it was possible to cut. Usually, the hard wood was in the worst possible place, like the tail surfaces or fuselage. The die cutting, however, was generally O.K., and I looked at virtually every brand of kit. It still bugged me to see, however, that the general theme of the kit designs seemed to be: Forget the weight, make the pieces so big a gorilla could handle them easily, and it won't require the builder to read any instructions. Even with that philosophy, though, the kits seem unnecessarily hard to build! Wonder why foam isn't seen more in Ukie? The Trophy Trainer mentioned above, and the Vampire combat kit are the only ones that come to mind as using foam wings.

That's it for now . . . Oh, by the way, the "K" in K&B stands for "Kading." Aren't you glad you know? ●

Peanut Continued from page 31
airplane.

Details worth discussing: The bubble canopy. It is made by carving a solid mold out of hardwood, we used white pine, and then using a toy Mattel Vacu-form to pull a clear plastic canopy over the form.

The vertical tail leading edge was made by laminating three pieces of one-sixteenth wide by one thirty-second thick balsa, using thinned-out white glue and a waxed form, cut out of one-eighth sheet, for a guide. Our laminated part runs down the centerline of the top of the model, from the back of the cockpit to the trailing edge of the rudder.

The four bladed propeller is made from two Sleek Streak propellers (plastic). These have half of their hubs notched away and are then dovetailed together in the proper way. Next, the hub is coated with a thin layer of epoxy, which gets into the joint and makes a good strong hub again. Make sure you have a lightly oiled wire in the propeller shaft hole when you are applying the epoxy so it doesn't get into the shaft hole and ruin your whole day. (Pun intended.)

We used the smallest Williams Brothers nose plug as a thrust bearing, and Marlow Engineering's wooden wheels. Also, we used a small ball bearing thrust washer between the propeller and the thrust bearing. These parts are handled by Bill Hannel (Plans & Things).

Stringers and the forward two wing spars are one thirty-second square and were cut from hard balsa sheet for the Peanut Scale version. All dimensions are doubled for the larger model and you'll have to carve a hardwood prop or find some larger plastic props for it.

Color scheme: The colors used

on this model are mostly of tissue paper for lightness, with a little black, yellow, white, and red Pactra enamel for plastics for fine details.

The wing and tail structures were designed to give a good color separation line without requiring double covering. Cover the wing forward of the main spar with white tissue and the remainder with red. The same goes for the horizontal tail. The only touchy part here is getting the front line of the red tissue straight and exactly where you want it.

Cover the entire fuselage and vertical tail with white tissue. Now water shrink the covered model. When this is dry and the tissue is tight, give the model one coat of thin dope. Dope as obtained from a model shop should be thinned half-and-half with thinner. When this is dry, start to add the color to the fuselage. Carefully cut out the red tissue to match the color line required. Lay it carefully in place on the fuselage and brush on real thin dope (3 to 1, or even less) to get it to adhere to the white tissue. Then cut out black tissue for the forward fuselage sides and follow the same procedure. Because the cowl has compound curves use red paint on it. Paint the anti-glare panel in the cockpit area with flat black paint and then install the canopy. The aft canopy frame is painted white and the windshield frame is flat black.

I used commercial decals for the insignia, and after the insignia was applied I used india ink for all the numbers and lettering and the dive brake outlines on the Peanut Scale version. The large numbers and letters on the big model were cut from tissue and applied just like the other colored tissue. I draw the numbers on a piece of bond paper, and tape this over several sheets of tissue on my work board. The letters are then cut out using a sharp razor blade.

Control surface outlines are drawn in using india ink. The propeller is painted flat black with yellow tips. The real airplanes did not have square tipped propellers, which we kept on the model in the interest of more duration.

Add other details as desired, including such things as the fin mounted pitot tube and the various antennas. If you don't go for the red and white color scheme, there are a lot of military variations to choose from.

After the model was all covered and detailed I gave it a very light spray coat of Standard Brands clear

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Magic Lacquer. Any gloss top coat that won't louse up your decals will probably work as well. This keeps the india ink from washing off in the dew. Mask the flat black so it doesn't get shiny. ●

Pylon/4 Continued from page 36
be accepted by every R/Cer.

The Q.M.R.C. has taken the following steps which will be adopted in their future events to assure equality to entrants:

- A. Fuel to be supplied by Club. (Brand to be used is noted on contest announcement.) All planes must de-fuel and refuel before entering ready area.
- B. Props will be furnished by club. One prop will be given to entrant. Additional props must be bought separately. Props will be color-coded by club, and must be used by contestant. Three sizes/types will be available to choose from. (A survey revealed that 90% of the entries of previous contests used these sizes/types.)

The club also has under consideration a workable rule, based on statistical data, to eliminate modified, hopped-up engines.

These are steps in the right direction, and I would appreciate any constructive comments on rules presently published and tested by individuals and clubs.

On the first of October, the Q.M.R.C. held their monthly contest at Mile Square, Orange County, with 26 entries competing. A grand total of 82 pounds of airplanes were weighed in, and after five heats, Jack Stafford emerged the victor with a perfect score, all wins. Second place was taken by Jim Kelly, just 2 points behind. Third place went to Paul Lorringer. A great variety of models appeared, proving that this event is not confined to Goodyear types.

One very interesting note pertaining

to this contest: the top 25 percent of the finalists must work the next contest. It's a great idea! This is one way to eliminate the problem of overworking the same individuals. It provides experience in conducting a contest and it allows others to move up to the win column.

In closing, I again request all those interested in seeing this event grow to write in your comments, **MAKE YOURSELF HEARD!** Forward mail to: Don Panek — 17835 Hiawatha St., Granada Hills, Calif. 91344. ●

Workbench . . . Continued from page 7
while Marcial Davila uncovered a sleek looking black speedster reminiscent of control line days. The contest of 'who has the biggest bomb' ended when Gaston Mathelin displayed his HP rear rotor 40 powered *Quarter Midget* Balerina. As might be expected, 1st place in this event went to Gaston, with 2nd going to Ramon Virgilio. For the only U.S. win, John Elliot with his Fibre Foam Products 'Vulcan' placed third.

The Lear Jet in the photos was NOT an entry in Open Pylon. Actually, it had not been flown at that time. The owner and builder, Mr. Cleefas Casillas France, stated that it lacked a few finishing touches. Built from RCM plans, the model cost over \$200 in materials, weighs 21 pounds, and is powered by two Webra 60's. Hats off for a tremendous undertaking, and we hope it flies as well as it looks.

The hospitality of the Mexican modelers has to be experienced to be believed. If you go to contests only to win, to find fault with the rules, and to argue with the judges, please stay home. But if your thing is to fly toy airplanes for the sake of flying them, with people who share that love, may we suggest: **GUADALAJARA 1973.** See you there! ●

F/F Continued from page 25
methods of scoring championships and determine what method is being used for that meet. Unfortunately, there is no standard scoring method for championships or sweepstakes, but the Contest Director is obligated to inform the contestants of the method at the start of the meet. Be aware of what's going on and then take appropriate action.

OBSERVE AND JUDGE THERMAL AND AIR CONDITIONS. DETERMINE EXACTLY WHEN TO FLY.

This was discussed at length in the July 1972 issue of The Model Builder. We might add that using good D/T judgement is also important.

REMAIN WITH THE TIMER OR ASSIGN A TEAM MEMBER TO REMAIN WITH THE TIMER.

This is not done because the timer is suspect, but because accidents and mistakes do happen. The timer may be distracted by a diving ship and then have trouble finding yours again. The wrong ship may be timed, the watch may stop running, or you may have a mid-air collision. Also, errors do occur in tabulating the final scores. If in doubt, inquire but don't make a nuisance of yourself.

ESTABLISH AND USE A SET RETRIEVAL TECHNIQUE. ASSIGN A CHASER AND VEHICLE AS PRACTICAL.

This will be determined by the field you're flying on. If retrieving is done on foot get your lungs and legs in shape, wear good shoes and carry a canteen. Trail bikes are not allowed on some fields, yet they're ideal and approved on others. If a car is the best or only vehicle that is available, use two people; one for driving and the other for spotting. Two people should also be used for chasing fast on a bike. Your retrieval team should be organized and trained to avoid delays and confusion. The most enjoyable part of free flight is watching your creation riding a thermal. Get underneath, where it is fun to watch.

FREQUENTLY REVIEW TECHNIQUES, METHODS, EQUIPMENT, AND YOURSELF!

Strive for performance and consistency. Are your rubber motors properly conditioned? Are your gas motors powerful and easy to start?

Do you carry a complete tool box of timers, plugs, epoxy, props etc.? Do your ships hold trim? They should! Would it help to use binoculars and walkie-talkies when chasing? Are your ships really competitive? Can you

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run a mile and still continue flying without hesitation? Are you willing to fly just after having a ship destroyed? How can you improve? ●

Seagull Continued from page 23

heavy dashed lines on the plan. The fore-keel extends from Station (Sta.) 1 to Sta. 9; the aft-keel and water fin from Sta. 8 to Sta. 16; the top-center stringer from Sta. 9 to Sta. 16; and former F-1 completes the main keel.

2. Add the left side of the bulkheads.
3. Add the landing gear support and then the left side covering. Note the splice lines on the plan.
4. Remove the left side from the plan and add the right side of the bulkheads.
5. Add the right landing gear support and side covering. Make sure the keel is straight as you add the covering. Building with the hull inverted and pinned down is recommended.
6. Add the aft-bottom planking extending from Sta. 6 to Sta. 16.
7. Add the step riser and then the fore-bottom planking.
8. Add the framing around the front hatch and the hatch floor. Framing may be added around the opening under the wing mount if you plan to make a waterproof hatch under the wing. (Refer back to the Seahorse II, May '72 MB, for more detail on this.)
9. Add the top of bulkheads 1 thru 5. Note that 1A thru 4A are only tack-cemented since they

will be cut loose later to form the hatch.

10. Add the stringers and top covering from Sta. 1 to Sta. 6, bearing in mind the places that will be cut away later to free the hatch.
11. Use a razor saw to cut the top sheeting between 1 and 1A and 4A and 4B.
12. Add the nose block, shape it and sand it as you sand the hull itself.
13. Add the windshield: Either clear plastic or fill-in with blocks.

TURTLE BACK AND FIN

1. From Sta. 9C to Sta. 16, the turtle back and fin is built like the hull, over a center keel. Construct the keel using the heavy lines to determine the outlines and splices.
2. Add the left bulkhead halves then cement this assembly to the top of the main hull.
3. Add the right bulkhead halves and the stringers.
4. Install the rudder and elevator control linkage at this time. A short length of Nyrod where the rudder linkage goes through the hull will serve as a water seal. Nyrod can also be used to conduct the elevator motion in the path shown on the plan.
5. Add the top and fin covering.

WING MOUNT

This unit will become part of the wing and may be attached using nylon screws, or rubber bands and dowels.

1. Add formers 6A thru 9B and the framing under the wing. Tack-cement this assembly to the main



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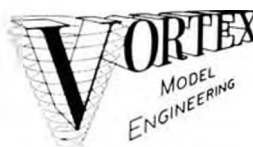
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- hull since it will be removed later.
2. Tack-cement the balsa block behind 6B and add the top covering from the block to 9B.
3. Shape and sand the mount to fair with the main hull and the turtle back.

Mounting the wing to this section is described in the following part of these instructions.

WING

The wing construction is a conventional four-spar arrangement. Wash-out by following these steps:

1. Build the bottom sheeting over the plan.
2. Add the bottom spars and ribs. Don't forget the dihedral and pylon spacing for the central rib. Glue the ribs to the sheeting near the leading edge by sliding slivers of balsa under the sheeting, forcing it up against the ribs.
3. Add the sub-leading edge and the piece to which the aileron will mount.
4. Add the aileron linkage and holes for the tip float dowels.
5. Add the dihedral braces, trimming away the ribs as necessary. Don't forget this step; we had to add them later, on one wing, by making

slots in top covering . . . came out O.K., but took a lot of tongue biting.

6. Add the washout by unpinning as necessary the tapered part of the wing and lifting the rear tip until the tip of the rear spar is 1/4 inch off the plan. Make sure the portion near the leading edge, and all of the center wing section (untapered part) is down tight on the plan. Add a block or two under the trailing edge and pin them in place. Note: If you are guilding the wing without ailerons, lift the rear wing tip 3/8 in. off the plan and procede as above.
7. Now, add the top sheeting and your washout will be built in to stay.
8. Sand the tip flat and add the tip covering.
9. Build the second wing half similar (but opposite hand, please!) to the first but add the first half to the second at step five. This will automatically establish the dihedral.
10. Shape the pylon support and build the motor mount and tank structure onto it. Omit the 1/8 balsa pylon support outer covering until

the pylon is mounted on the wing.

11. Cement the pylon into the wing and add 1/8 balsa sheeting each side of the pylon support, fitting it to the wing carefully.
12. Build the ailerons.
13. Fit the wing to the hull by removing the balsa block at the front of the wing mount.
14. Cut away the top covering of the hull at bulkhead 8P to fit the wing and pylon. The framing under the wing must be trimmed to the dihedral angle.
15. Cut away the balsa block as necessary and glue the wing in place.

TAIL

The stabilizer may be permanently cemented to the vertical fin or attached with nylon screws and blind nuts. We prefer the latter; it takes a pretty rough landing or moderate "crash" to do much to a T-tail.

The elevator control horn assembly is a standard U-control elevator horn. Add the top section of the vertical fin after the elevator control linkage is adjusted and working freely.

The stabilizer, elevator and rudder are of obvious construction and need no comment. Hinging is up to the builder; there are many fine hinges available from your hobby shop.

TIP FLOATS

The tip floats are built like the hull, using a center keel with bulkhead halves attached to each side. Wet the balsa sheeting if necessary when covering the floats. The mounting plate angle should match the dihedral angle or be slightly less . . . the tip floats can splay outward a degree or two to help on wing-down landings. Use plenty of elastic to hold the floats on; they take a fair beating and should be quite rigid.

LAND GEAR

The land gear is of 1/8 music wire and may be omitted if you are a truly nautical type (land flying has been the ruin of many a flying boat). The gear plugs into brass tubes that go all the way through the hull.

Bind and solder hooks on each half of the gear and connect the two sides with a few strands of rubber. This may not be beautiful but it does hold the gear in place nicely and adds some spring to the gear.

FINISHING AND WATER PROOFING

The inside of a seaplane should be water proofed as you go along, with a coat of dope (2 parts dope to 1 of thinner) or eposy (1 part Hobby Pox II to 1 part thinner).

We still prefer silk and dope for seaplane covering, though Monokote should certainly do the job. If you go that route, be very sure that all joints in the film are water-tight.

The fore-bottom of the hull may be fibreglassed. We use silk. Experience says that fibreglassing adds little but weight. If you hit hard, the bottom breaks . . . fiberglass or no fiberglass.

A water-proof hatch under the wing is the ideal way to keep water out of the hull. In this case, the whole hull becomes a waterproof container. If the wing is knocked off, the servo plugs come apart and the hull floats away from the wing. If the wing servos are in waterproof compartments, you can be back in the air as soon as the epoxy hardens.

The hatch and wing mount (plus the hatch under the wing mount if you use one) are water-sealed using a strip of closed-cell sponge rubber, the kind that doesn't dissolve in oil. Some Scuba Diving shops handle this material in 1/8 inch sheets. It's used to repair wet suits. The pressure of the screws or rubber bands will make a good seal.

CONCLUSION

Seagull is a magnificent bird! We have watched many seaplanes perform and Neil has to get top credit for this one. It's up on the step about as soon as you apply full power, and it's in the air fifty feet later. A tendency to tip stall has been counteracted by washout. This was proven in the original by reworking the ailerons. Better aileron control has also been added by suggesting less dihedral if ailerons are used, and, by increasing the area of the ailerons.

Build your Seagull light. The original weights are shown on the plan, but it should be possible to build a Seagull that weighs less without cutting into the strength members.

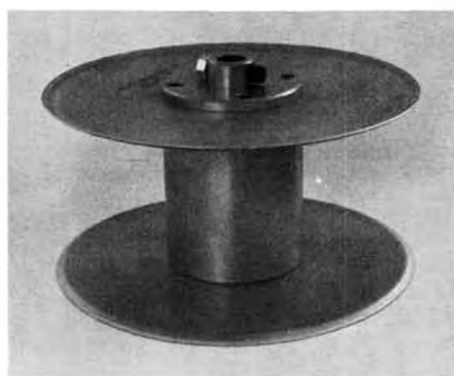
Good Luck, and as Neil would say: "Happy Landings!" ●

FAI Continued from page 25
Buzz and bike, into orbit, followed by a crash landing on his back. Another flyer found him wandering around in a state of shock.

He was taken to the hospital and released two hours later. Even so, he put in one more flight, but then decided to quit until next time!

Bob White, who placed 3rd in the last World Champs and qualified again this time for the Wake Team, had a similar accident. His helpers (4 of them) sure did a fine repair job on Bob's legs, because he was back flying

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in the next round. They also covered the "Godfather" holes in his plane with fast setting epoxy!

As for the models, they looked to me like fallen leaves rolling on the ground (more than flying), with endless motion provided by the 25 m.p.h. winds (at times much stronger). Putting together all the sounds of Wakes and Nordics splattering wings, motorcycles and cars speeding (up to 70 m.p.h.), and shot gun bang-bangs announcing the rounds, it was not far from sounding like a "Rolling Stones" rock and roll concert!

Except possibly for the ones who made the teams, everybody was pretty upset at the end. There was a lot of talk about the next time, almost everyone having a suggestion. One doesn't need to be a fortune teller to know that the next eliminations will be the same or worse until the program administrators stop taking advantage of the flyers, who usually say "Let's fly today, we'll cry tomorrow," or "When you're hot you're hot!"

It is my opinion that the most important thing right now is how good our selected F/F teams can do in the World Champs competitions . . . how much is the potential of individuals placing . . . and how can we help them to bring the victory home and regain the reputation of the U.S.A. in the World Championship ratings. ●

AMRCA Continued from page 35
while the tires grabbed for any traction they could find. Find it they did, and the speed of the car finally caught up with the speed of the tires. A few more laps and Roy signalled for the clock to start.

Everyone watched as the clock stopped at 5.31 seconds for six laps.

There was some mumbling while the timer figured out the speed . . . 164.23!

There were cheers and handshakes all around, while Roy settled down to his next problem. The rules require a backup run within 5 mph to validate the record. To do this Roy had to beat his old record of 159. After a period of cooling off and a few careful adjustments he tried again and got a 163, so his record stands.

Ye noble Model Builder editor paid us a visit and seemed most intrigued by our method of cleaning the track. First we sprinkle Kitty Litter on the track and then 15 or 20 people get out and shuffle around the circle to rub it in and soak up the oil and rubber that the cars have left behind. To a newcomer, I imagine this looks like a strange religious rite. However, it is the only way that has ever been found to effectively clean the track.

Saturday was the last day, so it was go or blow for the people who had traveled many miles for the meet. Phil MacDonald, from Indiana, turned a 157.07 using some unbelievable fuel in his glow plug Super Tigre ABC. He figures that the plug element burned out long before the car peaked and only the idle bar was glowing to provide ignition.

Ted Dodd of California, a comparative newcomer to the hobby, set a record of 149.50 in Class II Hot with his Yellow Jacket powered Arrow. Several tries later he managed to back it up with a 146, after having aged several years in the process.

Martie Fairabend (women libbers note) set a record of 153.32 in Class III Cold, with some help from her husband. Records were also set by Ed Baynes in Class I Cold and Lloyd Torrey in Class II Cold.

Saturday also provided time to wander through the pit, see some of the other cars, and take pictures.

Tonnie Pegue turned up with his beautifully finished and very fast cars.

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Glenn Farabend, who has attended every race car nationals since the beginning in 1939, was pretty busy between running the clocks and running his cars.

Nick Tucci, racing's answer to Jerry Lewin, kept everyone in stitches and still found time for an excellent run with his Rossi powered car.

Ed Turnross was busy running several of his Papina cars. His wife Julie made a large batch of cookies that everyone sampled (especially me) as they wandered by.

Bill Grote was muttering unprintable things as he tried to get his McCoy to run. Bill is president of the California club.

And finally Ed Baynes, running his own cars and proxy running several others, while still finding times to help out with advice to people with car problems.

The last day was also the time for swapping of engines and cars. Dealing got pretty hot at times, as engines changed hands so fast that no one knew what he was getting for what. A display of antique cars from the 30's brought out several restored masterpieces of that era, including a Matthews car that was the first to reach 100 mph.

RESULTS:

CLASS I COLD

1. Ed Baynes	California	Arrow	YJ D	137.83	NEW RECORD
2. Dale Springer	California	Arrow	Dooling	121.13	
3. Bob Murphy	California	Arrow	Dooling	104.65	

CLASS I HOT

1. Tonnie Pegue	New Mexico	Arrow	Dooling	136.78	
2. Bill Grote	California	Arrow	Dooling	130.49	
3. Ralph Flaaten	California	Arrow	Dooling	120.64	

CLASS II COLD

1. Loyd Torrey	California	Arrow	Dooling	143.54	NEW RECORD
2. Nicky Tucci	New York	Arrow	Rossi	139.97	
3. Jerry Anderson	Ohio	Arrow	OPS	135.95	

CLASS II HOT

1. Ted Dodd	California	Arrow	YJ FT	149.50	NEW RECORD
2. Franny Wolf	Pennsylvania	Arrow	D YJ	146.34	
3. Ed Baynes	California	Arrow	D YJ	127.66	

CLASS III COLD

1. Martie Fairabend	Michigan	1234	D FT	153.32	NEW RECORD
2. Glenn Fairabend	Michigan	1234	D FT	149.50	
3. Tonnie Pegue	New Mexico	1234	YJ	141.51	

CLASS III HOT

1. Roy Torrey	California	1234	YJ FT	164.23	NEW RECORD
2. Loyd Torrey	California	Rouse	YJ FT	163.93	
3. Phil McDonald	Indiana	Kuebler	ST Glo	157.07	

CLASS IV COLD

1. Jim Waters	California	Railton	McCoy	113.69	
2. Cliff Adams	California	Papina	ST	111.80	
3. Jerry Anderson	Ohio	Invader	McCoy	109.22	

CLASS IV HOT

1. Ed Turnross	California	Papina	McCoy	115.83	
2. Dale Springer	California	Railton	Hornet	109.89	
3. Julie Turnross	California	Papina	Hornet	99.66	

NOTE: The engine abbreviations are as follows: D — Dooling; YJ — Yellow Jacket; FT — The flat top piston conversion for the Dooling or Yellow Jacket. Some of the engines were a hybrid of both the Dooling and Yellow Jacket engines as the parts are interchangeable. The other engines are self explanatory.

In those early days, the race car enthusiasts provided the model world with its first real engineers. Since no driving or flying skill was involved, all effort was concentrated on development of the engines. From these early racers came the first really good engines for all phases of modeling. The Hornet, McCoy and Dooling set the pattern for high performance engines up to the present day.

The banquet Saturday night and the awarding of trophies meant the end of another meet. As everyone was packing to leave the next day, there were rumors of hosting a world meet next year. There is much more interest in cars in Europe than in the U.S. They are running mostly the smaller cars of the .09 and .15 classes. ●

LSF Continued from page 19
to the wave . . . to its security . . . to success . . . to championship . . . to fame . . . to her sporting world and what it's all about.

Somebody . . . a man . . . screamed: "She's got it." And so she did. The red and white Cumulus was in lift . . . going up fast and soon almost out of sight in the high overcast . . . into the wave.

But there was more to the round-eight task. Target flight time was 8 minutes. That meant that points could be lost for every second of flight beyond the target time, just as for every second under target. And a big 50 point bonus . . . perhaps the "winning" 50 . . . was waiting in that landing circle. The

odds were starting to lean to Barbara's favor, but the LSF 1972 RC Soaring Tournament was not yet over. There was no sign of relaxation on the girl-pilot or her assistant's face.

When she eased her Cumulus over and started down, diving out of the sun so as to touch ground on-target at 8 minutes, the only eyes not on Barbara or her sailplane were those of the Pilot and Timer at No. 6 Winch, launching the last flight of the Tournament. It was Dan Christian... he placed second in Duration... winding up an excellent contest performance. Nobody cared. It was "her" show.

Barbara had fought the battle for sustained lift... and won. She had fought the battle of return from staggering heights and powerful lift current... and won. But now, coming down too fast. At lower altitudes, she was finding the same sickening sink that Willard, Donelson and others had found. She was too early... she could lose the whole thing by landing too soon. And the security of that beautiful wave lift was a thousand feet above her plane. She could easily and very quickly now become "that girl that almost won the '72 Tournament." Notoriety that might endure for several hours.

But Barbara's performance to this point had not been just a fantastic streak of luck. The closing seconds... any one of which could have been the championship-deciding moment... proved it. The "Cumulus" sustained. Its well-manicured pilot, humped ever so slightly in total concentration, worked every tiny bubble of "zero sink" encountered by the plastic foam and balsa soarer. Some may even suggest that the collective breath held by several hundred spectators helped keep that plane in the air. Not so. Barbara did it... with the help and encouragement of friend Shilling... with the enthusiastic silence of the crowd semi-circling the landing area.

Barbara "greased it in"... not just in the circle, but within five feet of dead center... and very close to perfect time, 7 minutes and 43 seconds. Every pilot and every spectator cheered the performance of "that girl" and her "pretty bird." "Fly Barbara"... paraphrasing the popular TV commercial... was behind every person's smile.

A truly incredible feat had been accomplished by a charming and personable young woman... mother of two grade-school youngsters. For the male also-rans, any crowd eaten could hardly have been prepared by a more appro-

priate chef.

Another first for the famous LSF RC Soaring Tournament: tears of happiness at the awards ceremony.

So ended two days of some of the most competitive flying yet recorded in the world of R/C soaring. Two days... 110 pilots registered in the starting lineup... over 900 launches... eight flight rounds of Speed, Duration and Precision flying.

For Don Powell, Winchmaster, for Perry Neuschatz, Flightmaster, for Jim Hale, Scoremaster, Sunday afternoon climaxed some seven months of planning and preparation. For these men, as for other key Tournament personnel work had started back in early February.

Le Gray, Tournament Director, and Jack Seeley, Tournament Manager, started it out with a paper organization which identified key tasks and areas of responsibility. Next came assignments. The hosting San Fernando Valley Silent Flyers offered members from all vocations and professions from which to choose. The biggest problem was which of the many qualified men and women would be the "right" team. And every assignment had to have a backup which was fully capable of stepping in and taking over if necessary. The

selected Task Leaders were:

Flightmaster	Perry Neuschatz/ Ferdinand Hendricks
Winchmaster	Don Powell/ Barry Glenn
Scoremaster	Jim Hale/Hugo van Paassen
Fieldmaster	Dick Shilling/ John Camp
Registrar	Jeanne Seeley/ Judy Glenn
Security	Orville Shertz/ Jack Seeley
Services	Cliff Benjamin/ Ted Buxton

The San Fernando Valley Silent Flyers had taken on a major task. A club just turned one-year old at the time of volunteering for the effort... with no contest experience under its collective belt... with many newcomers to the sport who had never even attended a contest. But their total enthusiasm, combined with the patience to plan and the energy to work, made a near impossible undertaking into a recognized new standard of achievement.

Weekly meetings of the Task Leaders were held. The key to success had to be found in the planning... in the preparation... in the anticipation of problems. Nothing was to be left

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to chance... nothing could be left to on-field resolution. With the best of plans, emergencies would... and did... arise. But if all else were under control, the thinking went, then emergencies could be overcome.

The paperwork started. Detailed job descriptions... field procedures... flowcharts of work schedules and priorities. Field layout was found to be "time critical". Spot landing circles were required for the first flight task... but their location had to be keyed from Powell's winch locations. Speed Task pylons had to be ready for erection within minutes following Satur-

day's Round Two... but not until the last flight of that round had been completed, so as to not interfere with the landing area.

Lists were prepared. What equipment and what supplies were required for each major task? Who had what equipment for loan? Find it. Check it off. Get it to the field. Backup systems. What if a PA goes out? The contest could become a shambles. It's happened before. Get a backup... get two.

Lawnmowers... rakes... stakes... hammers... tapes... watches... clipboards.

Jim Hale and Hugo van Paassen had a horrendous assignment. Score-keeping. By early April, Jim had the concept that made it all happen. In May, conversion tables... based on the defined flight program... were started, and by June he and Hugo were in a position to translate a pilot's performance into competition points by direct reference to pre-prepared charts. In the first Tournament, 1970, the LSF had utilized time-sharing on a GE computer via telephone link from Livermore to Los Angeles, California. Hale topped that system. His crew was able to keep current and cumulative scores posted outside their van-office.

Don Powell and Barry Glenn were the "pushers" out on the field. Winchmasters. They had the duty to keep six winches on line and running all day for two days. It was their crew that retrieved... that unspooled... that re-wound... that took over winch operation and retracted the lines down to waiting cycle-mounted retrievers once launching sailplanes were free. Their system had to work... if the Tournament was "go". And work it did.

Bill Whitney designed the winches, and with son Daryl, built a series of eight identical units that had the capability to launch anything that was FAI legal... all day long. His winches... in concept and performance... were flawless. Nothing spectacular. No technical breakthrough. But, based on solid experience and a concentrated development program, they combined proven, standard and readily available components in a well designed package. The units offered a basic 6 volt power system... with quick connect 12 volt available... built-to-spec, 4-inch diameter drums from Westlake Manufacturing of Van Nuys, California, and a reliable/responsive micro-switch control pedal.

Winch problems? Yes... line break-

age. The launch area was on asphalt runway, and the abrasion took its toll on the 1000-foot ground lines running from winch to turn-around ring. By mid-afternoon Saturday, line breakage was so frequent that further competition was seriously threatened. Powell and Glenn had planned to re-string all winches with fresh line on Saturday night, but it became obvious that that was too late. So, starting with a backup winch, the team rewound all winches, one at a time, as the competition continued. A second re-stringing was performed before start of flying on Sunday. Just to be safe. Total line consumed... about 8 miles.

Flightmasters Neuschatz and Hendricks were the controllers. Their crew, the Timers. Early in '72 Tournament planning it was recognized that any successful major sailplane contest required a new approach to old problems. Otherwise, just another run-of-the-mill, not-enough-flights, 100-or-so-entrant, contest would go in the logbook. Their chore became the implementation of a new, untried system for control of flights and frequencies.

Bob Hahn, of the Harbor Soaring Society, had devised the plan... Flight Numbers within Flight Groups. The idea was that each Flight Group would contain one pilot on each available frequency as identified by the Flight Number. For example, a given contestant might be assigned "A-14" which would mean that he would be Flight No. 14 (53.20 mc) within Flight Group "A". In this manner, as flight order would be called by Flight Group/Flight Number, adequate time space would separate pilots on any given frequency. Theoretically, each Group could include 17 frequencies... as recommended by the AMA... and each would have a time separation factor of approximately 10 minutes.

To maximize the potential of Hahn's system, Tournament management limited registration on any given frequency to a total of eight pilots. Each applicant was asked to identify alternate radio frequencies... if available. This gave Registrar Jeanne Seeley the necessary flexibility in final assignment of competition frequencies. Only four or five applications were returned due to frequency blockage... and these were late submittals. Such negative notification identified any still-open frequencies, should the applicant be able to accept an option. A few gate entries were lucky enough to be on "no-show" frequencies... and the matrix filled almost to capacity. Eight pilots on

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Frequency Availability Registration (FAR) plus Hahn's Flight Group System let the Neuschatz/Hendricks combine put up four flight rounds of competition each day. Pilots reported to the Ready Area at the call for their Flight Group. The PA was mercifully quiet. Individuals were not called to fly... only the eight groups.

Neuschatz worked a system in which the Timers... who were identified by frequency color-coded hats... escorted pilots from the Ready Area to the Transmitter Impound, and on to the flight line. Pilots had no responsibility... or concern... regarding radio frequency. That was the Timer's responsibility. If he had the hat... he had the frequency. All he had to do was to find the pilot in the Ready Area that matched... that had the corresponding Flight Number. Not one incident of interference occurred. Transmitters were under direct control of Tournament officials at all times.

Pilots Briefings each morning were short... 10 minutes on Saturday, one minute on Sunday. This, too, was by design. Registrar Jeanne Seeley had included an eight page guideline and field procedure pamphlet in the package mailed to each confirmed applicant. This document explained the scoring and summarized the AMA rules for each event, covered "ground rules" and contest procedures. It was noted that each pilot was expected to be familiar with the contents of the pamphlet, and that such material would not be covered in pre-contest meetings. It worked. First flight each morning launched at 0800 hours... exactly... as scheduled.

And that was the "how, what, who and where" that made the LSF 1972 RC Soaring Tournament come true. But any complete report must offer a literary meander through the various

highlights and sidelights... the "color". And, of course, as any major competition event, the Tournament had a full ration...

Like Bill Stullick's entry in the Scale Event, a U-2... or is that "an" U-2? Absolutely beautiful, which made it rough on the static judges... Fernando Ramos, Jack Elem and Tom Laurie... to set it aside. But as wry Jackie Elem commented, "You can take the props off a B-17, but it still ain't a glider." And he was right, and Bill... with his ever-ready grin, as big and warm as Southern California itself, agreed.

Like Hugh Stock getting three attempts in Saturday's Speed Event. On his first flight the Timer fouled up. On the reflight, the Gate Official missed seeing him and, thus, gave a late call to turn. Another reflight. It went well. Someone commented, "Ya oughta win somethin'. Ya've had enough practice!" Practice must help. Stock placed Third in Speed.

Like Sid Axelrod, out from Monokote Land, Illinois, proved the structural integrity of Top Flite's upcoming Top Sailer with a straight in from way-up-there due to radio failure. One of only two or three crashes during the meet. Back to the motel to repair for Sunday. First round on Sunday, dead battery pack. No go.

Like Dale Nutter... the same, of AMA R/C Pylon fame some years back... driving his 11-foot Grand Esprit through the speed traps as if it were a Goodyear. Well, almost. Lee Renaud of Airtronics yelling "Go, go, go" with much pride at the unrehearsed performance demonstration of his newest creation. Dale, out from Tulsa, made a friend of everyone he met. In Oklahoma, is the phonetic spelling of "right" really r-a-t?

Like Val Hutchinson, from Amarillo in Baja Oklahoma, wishing he had

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Pylon *Continued from page 40*

determined who gets the engine of the flyer who wins the Nats when 80 people try to claim it. It doesn't matter how stock engines are, there will always be some that are better than others.

Many flyers outside of California also favor the elimination of scale judging in Formula I. Their reasoning is that it takes too many manhours to get the "spitacular" finish needed to be competitive in racing. I could never support this as a national policy. Beautiful aircraft are one aspect that makes pylon racing a respectable sport. I happen to care very much what non-modelers think of our hobby, and the appearance of our models is an important first impression. It's much easier to work late into the night, making a model look beautiful, when there is more reward than just personal satisfaction.

* * *

The FMPRA in Florida, the Chicago Pylon Club and the UPRC in New York have been very successful in coordinating and promoting racing activities in their local areas. Many flyers in Ohio have been very active this season but have been forced to travel hundreds of miles outside of their state to attend contests. Therefore, Bill Hager, NMPRA 55-P, hopes to follow in the footsteps of these local groups by organizing the Ohio Pylon Racing Association, which will promote Formula I, Quarter Midget and Open Pylon. At the end of each contest season, the O.P.R.A. will award trophies for the champion of each event and an all-events champion. There will be a monthly newsletter to keep flyers informed on point standings, contest dates and results. Membership fee is \$5 and all Ohio flyers who are interested should contact Bill at 5200 Rye Dr., Dayton, Ohio 45424.

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CALIFORNIA NATS?

Many flyers at this and past year's Nats have expressed dissatisfaction with the current method of giving each flyer three attempts to post his best heat time and then, three days later, having the top twenty fly five rounds of heat races. For 1973, it appears that the AMA plans to follow the same procedure. I am personally in favor of a separate Nats for R/C Pylon, and since there hasn't been an R/C contest of national stature in California in over five years, I think that either Los Alamitos NAS or Bakersfield would be the best site for such a contest next summer. We have the facilities, equipment and experience in California to organize the world's best Pylon contest.

Here is my suggestion for a possible schedule of events for a six day contest: Monday — FAI registration and processing in the morning, three or four rounds of racing in the afternoon. Tuesday — Five or six rounds of racing for all entrants. Wednesday — The top twenty FAI flyers, decided by *point* accumulation from the previous days, would fly five rounds of finals in the morning. Formula I registration and processing

would take place in the afternoon. Thursday — Four or five rounds of Formula I heats. Friday — Another four or five rounds of racing for everyone. Saturday — The top twenty Formula I flyers, according to *point* accumulation, would fly ten rounds of final heats.

There are several details of this proposal which need future thought. Should the points accumulated in the preliminary heats be carried over to the finals? If this were done, I think it would be best to allow each flyer to drop his lowest scoring heat. Then

again, it may be best to decide the top twenty flyers by averaging everyone's top five times. Also, since there were 95 Californian entries at Bakersfield this year, there would have to be some type of qualification requirement for Californian entries only, which would allow, say, the top 50 or 60 pilots to compete, so that the total number of contestants in Formula I would be under 100. A ten round finals, all in one day, may seem a bit taxing, but I've seen it done on two previous occasions. So what's your reaction out there?

CONTEST RESULTS

Wright Brothers Memorial, Dayton, Ohio — Formula I

1. M. Kowalewski	Miss DARA	K&B	1:47.5
2. K. Duncan	Minnow	ST	1:51.1
3. C. Reed	Ballerina	K&B	1:58.0
4. B. Balko	Ballerina	K&B	1:43.0
5. R. Piorek	Minnow	ST	2:00.0

FAI

1. M. Kowalewski	Miss B.S.	HP	2:01
2. D. Penry	Miss B.S.	HP	1:56
3. B. Balko	Orig	ST	2:24
4. C. Reed	Miss B.S.	ST	2:41

Amherst, N.Y. — Formula II

1. H. DeBolt	Caudron	HP	1:41.8
2. D. Gierke	P-40Q	ST	1:48.0
3. E. Nikodem	Orig.	ST	1:53.0
4. M. Kowalewski	Miss B.S.	HP	1:42.6

Formula I

1. H. DeBolt	Mustang	K&B	1:31.5
2. E. Mitchell	Minnow	K&B	1:53.0
3. E. Nikodem	Mustang	ST	1:59.0

Pop White Memorial — Mile Sq., Calif. — Formula I

1. L. Leonard	Miss DARA	K&B	1:28.5
2. W. Stockwell	Miss DATA	ST	1:32.0
3. B. Smith	Miss DARA	K&B	1:30.9
4. C. Neufeld	Minnow	K&B	1:32.2
5. J. Bertken	Miss DARA	K&B	1:32.5
6. R. Owens	Cosmic Wind	ST	1:29.0
7. C. Smith	Miss DARA	K&B	1:27.0

Fort Worth, Texas — Formula I

1. E. Rankin	Miss DARA	K&B	1:42.5
2. G. Helms	Mustang	ST	1:49.5
3. D. Downing	Ballerina	ST	1:50.4
4. M. Moncrief	Mustang	ST	1:46.0
5. R. Sizemore	Ballerina	K&B	1:44.5

Granby, Conn. — Formula I

1. J. Wagner	Cosmic Wind	ST	1:31.0
2. M. Helsel	Minnow	ST	1:34.5
3. B. Barkowski	Minnow	ST	1:52.0

Formula II

1. B. Barkowski	P-51	ST	2:06
2. Secondo-Mitchel	P-51	K&B	2:00
3. A. Sattler	Platypus	ST	1:55

Connecticut, Aug. 12-13 — Formula I

1. M. Helsel	Minnow	ST	1:39
2. J. Wagner	Cosmic Wind	ST	1:31
3. A. Sager	Ballerina	ST	1:50



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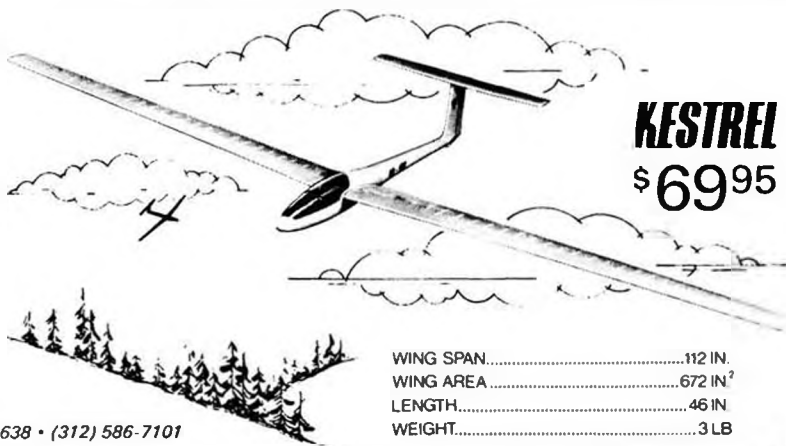
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Formula II

1. Wagner-De Pace	Miss B.S.	K&B	1:42
2. M. Helsel	Mustang	ST	1:42
3. Dick Mayer	Dee Kay	K&B	2:21

Western States Pylon Championships — Tracy, Calif. Sept. 23-24 — Formula I

1. B. Smith	Miss DARA	K&B	1:24.6
2. K. Nogy	Miss DARA	K&B	1:24.6
3. D. McCan	Miss DARA	K&B	1:26.7
4. C. Smith	Miss DARA	K&B	1:28.5
5. E. Foster	Shoestring	ST	1:40.4
6. P. Benezera	Ballerina	K&B	1:35.0

FAI

1. G. Korpi	Orig.	HP	1:51.9
2. J. Bertken	Miss B.S.	K&B	1:56.0
3. J. Foster	P-39	HP	1:51.4
4. T. Prather	Miss FAI	ST	1:55.5

LSFContinued from page 59

brought a covey of his famous "Flying Ice Chests" ... the popular Canyon Plastics "Schweizer 1-26" semi-scales ... instead of the more exotic Teutonic equipment he was flying. "At least I can land them dern little things" ... or words to that effect ... was the lament.

Like Ralph Dodsworth and Earl McGinnis ... 1,900 miles from home in Saskatoon, Saskatchewan, Canada ... conning big Gerry Wolfram for an assist in their first ever ROG's ... and with 16-foot "Yankee Soar" designs weighing in at 8-plus pounds. Gerry ... Winch Boss at the '70 and '71 Tournaments ... worked 'em with 12 volts. Up they went, straight and true ... with a beautiful load-bow in the wings. Happy as the kids-at-heart-they are, and looking forward to being back next year.

Like the gals working by their guys at jobs all over the field. Helping everywhere. Musta been a rash of suicide pacts. "Fred, if you're gonna kill yerself with this stupid hobby, I might just as well go too. You ain't leavin' me with all them kids." Bless 'em. Two long, hard days.

Like George Uvegas ... yes, the guy whose fantastic photo-work often graces the cover of Soaring magazine ... out-of-his-head with the beauty and Grace of George Popa's wire sculptor trophies. You might see them soon on the cover of said magazine.

Like Alex Chisolm, AMA V-P, at his first-ever soaring contest. Fascinated by the quiet ... and the beauty ... and the intense competition. "Hey, this takes real flying."

Like Paul Denson, Irv Stafford and other Torrey Pines Gulls up from the San Diego area with their impromptu, on-field raffle to help cover the deficit caused by "no-shows" at the Saturday evening banquet. Axelrod had started the thing with a generous contribution of Monokote. Lee Renaud jumped in to offer one of his new "Quester" kits. Paul Parszik, top man at JP Models, volunteered one of his beautiful "Dart" sailplane kits. Bob and Roland Boucher, the Astro Flight brothers came up with one of their famous "Monterey" kits. Two one-year subscriptions to Model Builder, courtesy Dick Satterlee, rounded it out. The shortage was covered as a

result of some hard and fast work by the Gulls and the ready generosity of industry leaders. And it added to the fun and excitement.

Like Mat Tennison and his "California Coaster" tied for first place for awhile on Saturday. One would have thought somebody was giving Cadillacs away. A happy man. Ended up Third in Precision. "First trophy I've won in twenty-five years ... and it's a beaut."

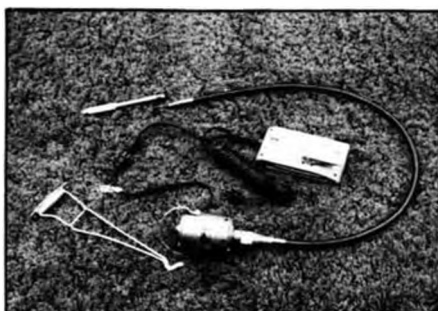
Like Big John Elliot ... of powerpylon fame ... and boss Charles Spear from the new Orbit organization, taking it all in. A new world of R/C sport and they're interested.

Like the jillions of cameras ... movie and still. Everybody wanted to record the action and the sights. Hey, why ain't Kodak an advertiser? And Coca Cola for that matter. Ask the guy at the concession truck. R/C sailplane enthusiasts are good customers.

Like the ubiquitous Walters kids ... Rick and Jeff ... each towering above their elders at 6'-4" ... helping everybody they could to "do good" ... then beating them when it was their turn to fly. And Rick thermalling his "White Trash" inverted just to add a little spice to the sport. Jeff missing a landing with his "WT" because the thing swung to the right and away from the circle just as it came to a stop. Inches out of "high money."

Like Keith Brewster ... LSF Secretary ... who had growth statistics on the League. Total membership now pushing 500. At last year's Tournament, Forrest Allen of the SFVSF was awarded membership Number 165. Average of one new member every day for a year. Amazing.

Like the concerned expression on most everyone's face at one time or another. Services Manager Cliff Benjamin and aid Ted Buxton had had the on-field Courtesy Stations located just



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outside the gate... saved a bundle of cash on vendor delivery charges. The concerned expressions? Those His and Hers pit stops were more than half a mile from the flight line. How's your timing?

Like the array of sailplanes on the field. Name it... it or they were there. From the delicate Amigo II to the big, new Grande Esprit. From the Graupner Cumulus to America's own near-pre-fab Dart. From Astro Flight's Monterey and Mark's Models' Windfree to droves of the "melmac" Cirrus... to originals ranging from Dave Thornberg's appealing shoulder-wing cutie to the no-nonsense functional design of Brewster's latest creation... to the Neil Liptak designed "Yankee Soar"... the king-sized "Yankee Gull 1440's" of California's Jim Balch and Canada's Ralph Dodsworth, sorta wings across the border.

Like the very-much-flying scale designs in the open competition. Bob Andris' sleek and T-tailed Diamant. John Donelson's and Irv Stafford's HP-14's... designed by Donelson and kitted by Guenther-Wolsleger in Orange, California. The numerous Wik "Kestrels." The Soarcraft "Kestrels" that placed in the money in every event but duration... and close in that event.

Like Bob Crumley's fabulous ASW-12.

Original all the way... fiberglass... some 14 foot span... and everything worked. Retract gear... flaps... ailerons... drogue chute! Radio released towhook. Heavy. Fast. Efficient. Tip stall on launch. Good recovery, but no altitude. Zilch flying points. Tough. Was highest in static points.

Like the Boucher boys and their new Astro Flight kit of the ASW-17. Ya need a program to keep the numerous ASW's... 12, 15, 17... straight. All smooth. All sleek. As the full-scale versions.

Like what may be trends... original designs usually set the pace... often months or years ahead of kits. Long spans... high aspect-ratios. Small frontal area. Much attention to reduction of performance killing drag. Undercambered wing sections. Spoilers... and/or flaps. Some that didn't have them needed them for good approach control on landing. Predictions? Larger... at least for West Coast... designs with spans pushing the 12-foot-or-more size. Solid center sections with removable outboard panels may catch on... with good reason. Variable cambered wing sections will "infiltrate" from free-flight concepts. Internal ballast (CG) soon to be essential for multi-task competition. Maybe heavier loadings in general. Spoilers or flaps for rate-of-sink controlled landing approach.

Like the prototypes of things to come... numerous Airtronics "Grand Esprits"... Top Flite's Ken Willard designed "Top Sailer"... Astro Flight's ASW-17... And Frank Zaic's exciting new plywood fuselaged design... from the hands of the master... on display.

Like the "war" will never be settled between the "functional" and "scale-like" design schools. So far, neither seems to offer a clear advantage. Pay your money... take your choice.

Like the two very proper gentlemen who arrived on-field via Yellow Cab. Right down the runway... the inactive part... to the pit area. Olympic 99 wings tumbling out of the back seat like teenagers after a football game... well lotsa kids used to ride in one car.

A real piece of comic relief... a change of pace. A round of applause from the standers-by. The unidentified cabbie loving all the attention... and probably the most photographed YC driver of the year.

Like the mix of events, weighted to task called for a nose-down-and-go flight path all the way. Those pilots whose planes were more than a foot or two off the deck at the finish line had been overly conservative. A few skidded

across. Was legal. One tear-jerker skidded to just short of the line... No finish.

favor soaring capability... but not too heavy. Also required precision flying and landing skill... and the ability to "go fast." Sunday's one lap speed

Like everybody... EVERYBODY... lookin' over the ground, pickin' up. "Policing the area", in Marine Corps talk. Good landlords... good tenants, if only for a coupla days. Maybe another year. Astro-turf over the asphalt runway would make it a perfect site.

Like Editor/Publisher William C. Jr. bursting with pride to see the performance of designs featured in "Northrop's Folly"... a "limited circulation West Coast publication." "White Trash" second Overall and first in Speed, with other scores just outside the winners ring. "California Coaster" third in Precision. "Yankee Gull" not in the money, but impressive in the air. Randy Warner and "Coleen-12" didn't make it

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1. Sales thru Dealers and Carriers, Street Vendors and Counter Sales	6,820	10,875
2. Mail Subscription:	1,965	4,950
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I certify that the statements made by me above are correct and complete.
A. NORTHROP, General Manager

or they would have been pushing the winners. (Next time, Dummy, don't trust your registration to Kelly Pike. You know how he is about competition. Mail it yourself in '73!)

Like the unusual, controversial and first-time-tried "competition cut." Second flight on Sunday was limited to the top 80 pilots... next round to top 60... final round to top 40. Kept the pressure on... kept the program moving... kept the schedule for an early wrap-up, and got everybody started home by early afternoon. If you didn't make the cut, you weren't in contention anyhow. A simple fact. Some guys would maybe have preferred a "social fly"... but most appreciated the problems and the solutions required for real, nose to nose competition.

Like a few pilots thought four rounds on Saturday was too much... and it did run later than desired. Mostly due to line breakage... and the resulting "tired." But the SFVSF team was "up" for it... had planned and talked of "gettin' in four" for months. A challenge. Never before in a major contest. The system was there... the organization was there... the desire and the "go" team was there. What the full crew considered "victory" was too close to let slip... the first major contest ever to get in four full rounds of flying on a single day. Prove the system... prove the planning... prove the team. GO! Most pilots applauded. Ya did it. Ya showed it could be done... and how. To have shut down would have been tragic.

The LSF 1972 RC Soaring Tournament commissioned Mr. George Popa, sculptor, to create a series of trophies especially for the event. Mr. Popa's genius provided silver wire replicas of famous sailplanes... from the Bowlus "Baby Albatross" and "Minimoa" to "Standard Cirrus"... each mounted by a single wire to a mahogany base. These distinctive awards were presented through Fifth Overall and through Third Place for individual flight tasks. Fourth Place in the individual tasks were recognized with a years subscription to "Soaring", courtesy of the Soaring Society of America. Each contestant was presented a special transmitter flag, prepared and donated by House of Copies, Ltd. of Saskatoon, Canada, and a commemorative jacket patch with '72 LSF Tournament embroidered in red and blue over a white triangular field.

Outstanding Club honors were claimed by the South Bay Soaring Society of the Santa Clara Valley, California. Rick Walters, Paul Christian

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The winners in the LSF 1972 RC

Soaring Tournament:

OVERALL (7,000 Pts.)

1. Barbara Henon	6,244	Graupner "Cumulus 2800"
2. Richard Walters	6,147	"White Trash"
3. Andre Faure	6,086	Mark's Models "Windfree"
4. Rodman Smith	5,731	Mark's Models "Windfree"
5. Paul Christian	5,721	Soarcraft "Kestrel"

PRECISION (2,000 Pts.)

1. Randal Holzapple	1,872	"Cirruzapple"
2. Paul Christian	1,866	Soarcraft "Kestrel"
3. Mat Tennison	1,760	"California Coaster"
4. Richard Walters	1,757	"White Trash"

DURATION (3,000 Pts.)

1. Barbara Henon	2,938	Graupner "Cumulus 2800"
2. Dan Christian	2,878	Graupner "Cirrus"
3. Andre Faure	2,766	Mark's Models "Windfree"
4. Kelly Pike	2,717	Mark's Models "Windfree"

SPEED (2,000 Pts.)

1. Richard Walters	1,986	"White Trash"
2. Dale Nutter	1,920	Airtronics "Grande Esprit"
3. Hugh Stock	1,863	Soarcraft "Kestrel"
4. Gerald Wolfram	1,835	"Red Feather"

SCALE

	Total	Static*	
1. Stan Powell	5,949	176	Hegi "ASW-15"
2. Hugh Stock	5,348	155	Soarcraft "Kestrel"
3. John Donelson	4,925	228	Guenther-Wolsleger "HP-14"

*Includes scale operation points

and Stu Horton were awarded special trophies as the top three fliers from a single club.

The LSF 1972 RC Soaring Tournament was staged at Mile Square Marine Helicopter Air Station, courtesy Colonel Dean Wilker, Commanding Officer, Marine Corps Air Station (Helicopter), Santa Ana, California, through the cooperation of Captain Jan T. Sakert, Liaison Officer.

The LSF Tournament was made possible by the support of co-sponsors DUBRO PRODUCTS, KRAFT SYSTEMS, MIDWEST PRODUCTS, MODEL AIRPLANE NEWS, ORBIT ELECTRONICS, RC MODELER, TOP FLITE MODELS and WINDSPIEL MODELS.

Jack Seeley, SFVSF host-club President, was Tournament Manager. Le Gray, President of the LSF, was Tournament Director.

The League of Silent Flight is a world-wide organization of R/C soaring enthusiasts. Membership in the League is open to any serious sportsman. Information about the LSF may be obtained by addressing queries... with 16 cents return postage included... to The League of Silent Flight, P.O. Box 2606, Mission Station, Santa Clara, California, 95051.

... goodnight, Chet
... goodnight, David
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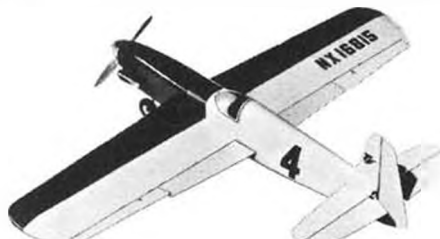
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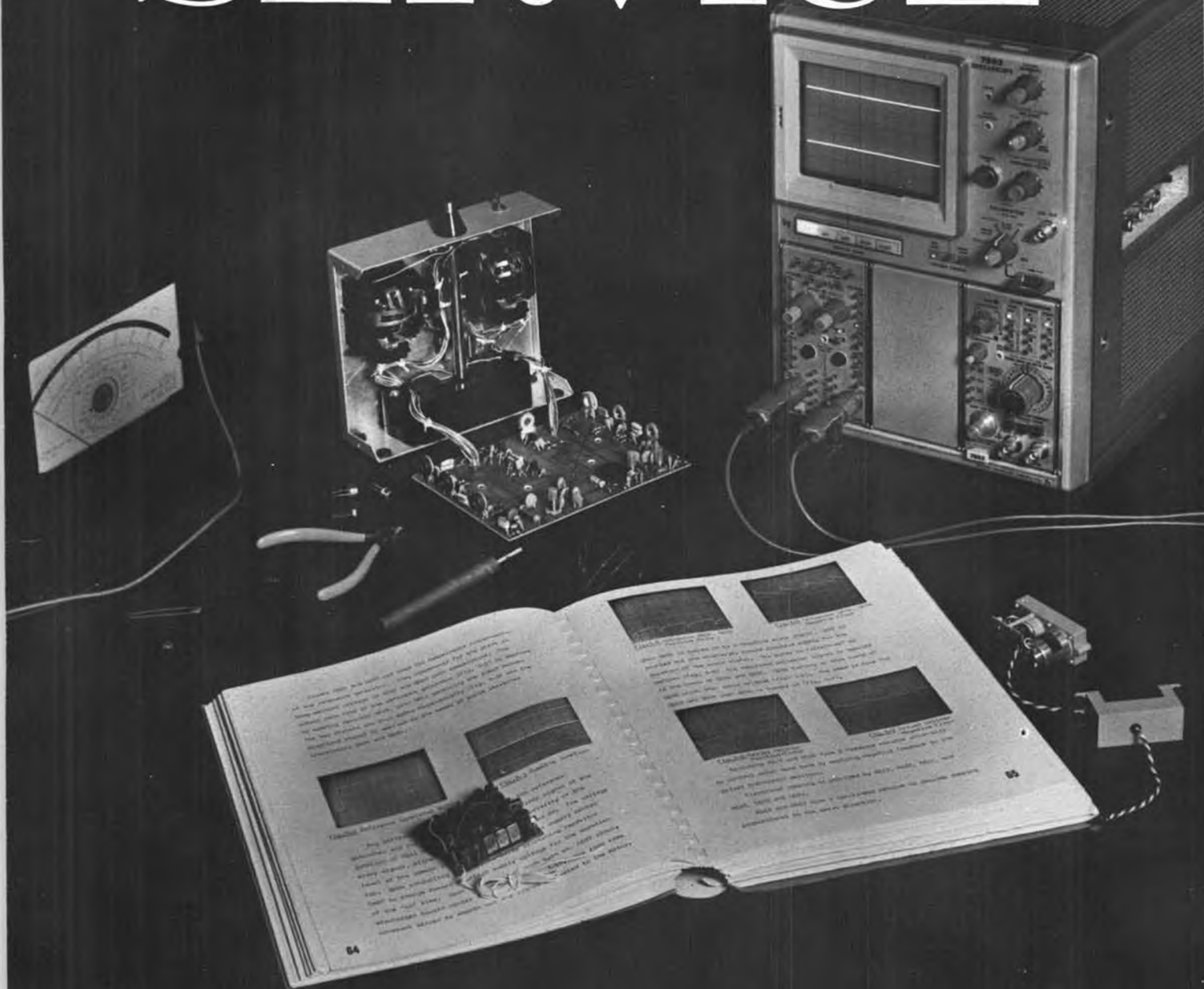
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