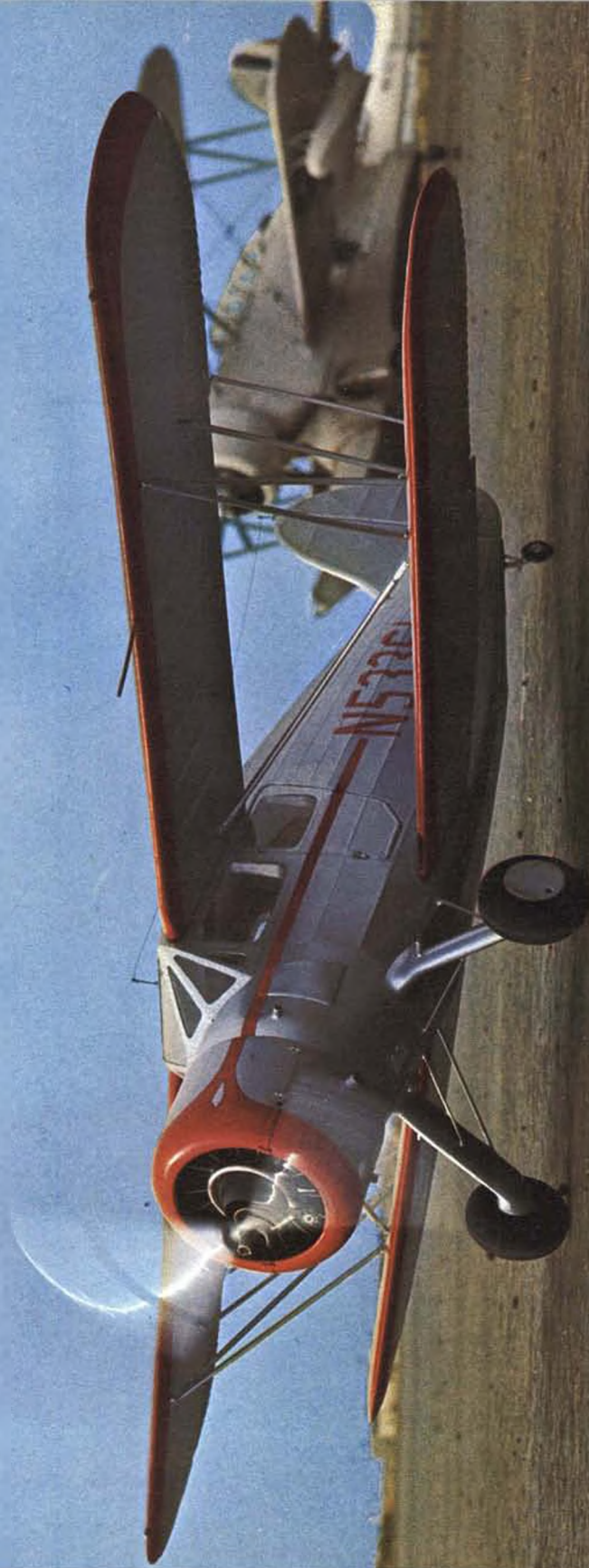


The MODEL BUILDER



JUNE 1973

85 cents

volume 3, number 19



CARL GOLDBERG

MODELS THAT ARE REALLY GREAT TO FLY!

SKYLANE 62



Semi-Scale Beauty in a Great Flying Model!

Tough, Roomy Cabin and Front End, For 2 to 4 Channel Proportional. Steerable Nose Gear. Span 62". Weight 4½ - 5 lbs. . . . For .35 to .45 Engines.

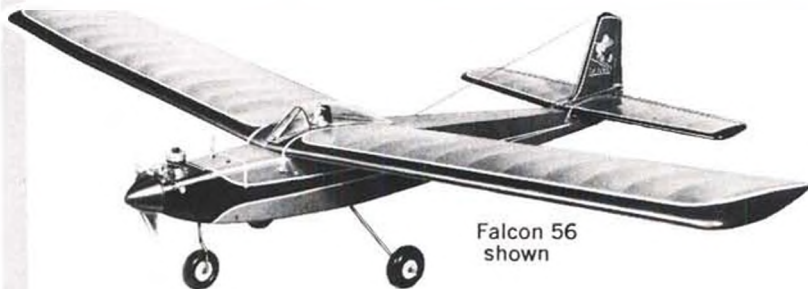
\$36.95

FEATURES:

- See-through cabin, with die-cut plywood cabin sides
- Shaped leading edges plus sheeting
- Cleanly die-cut parts that fit
- Clark Y wing section, hardwood struts
- Steerable nose gear, formed main gear

1/2 SKYLANE

For Single or 2 Channel, Pulse or Digital. Span 42". Weight 22 oz. For .049 to .10 Engines. - **\$9.95**



Falcon 56 shown

THE FLYING FALCONS

More Falcons have been built and flown in the past 10 years than any other R/C. For values and features in a functional, rugged airplane, your best bet is a Falcon. Every design element engineered for simplicity and fast-building.

FEATURES:

- All Deluxe, with top quality fittings
- Coil-sprung nose gear . . . formed main gear
- Shaped and notched leading and trailing edges
- Cleanly die-cut ribs, fuse sides, formers, etc.
- New simple "Symmet-TRU" wing construction

FALCON 56 \$19.95

The Medium-Size Trainer. Takes Single to 4 Channel Proportional. Rudder-Only or Multi-Training. Span 56". For .15-.19-.35 Engines.

SR. FALCON \$36.95

The Standard Big Trainer. For 4 Channel Proportional. Span 69". For .35 to .60 Engines.

Junior FALCON \$7.95

The Small Trainer. For Single or 2 Channel, Pulse or Digital. Span 37". For .049 Engines.

All Carl Goldberg Models Come With Full Size Plans, Illustrated step by step, and Folder on How to Set Up and Operate R/C Models.

SKYLARK 56



\$22.95

1-Piece Full-Length Sides

Now With 1-Piece Full-Length Sides. Takes 2 to 4 Channel Proportional. Span 56". Weight 3½-4½ lbs. For .15-.19-.35 Engines.

FEATURES:

- Semi-symmetrical wing section
- Coil-sprung nose gear . . . formed main gear
- Shaped and notched leading and trailing edges
- Cleanly die-cut ribs, fuse sides, formers, etc.
- New simple "Symmet-TRU" wing construction

JR SKYLARK

For Single or 2 Channel, Pulse or Digital. Span 37". Weight 18 oz. For .049 Engines. - **\$8.95**

Skoestring \$29.95

The Goodyear Racer With Enough Area and Stability So You Can Fly It! For 4 Channel Proportional. Span 54". Area 540 sq. in.; Weight 4½-5 lbs. For .19-.40 Engines.

FEATURES:

- Shaped leading edges plus sheeting
- Symmet-TRU wing construction
- Full-length sides, sheeted trailing edges
- Cleanly die-cut ribs, formers, etc.
- Formed spring aluminum landing gear
- Semi-symmetrical wing section.



RANGER 42 - \$19.95

The Versatile Almost-Ready-To-Fly Fun Model. Takes Single to 4 Channel Proportional. Also Free Flight. Span 42"; Weight 26 oz. For .049-.10 Engines.



LOOK WHAT A MODELER SAYS!

"Having just built and flown my Sr. Falcon, I want to thank you. This kit is my first multi-radio model. I am most proud of it. I had an experienced man lift that Falcon off the runway. After trimming the model, he helped me fly it. It was the most thrilling moment of twenty-five years of modeling for me. Those first flights of my Falcon were beautiful. I have a long way to go to be an accomplished flyer. But with the help of your kit I am off to a good start. It's one fine airplane. Thank you again."

Dr. Cecil L. Willey
Wilmington, Calif.

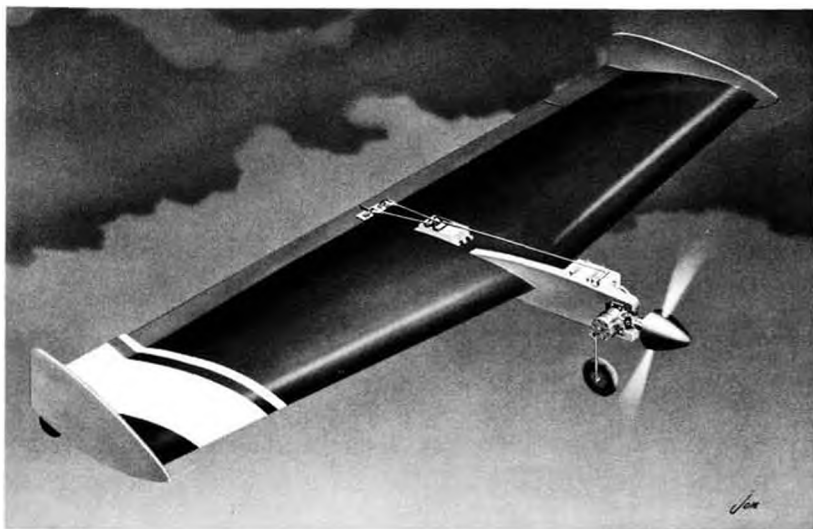
P.S. For best service, see your dealer for items you want. If not available, write direct; add 35¢ per item (75¢ outside U.S.). Minimum order \$1.

AVAILABLE IN CANADA

Carl Goldberg Models Inc.
2546 W. Cermak Rd., Chicago, Ill. 60608
I am sending 25¢ for 8 pg. Illustrated Catalog with "Recommendations in Starting in R/C," "Basic Explanation of R/C Equipment and Radio Control Definitions."

Name _____
Address _____
City _____
State _____ Zip _____

CARL GOLDBERG MODELS INC.
2546 WEST CERMAK ROAD • CHICAGO, ILLINOIS 60608



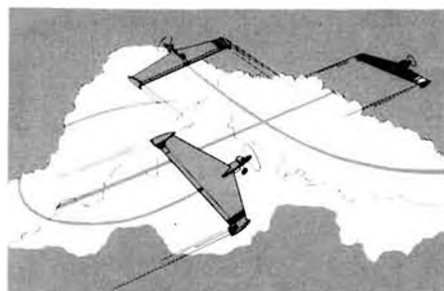
WINGMASTER

A NEW KIT FROM KRAFT

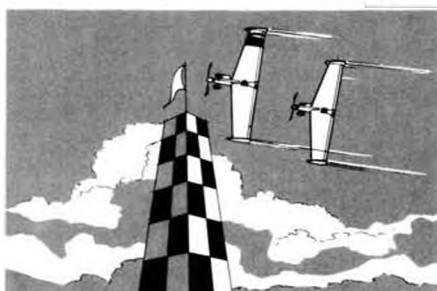
A new concept in R/C flying. Build it in 5 hours. Fly it for less than \$200.00 total investment including all R/C equipment.

RADIO: 2 OR MORE CHANNELS
 WEIGHT: 4 TO 6 LBS.
 WING SPAN: 56"
 POWER: .40 TO .60

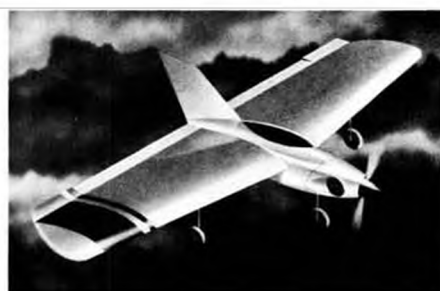
\$29⁹⁵



COMBAT FLYING



CLASS PYLON RACING

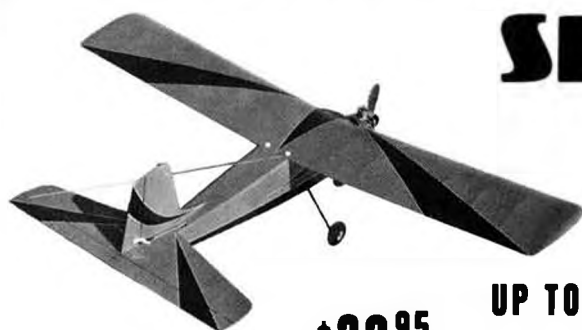


"CUSTOMIZED" WINGMASTER



Write for Free Catalog

450 WEST CALIFORNIA AVENUE, VISTA, CALIFORNIA 92083
 World's Largest Manufacturer of Proportional R/C Equipment



LENGTH: 42"
 WING SPAN: 57"
 WEIGHT: 4 LBS.

\$23⁹⁵

SIG KADET

THE IDEAL R/C TRAINER
 FOR .19-.29 ENGINES

UP TO 3 CHANNEL RADIO EQUIPMENT

EASY TO BUILD



KIT RC-31

Sturdy, built-up balsa construction and light wing loading combine in the Kadet to produce a perfect sport or beginners' model. The flying performance of the high-lift, flat-bottomed airfoil is responsive to control and inherently stable. A tricycle landing gear helps ground handling, take off and landing characteristics. We predict that this compact bundle of dynamite will quickly become THE standard RC Trainer.

Handy Printed Fuselage Sides — Build Internal Structure Directly On the Wood.

Molded Plastic Engine Cowling.

Formed Nose Gear with Shock-Absorbing Coil.

Torsion Bar Main Gear.

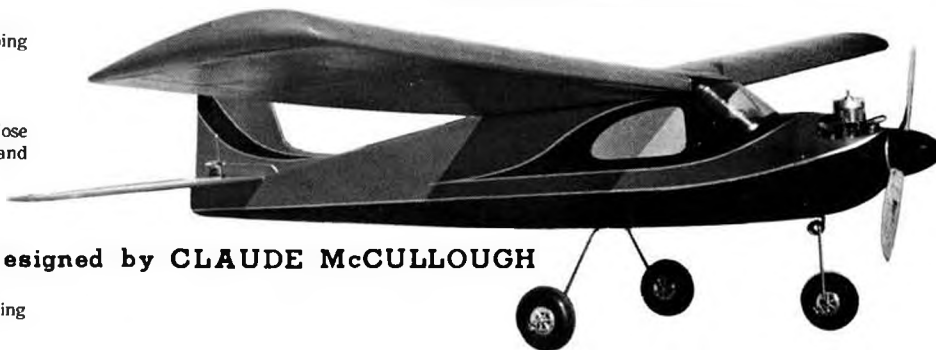
Hardware Package Includes Nylon Nose Gear Bearing, Nylon Control Horns and Molded Nylon Surface Hinges.

Die-Cut Plywood and Balsa Parts.

Top Quality Balsa and Hardwood.

Full Size Plans.

Complete Illustrated Building and Flying Instructions.



Designed by CLAUDE McCULLOUGH

SIG MANUFACTURING CO. . . . Montezuma, Iowa

NO ONE SHOULD BE WITHOUT...



al vela

The
MODEL **B**UILDER

1900 E. EDINGER AVE., SANTA ANA, CALIFORNIA 92705

The MODEL BUILDER is published monthly. Regular subscription rates are \$8.25 for one year and \$14.00 for two years. Add \$2.00 per year for subscriptions outside of U.S. and Canada. Add \$1.50 per year for Canada and Mexico. Please enclose check or money order. Do not send cash.

Name _____

Address _____

City _____

State _____ Zip _____

() One year at \$8.25 () Two years at \$14.00 Begin with _____ Issue

Orders should be sent to The MODEL BUILDER, Attn: AIRBORNE, 1900 E. Edinger, Santa Ana, CA 92705. First issue will be shipped in May, 1973.

• • •

(Inquiries invited.)
Subscription rate is \$5.00 per year for 90 cents at your dealer. (Dealer for 6 issues), while individual copies sell

• • •

In addition, AIRBORNE is the official journal for the MAA and the Model Boat Club of NSW.

• • •

This publication covers all phases of the hobby, with feature articles on radio control, free flight, and control line.

• • •

MODEL BUILDER Magazine has been appointed sole U.S. distributor for Australian AIRBORNE Models magazine.



The BEST all-modeling Magazine from "DOWN UNDER"

The MODEL BUILDER

JUNE

1973

volume 3, number 19

STAFF

EDITOR

Wm. C. Northrop, Jr.

GENERAL MANAGER

Anita Northrop

EDITORIAL ASSISTANT

Le Gray

SECRETARY

Debbie Hopper

SUBSCRIPTION MANAGER

Jo Ann Jones

CONTRIBUTORS

Tom Christopher

Ron Evans

Bill Hannan

Dick Mathis

Walt Mooney

Fernando Ramos

Frank Schwartz

Jack Transue

ADVERTISING REPRESENTATIVES

EAST: Auke Venema, 79 Adirondack Ave.
Spotswood, N.J. 08884
(201) 251-2860

WEST: Bob Upton, 20626 Clarendon Ave.
Woodland Hills, California, 91364
(213) 883-7681

Subscriptions \$8.25 per year, \$14.00 two years. Single copies 85 cents. Add \$2.00 for postage per year outside of U.S. (Except APO). Add \$0.75 for Canada and Mexico. Copyright 1973 The MODEL BUILDER. All rights reserved. Reproductions without permission prohibited.

Published Monthly by The MODEL BUILDER Magazine, 1900 East Edinger Ave., Santa Ana, California 92705. Phone (714) 547-3963
Second Class postage paid at Santa Ana, Ca.

CONTENTS

FEATURES

WORKBENCH, Bill Northrop 4

OVER THE COUNTER, Bill Northrop 5

R/C PYLON, Tom Christopher 12

R/C SOARING, Le Gray 14

RADIO CONTROL REPORT, Frank Schwartz 20

PLUG SPARKS, Jack Transue 25

MAIN SHEET, Don Prough 28

HANNAN'S HANGAR, Bill Hannan 29

PEANUT GALLERY, Walt Mooney 30

SCALE F/F, Fernando Ramos 34

FREE FLIGHT, Ron Evans 36

CONTROL LINE, Dick Mathis & Dale Kirn 39

TETHERED CARS, Ted Maciag 41

PHYSICAL FITNESS, Bob Isaacson 43

SCALE VIEWS

AS-W17, Astro Flight 16

HEINKEL He 72B-2, Flying Scale News & Views 44

CONSTRUCTION

WACO YKS-6, Bill Warner 9

DRAGGIN' FLY, Duane Hyer 17

O.T. ALBATROSS, George Reich (Phil Bernhardt) 24,26

PEANUT HUNTINGTON H-12, Walt Mooney 30

SWAMP RAT, SLOW COMBAT, Dick Mathis 38,40

Cover: Bill Warner's 1972 Nationals Free-Flight Scale Gas Liner was this beautiful Waco YKS-6, built at 1 inch to the foot scale. This Ektachrome photograph was taken on a light overcast day at Orange County Airport, Santa Ana, California, along side of the Tallmantz Air Museum. That is Frank Tallman's Grumman "Duck" in the background. Photo by Bill Northrop.



Here are 15 of 24 identically marked Aeromaster Bipes that make up the "Hawk Squad," an interclub group that flies demonstrations in the Omaha, Nebraska area. They have been most responsible for bringing about the "First National Multiwing Championships," a contest limited to planes with two or more wings, to be held July 7 and 8 in Omaha. More info in text.

from Bill Northrop's workbench . . .

In case you hadn't noticed, we're an A-Number-One, genuine, eighteen carat, saw-dust breathing biplane nut. Since our earliest days of writing to the modeling public, one of our primary objectives has been to promote two-winged aircraft for sport and competition. Therefore, it is only natural that Olie Olson, Omaha, Nebraska, should write to us about a contest scheduled to take place on July 7 and 8, 1973, for which he is the C.D.

The contest is a full fledged, AMA sanctioned R/C meet with Pattern (Novice and Expert), Sport Pylon, and Sport Scale . . . and the big hooker is that it's limited to biplanes and triplanes! (We're sure you wouldn't be thrown out if you showed up with a quadraplane.)

To be called the NATIONAL MULTI-WING R/C CHAMPIONSHIPS, it is

hoped that this will be the successful kickoff for a popular annual affair. We don't see how it can miss.

The meet is being sponsored by the "Nebraska-Iowa R/C League," which consists of the Omahawks, Nebowa, Frontier Flyers, and Cobra R/C clubs with a combined membership of over 200. Prizes will consist of trophies, engines, and first line biplane and triplane kits.

To quote Olie, "We are introducing "Free Style" to the pattern event, flying the Class A pattern as school maneuvers of the flyer's choice combined into one presentation through smooth transition flight. Scoring of all maneuvers will be per AMA. In addition, transition will be judged 0-10 and overall free style presentation quality will be judged 0-20."

Sport Pylon will be per AMA except



Who is this editorial contributor to MODEL BUILDER magazine? Fabulous prizes for correct answer(see text). Photo was taken in the Spring of 1941. Wonder how it flew.



AMA's hard working District X Vice President, Alex Chisolm, and his wife Marlene, set up and manned this booth at the American Cancer Fund drive put on by Orange County (California) model clubs at Mile Square, Fountain Valley.

that minimum airfoil at root (?) will be lowered to 10 percent, and minimum wing area will be increased by 25 percent.

Sport Scale will be per AMA provisional rules.

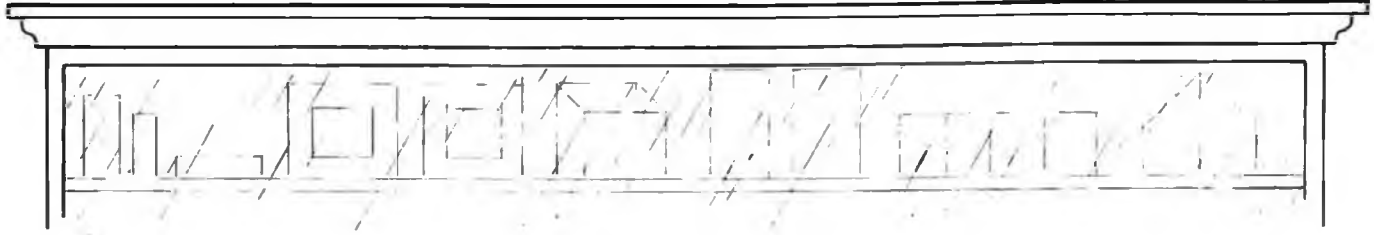
Sounds Great!

LET'S RECIPROCATE

Most R/Cers who have been in the game for a decade or more need no introduction to Dr. Walt Good. In case the name doesn't ring a bell, let us very briefly explain that this member of AMA Modeler's Hall of Fame is probably as much responsible for the very existence of radio control modeling as we know it today as any single

Continued on page 61

OVER THE COUNTER



To round out his retractable landing gear package, Carl Goldberg is now offering a powerful servo system for \$29.95. The system includes a sturdy servo with a triple output fitting which will operate a trike-gear, a two micro-switch control unit, and a 2-cell battery box . . . all wired up and ready to work.

Nice thing about this power package is that it doesn't require a fifth channel in the usual full-house control system in order to operate. The double micro-switch control unit mounts on the throttle servo and operates the gear by use of the high and low trims on the throttle channel. If preferred, of course, a fifth channel . . . and servo . . . may be used to operate the switch control.

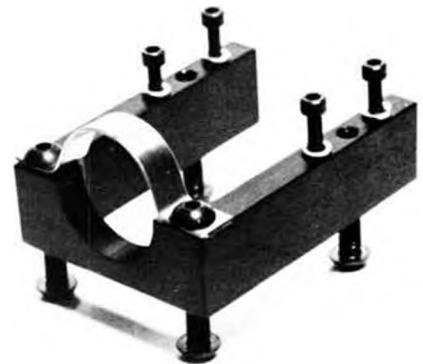
Carl has also taken over the marketing of DJ Multi-Stripe, a product which we described several months ago. This unusual striping tape, available in five colors . . . red, white, black, gold, and dark blue . . . and in four widths . . . 1/16, 3/32, 1/8, and 1/4 inch by 36 feet long . . . achieves its final fuelproof bond after several hours in the sunlight. It is very thin, takes curves quite well, and becomes as permanent as a painted stripe.

Another new Goldberg item is Roy Klett's Aileron and Elevator Horn Bearing. In keeping with the usual Klett quality,

the bearings, packed four to a bag for 75 cents, have thin, tapered tabs with holes for glue penetration, and provide a precision fit for 3/32 wire.

J&J Industries, Box 202, Oakhurst, N.J. 07755 announces production of Tony Bonetti's "Troublemaker". This all balsa kit has been endorsed and approved by Tony for production by J&J.

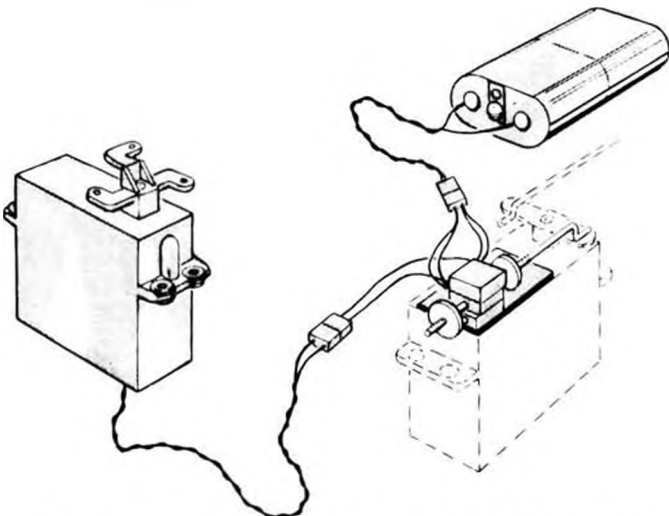
The \$59.95 kit includes die-cut ribs, pre-cut plywood and balsa formers, pre-cut rudder and stabilizer, pre-cut full length fuselage sides, pre-cut ply doublers, landing gear and fittings, aluminum engine mount, hardware, and rolled plans.



Hallum Racing Enterprises' cradle mount for K & B .19 engines in R/C cars.



J & J Industries is producing Tony Bonetti's "Troublemaker." The designer-approved kit is all wood construction. Price is \$59.95.



Carl Goldberg's power system for his and other make retract landing gears. System will operate off throttle control or additional servo.



Dumas' DEEP VEE 60, a 38" long, 14" beam deep V boat for rough water racing. All wood construction.



Something new in trophies and plaques by Cheslock Designs. Trophies are hand screened graphics on plexiglass, plaques are aluminum on walnut base. Different.



Satellite City's Satellite 1000 is available in partial kit form. Kit includes full size plans and 130 machine-cut parts. SC also markets clear mylar for covering and "Hot Stuff", an instant glue.

Su-Pr-Line Products now markets an assortment of tubing-in-tubing and calber-in-tubing push-rod systems. The originators of this method of carrying servo output to control surfaces, the company has added several interesting variations to the original and still popular Nyrod.

Su-Pr-Rod is a 44 inch long version of the Nyrod, both of which will operate down to a 3½ inch radius curve.

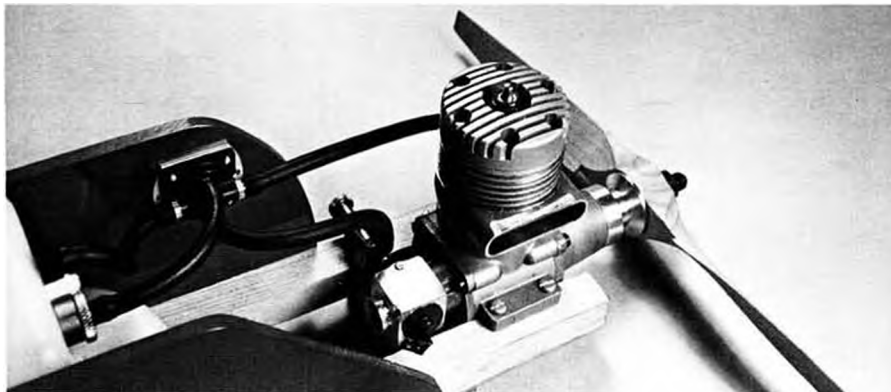
Masterod is a flexible cable enclosed in tubing which will operate down to a

2 inch radius curve.

Masterod-KF is even more flexible, and will operate around a ½ inch radius curve.

In a completely opposite direction, ProRod's are totally rigid wood push rods, drilled on center to take threaded end-fittings, thus no gluing is required.

All rod sets include appropriate hardware, such as clevises, double-end threaded wire rods, keepers, etc. All hardware, plus additional fittings, are available and



The JenEsco Engineering Refueling Manifold and Shutoff Valve. May be used with or without pressure. Keeps plumbing neat. Avoids fuel spill.

packaged separately.

* * *

Dumas Products, Inc., 790 Park Ave., Tucson, Ariz. 85719, now offers a racing boat for rough water sailors. This is the Deep Vee 60, a 38 inch long by 14 inch beam Deep V boat for .40, .60, or larger engines. Plenty of room for radio gear and fuel . . . it's a good boat for endurance racing: All wood construction, with die-cut poplar plywood framework, with birch plywood bottom, sides, and deck. Price is \$39.95.

* * *

Windspiel Models, 3704 Montgomery Dr., Santa Rosa, California 95405, is adding several new R/C sailplanes to its line of imported and domestic silent flight aircraft.

The LS-1, by Wanitschek, is a semi-scale model with 98 inch span, 583 sq. inch wing. Kit includes epoxy-glass fuselage, machine cut wing and stab ribs, and all spar stock. Uses modified Eppler 387 airfoil. A V-tail version LS-V is also coming.

Wanitschek also produces an epoxy-glass replacement fuselage for the Graupner Cirrus weighing only 9 ounces.

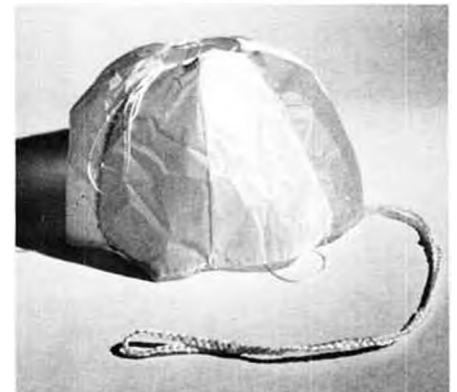
Another Wanitschek product being offered is the Orlice. This is the Czechoslovakian Standard Cirrus V-tail sailplane in 1/5 scale, with a span of 3400 mm (134 inches). This is a complete kit.

The company is again stocked with Baby Kurwi's by Wilhelm, who also manufactures the Kurwi 68 Universal Glider.

Windspiel will shortly be coming out with the 604 Glasflugel version of the 22 meter Kestrel. The Soarcraft Kestrel 19's are now in full production as complete deluxe kits, with white gel-coated fiberglass fuselages, pre-cut wing and stab ribs, all hardware, canopy, and tray with instrument console.

* * *

Cheslock Designs RD 1, Box 130, Lincoln University, Pa. 19352, phone 215-932-3924, is producing an interes-



R/C glider Tow/Chute by White Co. Hand-made of quality materials. Price \$8.00.



Snappy Products flight and tool box will carry two gallons of fuel.



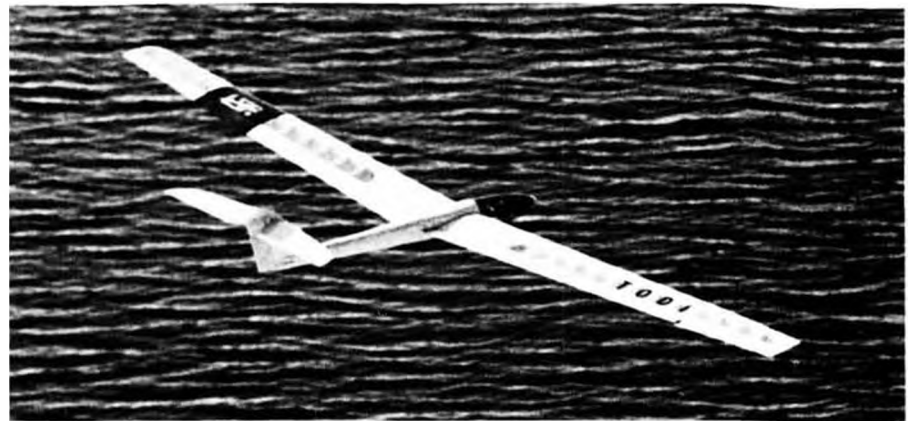
The 1973 Cox Tee Dee .049 by Kirn-Kraft has fine-thread needle valve, left-hand crank option.

ting and different line of trophies and wall plaques aimed primarily, at the moment, for R/C competition.

The trophies are fabricated from bronze tinted plexiglass and screened in black, with graphics relating to Pattern, Scale, Soaring, and Pylon. Plaques are



The "Todi" R/C glider by Dodgson Designs features flaperons that operate from minus 10° to plus 30°. Plane will fly fast, slow, inverted . . . or what have you . . . Ain't she cute?



Todi's fuselage is combined fiberglass pod and rolled balsa boom, totalling less than 4 ounces. Kit includes materials for two wings; 100-1/2" and 76-1/2" spans.

black graphics in aluminum.

Graphics appear to be reproduced photographically. Prices range from 8 to 16 dollars.

* * *

In Free Flight Circles, the names Satellite, or Bill and Bob Hunter, don't raise too many quizzical glances. But in case you're that far out of it, this father (Bob) and son team is in the top echelon of Free Flight design and competition. Their series 70 Satellite, featuring

elliptical planform wing and stab, is a foremost design which holds, as of March, 1973, eight AMA records! Category I A,B,C Junior (1971); Category I Open C at 73:24 (1971); Category I Open C record at 34:54 (1972); Category I Open B at 24:04 (1972); and Category II Open C at 26:41. The 1300 sq. in. version also holds the Western States special Class D record of 25:00.

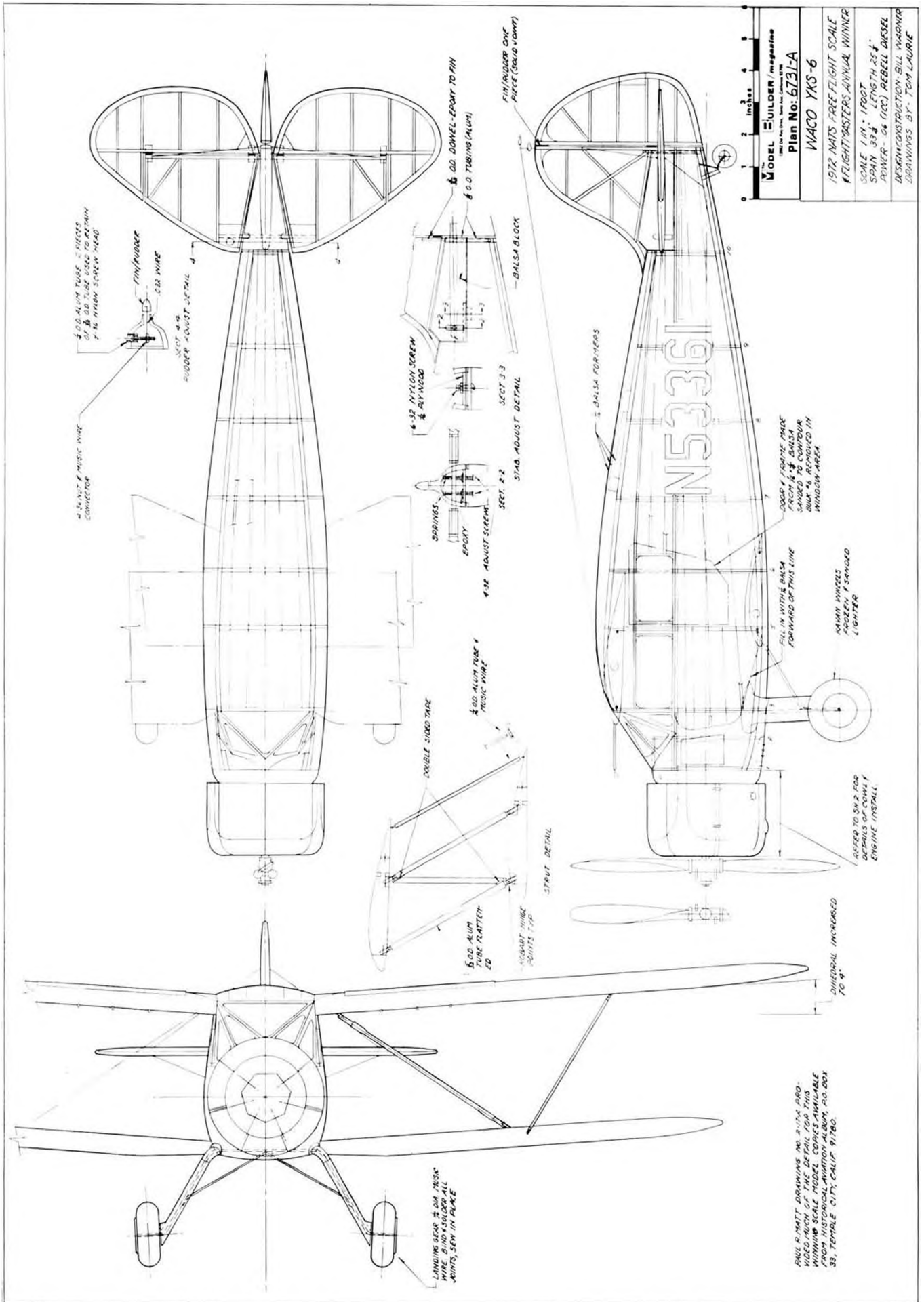
The Hunters, under the name "Satellite"
Continued on page 60



New fiberglass hull tug boat design by Clayton Thoms, in photo, is being marketed by Hartman Fiberglass R/C. Price is \$135.00.



Boat is model of Harbor Tug "Douglas Greg." Length 42", beam 11-1/2", and displacement is 33 pounds. Electric or steam power.





WACO YKS-6

By BILL WARNER . . . Even if it hadn't won first place in F/F Scale Gas at the 1972 Nationals, this beautiful model of a plane from the Classic Age of aviation would deserve top billing.

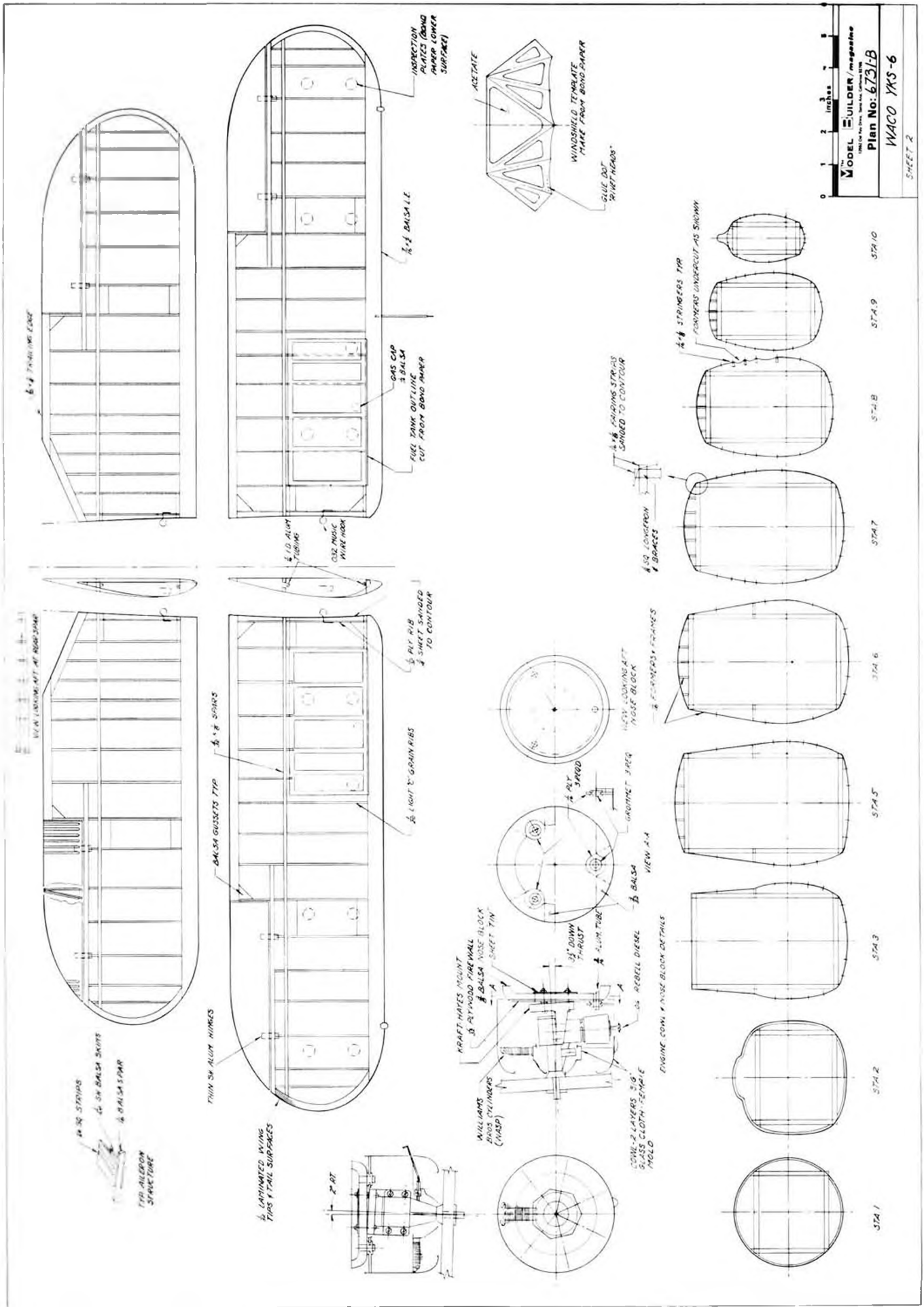
One of my recent hang-ups is that I cannot build models that I find uninteresting. If I wanted to take the easy approach to contest FF Scale work, I think I'd build a simple homebuilt monoplane and just build it like the original. Most of us, however, don't work rationally when confronted with that LOVE-AT-FIRST-SIGHT 3-view or photo. When narrowing down subjects to build for a particular contest, I always very scientifically go through hundreds of subjects, narrowing down the choices by process of elimination. First, you throw out the ugly and common subjects. Next, you eliminate the ones on which you have too little data. Following that go the ones with paint schemes beyond your capabilities, ones with poor moments, high wing loadings, small stabs, ones which someone else has already built much better than you ever could, etc. Then you have a couple of beers and let a couple of your toughest competitors (Bobby Haight and Chuck West) talk you into a model which they just know will drive you up the wall. To compound the problem, buddies like this will also lay some nifty exterior and interior color photos of the real aircraft on you just to make sure that you can't resist! Clinching the whole thing was the great Paul Matt 3-view

drawing with just enough detail to make it interesting, but not so much as to make your model look stark because you didn't put it all on.

The NATS in Chicago requires a bit different plane than the NATS in California. A light, fluffy antique which might do superbly at Los Al has no place in



Even in this close-up of the cabin area, the Waco doesn't look too much like a model. The amount of detail is not as amazing as is the short time it takes Bill to crank it out!





This shot was taken by Joel Rieman at the NAR Flightmasters' Annual, where Bill and his Waco also took first in F/F Scale Gas. Some field stubble caught the upper left wing in a flip-over. Built in the "brick outhouse" tradition of P.E. Norman, the ship can really take it.

the rain and wind at Glenview. Taking a hint from the British, sturdiness was the byword from the beginning. Extra gussets, plywood reinforcements, and extra-hard fuselage-box longerons proved later to have been well worth the added weight. In test-flights and several crashes, the silk covering, knock-off wings, and strong firewall/cabin/undercart construction made those critical first few flights possible. A front-heavy, clean design also seemed to make sense considering the wind conditions expected.

Armed with instructions from WCN not to go into basics of construction, etc. as anyone attempting this model would be either a pretty experienced builder (or a nut), rendering any such coverage somewhat less than productive, I shall constrain myself from excess and superfluous verbosity in the interest of minimizing obfuscation . . . (Too late, Bill, you already done did it! — wcn).

WINGS
 Tips laminated with thinned white glue. I can't remember whether or not I used spruce for the spars, but if I didn't, the balsa I used was extra hard. The spars on top of the wing cost scale points, but sure keep that ol' wing from bowing upward. Making ailerons adjustable with bendable aluminum sheet (not soft wire) "hinges" is a must for on-the-spot flight trim. The wingtip lights may be easily made operating by using model railroad "grain-of-wheat" bulbs wired to a simple male-female plug at the wing root rib. Built it up

from 1/32 inch (male) brass tubing fitting into 1/16 inch (female) tubing. Removable battery (9v transistor) and a simple pull switch on the panel will complete the set-up. Panel, tail, and cabin lights can be easily added to the circuit. Interplane struts are made of flattened aluminum tubing with Robart brand hinge points (nylon ball-socket pop-out) used for the attachment to the wings. The "N" strut was originally fastened together with 1/16 inch thick double-sided tape, but silicone rubber tub caulking might be better.

FUSELAGE

Make sure front end is solid. Thin plywood (1/32 inch) firewall affixed to
Continued on page 46



The Waco doing its thing. The name of the game is "Flying Scale," so fly it does.



All gassed up and ready for a night flight to Las Vegas for dessert and a little gambling. Note the chart in seat-back pocket. Door latch works. Inside of cabin is covered with silkspan "liner."



Ant's eye view of Quarter Midgets on the starting line in Jacksonville, Florida. Gateway R/C Club, Bill Atkinson, Starter. Let's get outa here!

PYLON

By TOM CHRISTOPHER



FLORIDA PHOTOS BY RON KIRN

● The Quarter Midget Racing Club held its First Annual Championship Race March 18, Mile Square, Fountain Valley, California.

Jeff Bertken (Valley Flyers) emerged as QMRC Champion for 1973. Jeff flew a Francis P-51 built by Paul White with engine by K&B. Jeff flew a very consistent race and finished five rounds of racing with 17.5 points.

There was a three-way tie for second between Kent Nogy (Valley Flyers), Chuck Brown (QMRC), and Bob Emery (Vista, Calif.). Nogy finished the fly-off in first with Brown and Emery following. Fifth place was captured by Tom Christopher with 16 points. Sixth place went to Gary Hawks with a very impressive showing.

Kent Nogy and I had perfect scores and were leading the event going into the final round when we then met in the supposedly deciding race. Kent really put it on me good, turning times in the 1:32's. It was all for naught however, as we both had cuts. Kent had one cut, and trying to keep up the blistering pace, I had three!! So again, the fastest aircraft seldom win out overall; it's consistency that counts . . . enter Mr. Bertken!

QMRC CHAMPIONSHIP RESULTS, March 18, Mile Square.

1. Jeff Bertken (Valley Flyers), Francis P-51, K&B.
2. Kent Nogy (Valley Flyers), House of Balsa Shoestring, K&B (Fastest Time 1:32).
3. Chuck Brown (QMRC), Original Firecrackers K&B!
4. Ray Emery (Vista, Calif.), Minnow K&B.
5. Tom Christopher (QMRC), Stafford P-51, ST.
6. Gary Hawks (QMRC), Minnow, ST.

Now that the reporting is finished we

have a few comments: QUARTER MIDGET RACING IS HERE TO STAY! The championship race drew forty entries due to the rewards and prestige of the event, not to mention the fun of it. As the rules, which are now up for adoption by AMA, read, "Engines stock R/C type. Carburetor must be stock R/C .15 size catalogued for the engine used. No reworking allowed on either engine or carburetor. Both must be available through normal retail channels and made in quantities of 1000 or more. No pressure allowed."

Without a doubt, if this rule is adopted as read, it will cause some hard feelings and confusion. There are two ways that this particular rule can be made workable. First, one must define the words "Stock" and "Reworking". Just what do these words mean to you? How can one enforce such rules?

Why not have, along with a printed



Officers of the Chicago Pylon Club, (l to r): Bruce Balko, Contest Coordinator . . . Frank Morosky, President . . . and Bob Browning, Vice-President.



A few of the boys "getting themselves up for a race" (l to r): Coy Smith, George Jordan, Burnis Fields, and James "Tick" Johnson.

set of rules and safety regulations, a printed specification sheet with tolerance ratings for the approved engines that may be used. Realizing that many modelers will not alter their engines in any way, there are also quite a few who will! This spec sheet would be a tool that the engine inspector at each race could use.

Of course, then there is the problem of getting a workable spec sheet from the manufacturer. There are many problem areas here; the manufacturer must make a production type engine within a close tolerance rating, and the official specs must keep abreast of the factory modifications and changes that are occurring constantly.

Secondly, what about the idle rule?

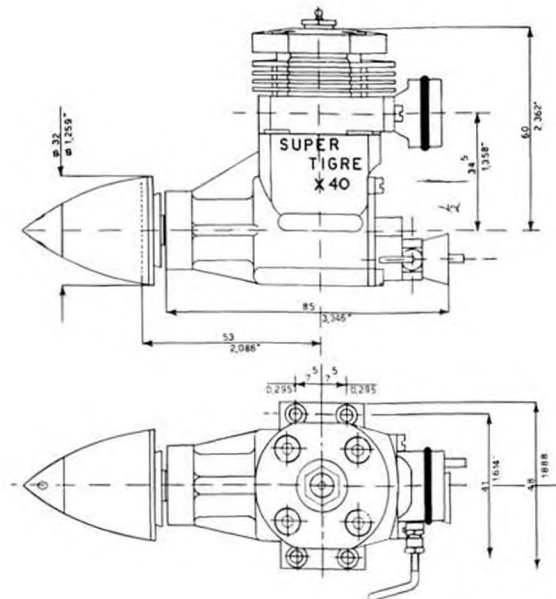
Continued on page 46



Oh yes, once in a while they stop fooling around and get on with the flying down there in Florida! In fact, they've been flying QM's for about 2-1/2 years in the Jacksonville area.



Coy Smith took first in the QM races at Gateway R/C contest, April 8, 1973, Jacksonville.





R/C Soaring editor's "Big Juan" had (radio interference) 12 foot span, 1060 sq. in., weighed 6 pounds (12.8 oz./sq. ft.), was fast clean, and efficient. Needed spoilers or flaps for landing. Airfoil was NACA 6412 at root, 6409 at mid-span and tip, 8" root chord.

R/C SOARING

By LE GRAY

Status ain't quo . . . ya know . . . The minds of R/C sailplane designers are festering all about us . . . big things are in the works if we can believe telltale trends. Hang on . . . 'Tis mind-blowing season.

● Let's just visit for awhile.

You know, the growth and advancement of R/C soaring has been nothing less than phenomenal . . . and it's just starting to roll. In less than five years, this relative newcomer to R/C flying has emerged from isolated local activity to a well identified, if not tightly organized, national thing. R/C soaring clubs . . . exclusively soaring . . . are springing up like dandelions in the front lawn. Every place your neighbor looks.

The East Coast Soaring Society, founded in 1969, is still expanding at a rate unknown to other facets of the R/C sport. The Western Soaring Council, just starting its second year, provides liaison for 16 AMA chartered clubs and has an affiliated membership of almost 1,000 soaring sportsmen. The League of Silent Flight . . . an organization in which membership is earned by documented performance . . . has some 600 lifetime members throughout the world and well over 1,000 more enthusiasts working towards that goal.

The R/C soaring market place is attracting serious commercial attention. The variety of domestic and imported kits and equipment can satisfy most any request. Perhaps the real measure that soaring has "arrived" is the appearance of over-advertised items of marginal quality or design integrity. The word "junk" might be used by the less tactful. It's

an unfortunate sign of success. Happily, however, the volume of quality products is much greater than the number of questionable items. Most manufacturers allied with the soaring movement are more interested in the long-haul health of the sport than in the proverbial fast buck.

Competition we've got . . . and more we get each season. A few years ago, 25 or 30 contestants represented a large turnout. The 1970 LSF RC Soaring Tournament set a national attendance record with 85 pilots. In the last couple of years, competition scenes on both coasts, as well as the S.O.A.R. Nationals, have registered well over 100 fliers. The problem has become one of too many participants. An equitable method of entry limitation is sorely needed. A unique situation.

The AMA Provisional Rules for R/C sailplanes have received national acceptance and enthusiastic support by leading soaring clubs. These rules have been utilized to develop competition programs which demand exciting and challenging performance. Contest logistic and scoring systems have been refined to workable patterns, and reliable and predictable launch devices are now taken for granted.

So national interest and organization are evident. Commercial support is a fact. Competition guidelines, format and equipment exist in proven form.

So what's next? Other than continued growth and evolutionary progress in the same general directions, where do we go from here?

With the existing quantitative and viable foundation of the R/C soaring sport, the next milestone must surely be qualitative . . . improvement of the breed.

Whatever the endeavor, competition dictates progress . . . and soaring competition is fast demanding higher performance, performance that can be provided only by sailplanes which are considerably more sophisticated than most of those flying today. The configuration of up-coming pacesetters must offer step increments in efficiency, flight speed, flexibility, and controlability.

There always will be isolated contests limited to single task interests such as pure duration or speed. But the AMA multi-task concept will prevail, and will continue to be the basis for most significant contests. Growth in competition program format will be toward seven more demanding and divergent tasks rather than retrogression to specialization.

A sample program for important contests in the future will be of familiar format. Multiple tasks will include Precision Duration with Bonus Landing, Precision Time with Spot Landing, Speed and/or Distance. The average skill level of soaring pilots will continue to rise, and

Contest Directors may be forced to specify more demanding performance for maximum task scores. Longer times may be required in Duration; reduced measurements might be imposed for landing points; and better relative performance will undoubtedly be necessary for high scores in Speed or Distance.

Should tightening of standards not come to pass, it's a certainty that the overall winner of tomorrow's large, multi-task contest will have to overcome fierce competition. Pilot proficiency has already reached near-mystic levels, so all that's left to separate the top few from the top also-rans is (a) luck and (b) sailplane efficiency. Since luck is a very chancy thing . . . brilliant observation . . . the big difference must come from sailplane design.

What's the trend . . . what will be needed?

Most surely, the next generation sailplane (N-G-S) will be large . . . considerably larger than the average 1973 model. This will be due to three interrelated reasons: (1) size, at least to some extent, equates to efficiency . . . remember, a full-scale Cirrus and a melmac model Cirrus have about the same minimum sink rate . . . (2) on-board equipment complexity/weight will increase to provide additional control mechanisms; and (3) larger, heavier ships are less sensitive to the vulgarities of wind. Chances are that spans of around 12 feet will be quite common, and weights hovering around the 8 pound mark won't be cause for raised eyebrows.

Compared to today's standards, the N-G-S will be heavy . . . in both all-up weight and wing loading. Efficiency is the keynote and higher flying speeds will be desired for penetration as well

Jerry Nelson's big Ka-6E may have been ahead of its time, if today's apparent trends continue. These ships weigh up to the FAI limit of 11 pounds, some even more. Whitey Pritchard photo.



as cross-country lift hunting capability. Unless short-sighted, over-restrictive rules are imposed, the N-G-S will incorporate internal ballast that can be varied to suit flight conditions and flight tasks.

In-flight controllability will be a big factor in the successful N-G-S. Designers will specify ailerons or similar roll-inducing devices on these long-winged birds. This will permit small, lift-centering circles with aerodynamically clean V-dihedral wings. It will also permit safer, low altitude maneuvers as well as plane-saving wing leveling on landing approaches in bumpy air.

The N-G-S will take advantage of lift spoilers or drag flaps for accurate rate-of-sink control into small fields and onto precision touch-downs. The relatively large, heavy and more efficient glider will demonstrate L/D's not common with current designs. Landing approaches will be tedious indeed without supplementary controls to increase rate-of-sink without

increasing speed.

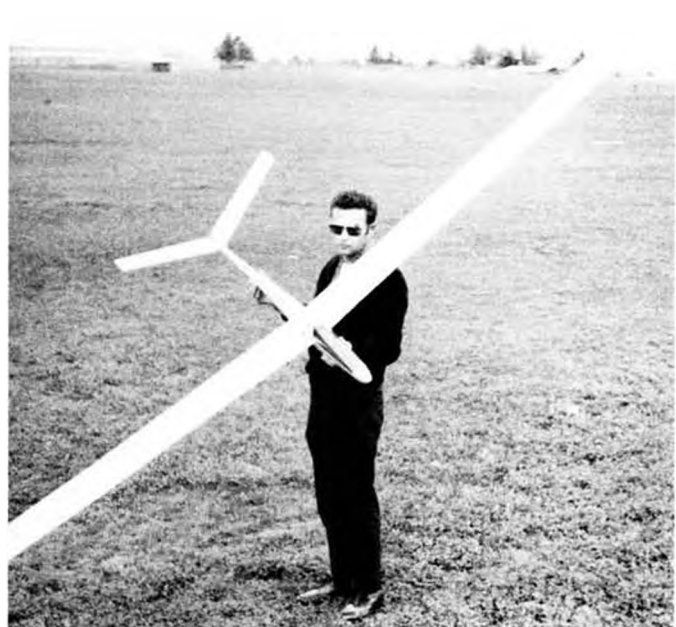
To optimize thermalling capability, flaps on many N-G-S designs will be used to modify the wing airfoil section. This will allow in-flight aerodynamic trim adjustments necessary to convert from a high-speed, cross-country, lift-hunting configuration to a slow-flying, lift-using configuration. No single airfoil section or pre-flight trim can successfully compete with the performance range potential with this control feature.

Seen only rarely today, the N-G-S will probably utilize a radio-released two hook. Tomorrow's pilots will want to lock on to the tow ring to alleviate any possibility of premature release during maximum climb-out. Of necessity, launch systems for the N-G-S will be more powerful than most now in use. Most likely the N-G-S standard winch will be comparable to current 12 vdc systems

*Continued on page 54
AS-W17 Three-Views, next page.*



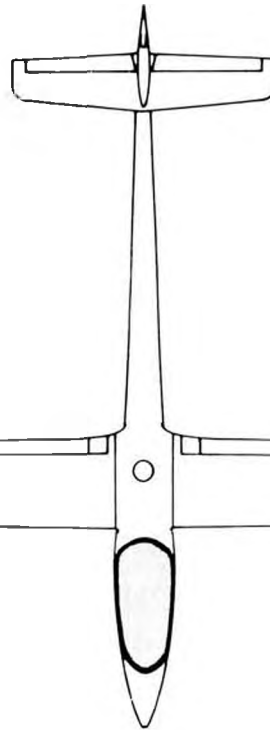
Bob Crumley's 13-1/2 foot scale AS-W12 has rudder, elevator, ailerons, flaps, retract gear, tail 'chute. Disposable water ballast next!



Paul Forrette's 12 foot original. Foam core wing, Eppler airfoil.

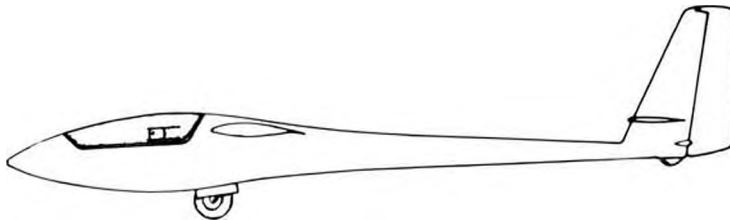
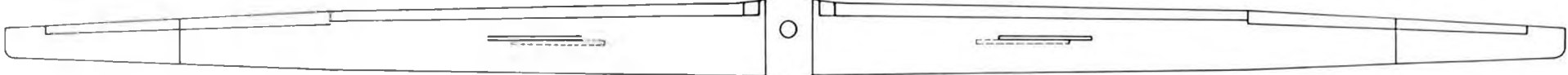


<u>Technical Data</u>	<u>Sailplane</u>	<u>Model</u>
Scale	1	2 in = 1 ft
Wingspan	65.65 ft	131 inches
Length	24.75 ft	49.5 in
Aspect ratio	27.2	19*
Airfoil	Wortmann FX-62K	Eppler 387*
Glide ratio	48	25

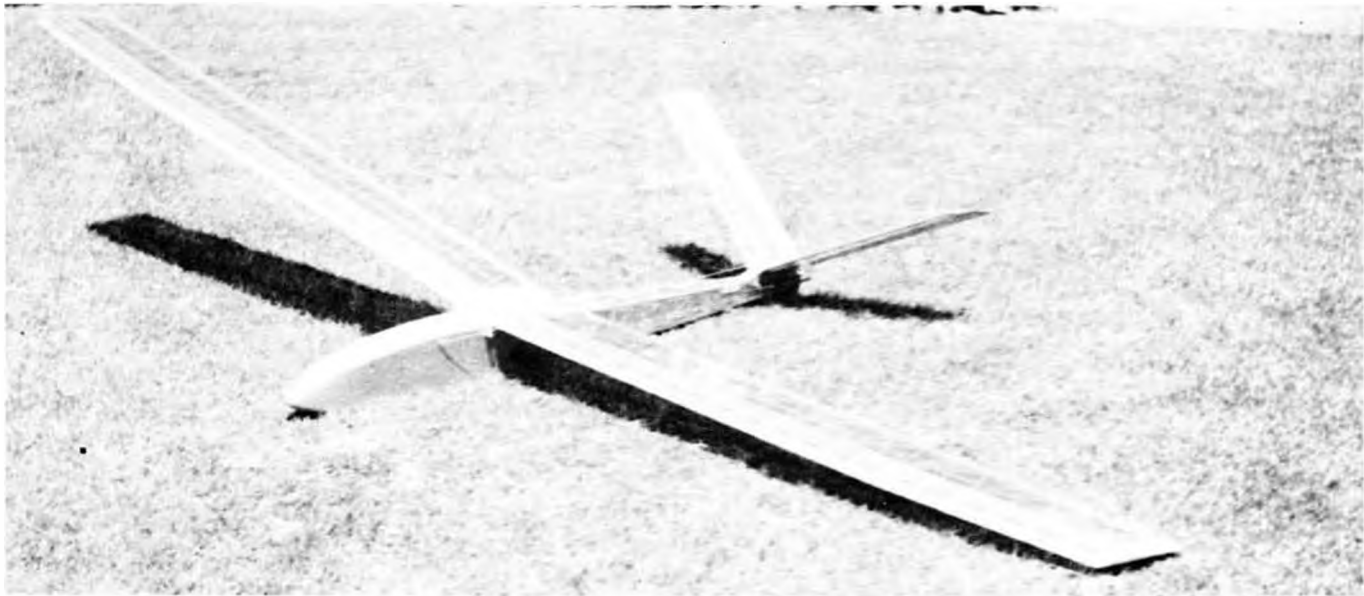


* wing chord and airfoil changed to improve performance at low Reynolds number.

3-View as furnished by Astro Flight with its AS-W17 kits.



ASW17



DUANE HYER'S

DRAGGIN' FLY



Text by Le Gray

As if in purposeful opposition to our R/C Soaring editor's comments this month, our glider designer offers a moderate size lightweight model for lazy soaring among the summer's weakest thermals.

● It has been said by a man wiser than most that every job is a self-portrait of the person who did it. Duane Hyer's Draggin' Fly is three-dimensional proof of that statement. The Draggin' Fly obviously is the product of mind and hands dedicated to the task. It is the product of a modeler's modeler . . . to use an over-used phrase one more time.

Hyer's Draggin' Fly, as a building project, may not appeal to those sportsmen who consider model construction a necessary chore . . . or to those who judge the merit of a kitted design by its degree of prefabrication. But for the Model Builder . . . the craftsman who enjoys fine woods, appreciates accurate structures, and recognizes the intrinsic value of workmanship, the Draggin' Fly presents an opportunity not to be long denied.

The Draggin' Fly is a small sailplane by most standards . . . only seven feet in span and two pounds or so, give or take a couple of ounces, all up weight. Total wing area is a shade under 600 square inches . . . call it four square feet. Its primary purpose in life is fun-flying . . . drifting about in lazy circles on those

Continued on page 50

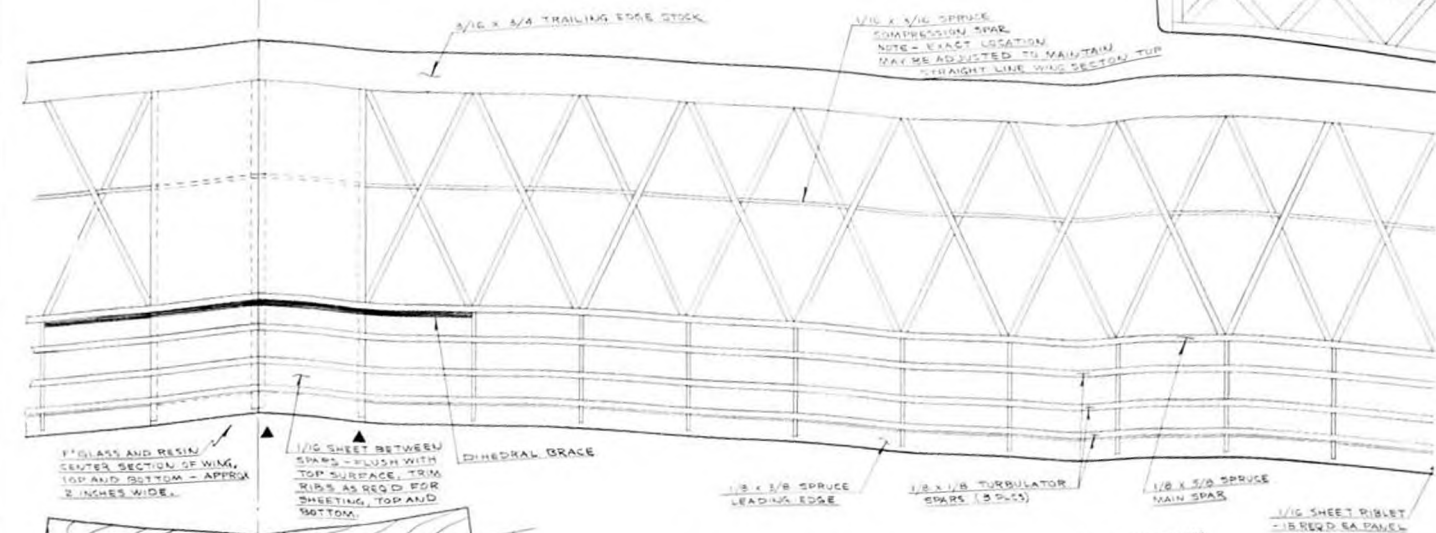


The designer and the plane. Note the strong free flight influence in the construction of the wing and stab. Wing airfoil is HLG type; curved to the high point and then straight to the trailing edge.

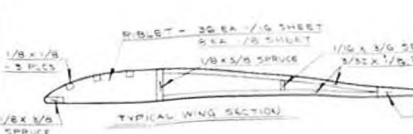
WING CONSTRUCTION

- 1- FIT DIEDRAL BRACE TO MAIN SPAR OF WING PANEL
- 2- POSITION LE MAIN SPAR TO THE OVER BUN
- 3- ADD BOTTOM CENTER SECTION SHEET AND 1/16" x 3/8" SPRUCE
- 4- CUT AND GLUE LOWER DISTRIBUTORS ADD SPRINGWOOD SHAPING LET OFF
- 5- SHIM TO THE TOP EDGE 1/4" WITHOUT STAY WALNUT 2 IN INWARD OF TIP
- 7- CUT FIT & GLUE UPPER DISTRIBUTORS NOTE EACH MUST HAVE STRAIGHT LINE FROM MAIN SPAR TO THE 1/2" CONTOUR
- 8- ADD TURBULATOR SPARS
- 9- REPEAT STEPS 1 THRU 8 FOR OPPOSITE PANEL
- 10- ADD TOP CENTER SECTION SHEET
- 11- ADD TOP BUCKS
- 12- TRIM AND SAND TO FINAL CONTOUR
- 13- FIBERGLASS AND RESIN JOINT TO BOTTOM
- 14- SAND & CLEAN FOR COVERING

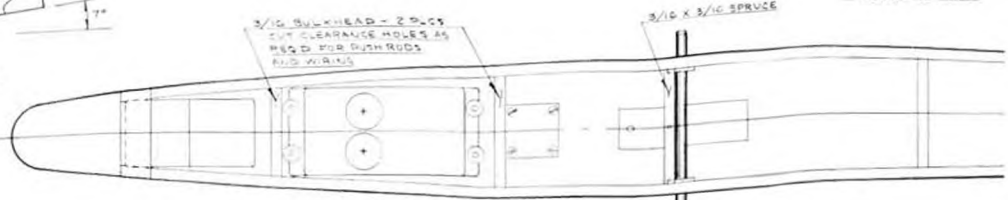
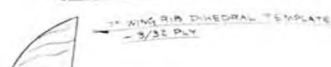
DRAGGIN' FLY SHOULD BE COVERED WITH TRANSPARENT MONOKOTE, SOLAR FILM OR UHMW CLEAR OILED FABRIC



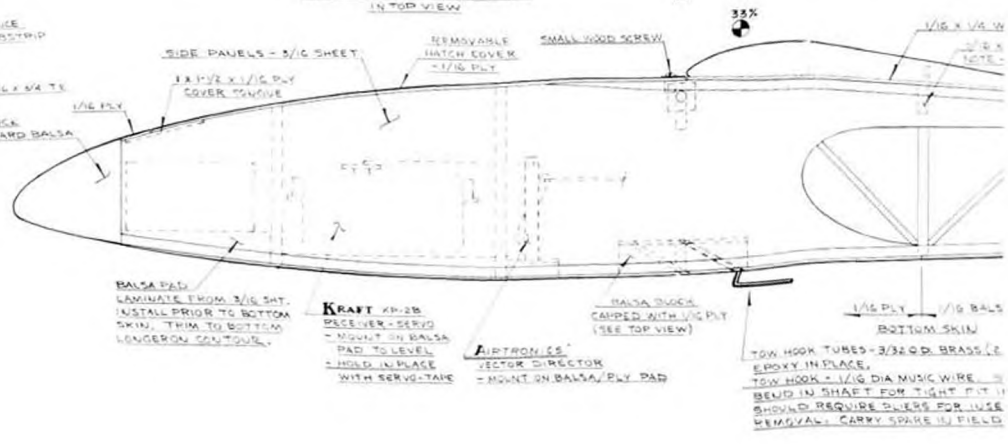
WING DIHEDRAL BRACE - 3/32 PLY (1 REQ'D)
NOTE - WARE TO CONTOUR SHOWN ON WING PLAN BEFORE ASSEMBLY WITH WING PANELS

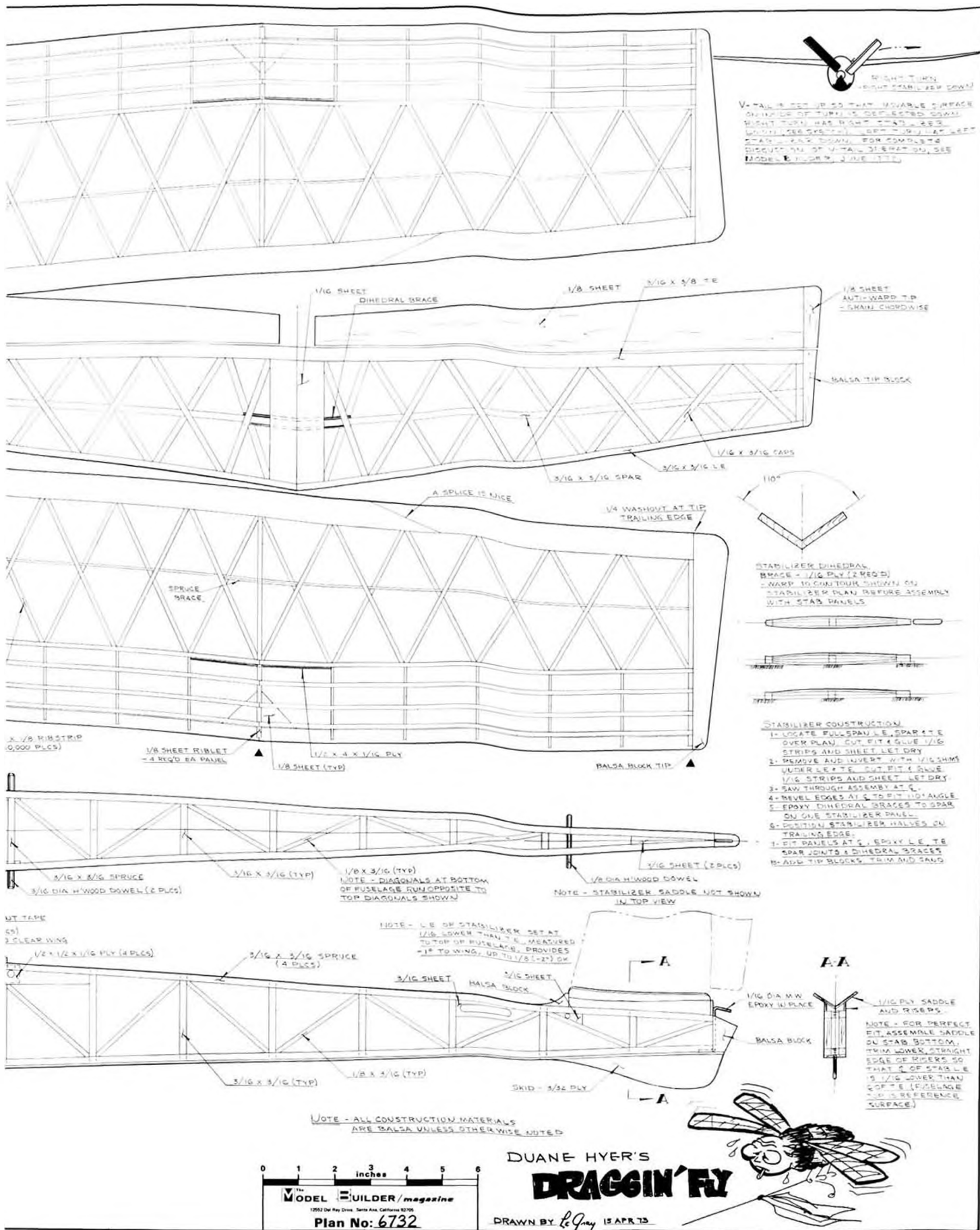


NOTE - RIBS VARYED ▲ FILLED IN SOLID
1/16 SHEET AFT OF SPAR MUST BE FLAT, DO NOT CONTOUR UPPER RIBS
USE WING RIB DIHEDRAL TEMPLATE TO SET RIBS AT PROPER SLANT ANGLE



NOTE - HATCH COVER NOT SHOWN IN TOP VIEW





RIGHT TURN
- ABOUT STABILIZER DOWN

V-TAIL IS SET UP SO THAT MOVABLE SURFACE ON INSIDE OF TURN IS DEFLECTED DOWN RIGHT TURN HAS RIGHT STAB. LIFT. STABILIZER SURFACE SET UP AT LEFT STAB. DEFLECT DOWN FOR COMPLETE DISCUSSION OF V-TAIL OPERATION, SEE MODEL B. FIGURE 1, PAGE 177.

STABILIZER DIBEDRAL BRACE - 1/16 PLY (2 REQ'D) - WARD TO CONTOUR SHOWN ON STABILIZER PLAN BEFORE ASSEMBLY WITH STAB PANELS

- STABILIZER CONSTRUCTION
1. LOCATE FULL SPANLE, SPAR & E OVER PLAN. CUT FIT & GLUE 1/16 STRIPS AND SHEET. LET DRY.
 2. REMOVE AND GLUE UP WITH 1/16 THICK UNDERLATE. CUT FIT & GLUE 1/16 STRIPS AND SHEET. LET DRY.
 3. SAW THROUGH ASSEMBLY AT C.
 4. BEVEL EDGES AT C TO FIT 110° ANGLE.
 5. EPOXY DIBEDRAL BRACES TO SPAN ON ONE STABILIZER PANEL.
 6. CENTRAL STABILIZER PANEL.
 7. FIT PANELS AT C. EPOXY LE, TE SPAR JOINTS & DIBEDRAL BRACES.
 8. ADD TIP BLOCKS. TRIM AND SAND.

NOTE - FOR PERFECT FIT ASSEMBLE SADDLE ON STAB BOTTOM, TRIM LOWER STRAIGHT EDGE OF RISERS SO THAT C OF STABLE IS 1/16 OVER THAN C OF T-B IF PLY IS 1/16 REFERENCE SURFACE.

NOTE - ALL CONSTRUCTION MATERIALS ARE BALSA UNLESS OTHERWISE NOTED

0 1 2 3 4 5 6
inches

THE MODEL BUILDER magazine
1982 (McGraw-Hill) Santa Ana, California 92705
Plan No: 6732

DUANE HYER'S
DRAGGIN' FY
DRAWN BY L.G. 12 APR 73



FULL SIZE PLANS AVAILABLE - SEE PAGE 64



This Corsair was one of many planes on static display at the American Cancer Fund exhibit put on by Orange County model clubs, Mile Square, Fountain Valley, California.

RADIO CONTROL REPORT

By FRANK SCHWARTZ

Our world-traveling R/C Editor reports on the excitement, humor, and frustration of a trip to Hong Kong and then Japan. Naturally, he visited hobby shops, and the offices of R/C Technique in Tokyo.

● It was reported previously that I would write on some R/C activities in the Orient. It was my good fortune to be able to travel to Hong Kong and Japan just a few days after the Toledo Show. Although it had to do with business, I was able to take time to visit a hobby shop in Hong Kong. It was

particularly interesting from my point of view. I'm always curious to see what kind of equipment and planes are flown elsewhere.

In Hong Kong, I learned that the flying field is about twenty miles from the city and that most of the flyers are (more and more!) sport flyers. Even

more interesting was the information about equipment and planes. Seems that the German line of kits by Graupner and a wide variety of Japanese kits are sold there.

The particular shop I visited in Hong Kong does a large mail order business all over that area, and I am afraid I didn't



A popular part of that Cancer Fund exhibit was this opportunity to fly an R/C plane, using buddy-box system. Good idea for other clubs.



A true R/C nut! This piece of art was given to Dean Hart, Missoula, Montana, by a non-modeling friend. Is that what we look like?



A portion of the static display put on by R/C clubs in Orange County, California, for the Cancer Fund Drive.

see too much U.S.A. material being sold. I suppose we are rather insulted in our own little world of U.S.A., that is, and it always is a jolt to find that there are other products in use elsewhere . . . other than those we assume are universally used in other parts of the world.

For example, I found that little, if any, American made R/C gear is used. In fact, the most popular equipment in that area, and their largest seller, is Futaba. Most U.S. modelers are familiar with this line as it has been sold in the United States by MRC, and the particular units sold here are to MRC's specs. The equipment is held in high esteem, and their new six channel transmitter is much like equipment you and I use. The case is the same old rectangular box and the sticks look very much like those of Kraft's. They have a very nice feather-soft ratchet feel on the trim levers. That is, you can feel it rather than having a floating trim lever as on all equipment made and sold in the U.S.A. Actually, I wish some American manufacturer would try these ratcheted trim levers. I liked them. Futaba makes a wide variety of transmitter and servo styles, but this one was new and closely resembled the popular U.S.A. styles.

Engines were mostly O.S. and Enya, as well as Webra and H.P. Prices were good . . . much lower than in the States. The devalued U.S. dollar still makes a good purchase in Hong Kong . . . although it is not as good as it used to be. Much to my disappointment I was unable to buy any Chinese diesels for my collection. A few years ago, when I was there, I picked up some beauties dirt cheap

and put them in my engine collection. They told me they had not gotten any for about two years. Ah, well . . .

Also saw a number of Helicopter kits of the types and brands becoming familiar in the States, both Japanese and German manufactured. Seems helicopters are catching on everywhere.

Once I got to Japan, I really felt the pinch of the devalued dollar. A couple of years ago I was able to buy goodies for R/C at real good prices. This time I found them to be as expensive as here in the U.S. and didn't get much. George Aldrich had asked me to get some special glow plugs for him . . . a hundred if they weren't over fifty cents each, American money. Surprise! They had plenty of plugs but the price turned out to be about a buck ninety! Forget the plugs.

But I'm getting ahead of my story.

I had asked the owner, publisher, chief editor and main loafer of this magazine to write ahead to the corresponding Japanese magazine, Radio Control Technique, and tell them I would pay them a visit and perhaps write about my visit.

So, armed with the Editor's card (of the Japanese magazine), I decided to take a taxi over to their offices in Tokyo. This is much easier said than done. In Hong Kong, since it is owned by the British, all street signs are in English. Not so in Japan. Everything . . . that is about 99 and 44/100 percent . . . is in Japanese. Safest way to leave the hotel is to have the desk clerk write in Japanese the name of your Hotel, and the address, so you can get back. Best way to get somewhere is to have the desk clerk write

the street and name of the company or building, in Japanese, on a piece of paper so you can show it to the cab driver.

Something told me to check first, and after having the hotel check at the magazine offices, I learned that they had moved. The clerk had written down the new address and name of the building and that the people were expecting me. Great! I jumped in a cab, handed him the piece of paper and settled down for a ride.

On my last trip to Tokyo, my hair became slightly greyer over a couple of taxi rides. It is laughingly said that most Tokyo taxi drivers are sons of Kamakaze pilots and handle their cars the same way. It was quite true. I had some hair raising rides. Most amazing was the way you got in the cab, handed the driver the written instructions, sat back and prayed. The fellow shifted from neutral to first and took off. He didn't shift into second gear until the engine surpassed peak RPM, then the same for second and third. Wild! This trip was somewhat different as I luckily got a gentle middle-aged gent who drove quite sanely. He even pointed out the building I wanted and let me off across the street.

Well, there I was. I went inside and realized that I didn't know where to go next. I started up the stairs. By the third floor I knew I didn't know where I was going so I said "Radio Control?" to a young man who came out of one of the office doors. He smiled and pointed in to where he had just come from and there I was!

I had had some cards made with my
Continued on page 52



WOW!! Get a load of the beautiful

TWELFTH INTERNATIONAL CONTEST
OF THE
ASOCIACION MEXICANA DE RADIO CONTROL

Our resident Mexican reporter, Eloy Marez, explains in words and pictures why we should all pick up our gear and fly "South of The Border."



... trophy by Orbit! Miss Beatriz Luna, Mexicana Airlines stewardess.

● The Asociacion Mexicana de Radio Control, of Mexico City, hosted their Twelfth International Contest, April 19th through the 22nd, in that city. The contest site was the club flying field, known as 'Paraiso' (Paradise), about forty five minutes from the 'Zona Rosa', the fabulous Pink Zone of Mexico City. This is the 'in' part of town, where most of the best hotels, shops, restaurants, and U.S. model flyers are located.

The scheduled events consisted of gliders (precision and speed), FAI Pattern (Expert, Intermediate and Novice), and Racing. The unscheduled events included sun burns (or at least sun tans), tremen-

dous feasts, gallons of Margaritas, that incomparable Mexican hospitality, and to us visitors from the States . . . just fresh from the meat boycott . . . steaks just a silly millimeter smaller than quarter beefs!

The contest started on Thursday, the 19th, with the first event being the glider competition. When all the thermals had settled, the first through third places for Precision had been taken by Col. Robert Thacker of San Clemente, California, and Roberto Guzman and Manuel Lewinsohn, both of Mexico City, in that order. Places for glider Speed went to Franco Clavello (1st),

Yours Truly (2nd), and Ernesto Jiminez (3rd).

Then, the real fun begins, because to the Mexican aficionado, RC flying means RACING. Except for the Open Pylon race, which had the largest number of entrants, Formula One drew the most contestants. By the end of the first round, it became evident that it was a two man race, between Salo Feiner of Mexico City, and Bob Root, of Bellevue, Washington. The rest of the pack was there merely to make things more exciting for the spectators.

It finally resolved itself to a fly-off between Salo's Little Mike and Bob's Loving's Love. Everything else being equal, points and all, the first take off was to be decided by the toss of a peso, which Salo graciously declined, insisting that Bob was a guest and must take off first. The fly-off was a perfect example of racing at its best; a pretty even match of machines and pilots, with a constantly changing lead, beautiful flying by all concerned, and a last second smile from Lady Luck on Bob Root who emerged winner and hero of the day.

Another interesting thing about this race was that both finalists used gals for callers. Salo is always ably assisted by his teenage daughter, Rita, and Bob's mechanic, caller and Jill-of-all-trades is his charming wife, Kathy. The latter couple became a favorite with the local flyers and general public in short order.



Formula 1 flyoff in Mexico was between Salo Feiner (left) of Mexico, and Bob Root, Bellevue, Washington, US. Bob's Loving Love was the winner.



The 'Ciclón' Open Trophy, held by Misses Teru and Marta Garcia.

Not only did they come from a part of the world that many Mexicans associate with polar bears, Eskimos, and air conditioning direct from the North Pole, but they are enthusiastic modelers and wonderful people. Bob's airplanes are different from the usual types, being well constructed, and beautifully and distinctively finished. He is also the designer of the Firecracker FAI bird, kitted by Fliteglass. By the end of the first day, he had been re-christened into the Spanish equivalent of his name: Roberto Raiz, pronounced Rah-eez. The next two days, Friday and Saturday, were devoted to FAI Pattern flying. The number of entries was somewhat less than that seen at other contests in Mexico, but since most of the country's top flyers were there, it was close, and the results were in doubt 'till the last



Benjamin Castaneda, 1st in Pattern Expert and Lola Aguilar. He's son of Luis Castaneda.

flight. In the Expert Class, and possibly inspired by the Woodcraft props donated as trophies by Orbit Electronics, the Flying Castanedas, Benjamin and Luis (Son and Father) of Puebla, emerged as First and Third place winners, respectively. The Second place winner was Feliciano Prat.

First Places only were awarded to winners in Intermediate and Novice FAI pattern flying. These spots were won by Oscar Ponce (Intermediate), and Francisco 'Paco' Gonzales (Novice). They were awarded some of the beautiful Mexicana Airlines trophies previously seen at other contests in Mexico. In addition, they, along with Benjamin Castaneda, for his First Place in the Expert Class, were awarded Round trip tickets on any Mexicana flight to any place serviced by that airline. And if that wasn't



Bob Root being interviewed by Alejandro Crespo, for Mexican TV.

enough, Mexicana sent along one of its hostesses, Miss Beatriz Luna, to present the "goodies" and to give the lucky winners a big hug.

On the subject of trophies, the winners of the Glider and Formula One events were presented beautiful silver candy dishes and "sombrosos", suitably engraved, donated by the Secretariat of Communications and Transportation, the Mexican Government equivalent of the Federal Aviation Agency. Can't help but wonder what the reaction would be from one of our governmental agencies if they were asked for trophies for one of our "toy airplane" events?

The fourth and last day, Sunday, dawned clear, calm and cool; a good day for the races. In this case, FAI (in Mexico pronounced so as to rhyme

Continued on page 48



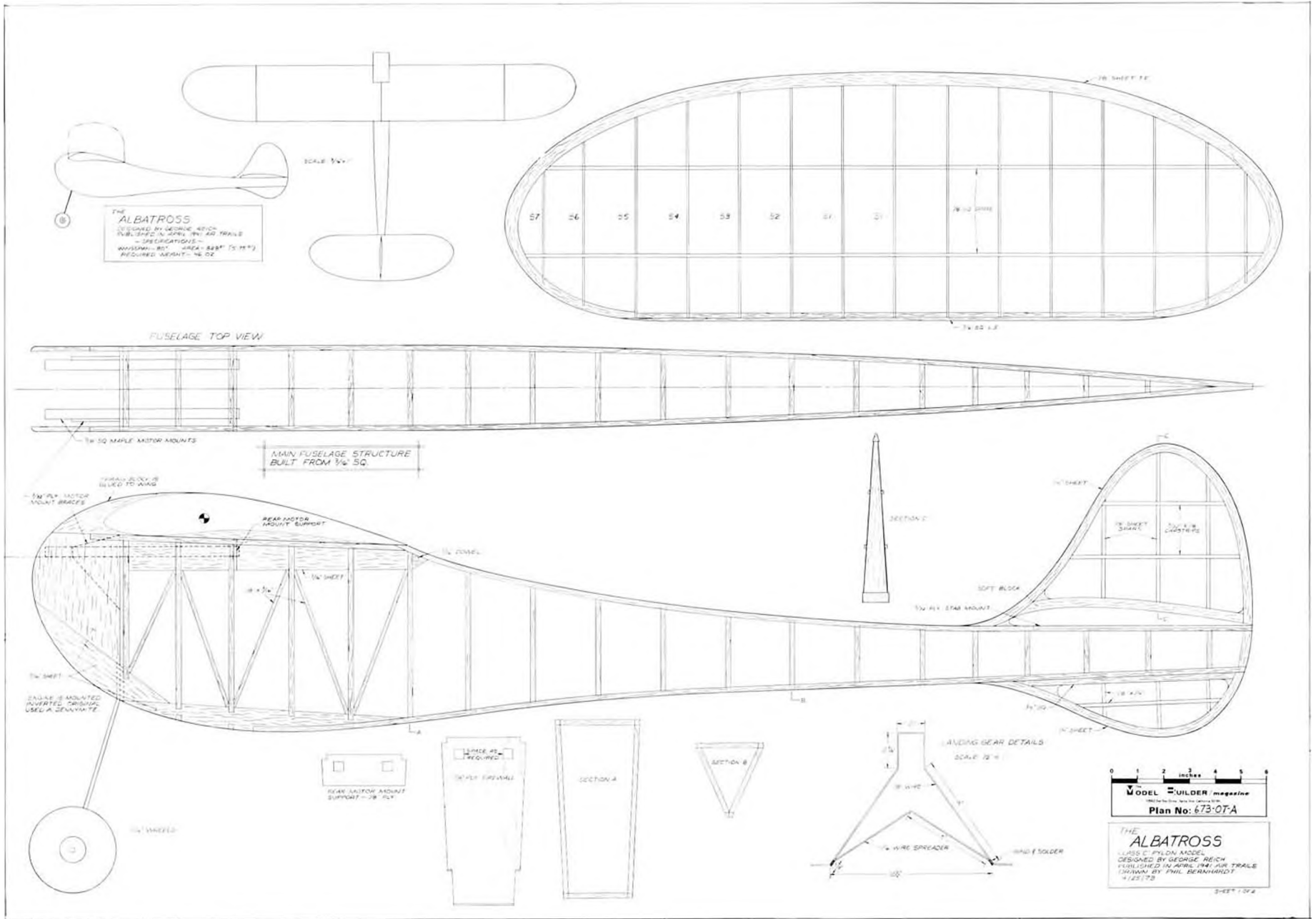
Col. Bob Thacker, with 1st place winning Cumulus. Elizabeth Mathelin holds Tx.



Manuel Sierra was winner of FAI Pylon. Not swiss cheese wheels.



(I've written 5 different captions and can't print any of 'em. Please be my guest!)





Vernon Boehle (pronounced "Bailey") entered this 15 foot span, Baby Cyclone powered model in the Texaco event at the 1936 Nationals.



PLUG SPARKS

By JACK TRANSUE

ORIGINAL TEXACO PHOTOS
BY TOM LAURIE

● Take a ten foot span Nimbus, a few ounces of fuel, and a thirty minute chase, roll them together and what have you got? The Texaco Event . . .

This is one of the oldest, and truly the most beautiful of the Old Time events. On April 1, 1973, we traveled to Taft California to participate in the SCAMPS (Southern California Antique Model Plane Society) annual Texaco and Old Ruler contest. This year, the Texaco

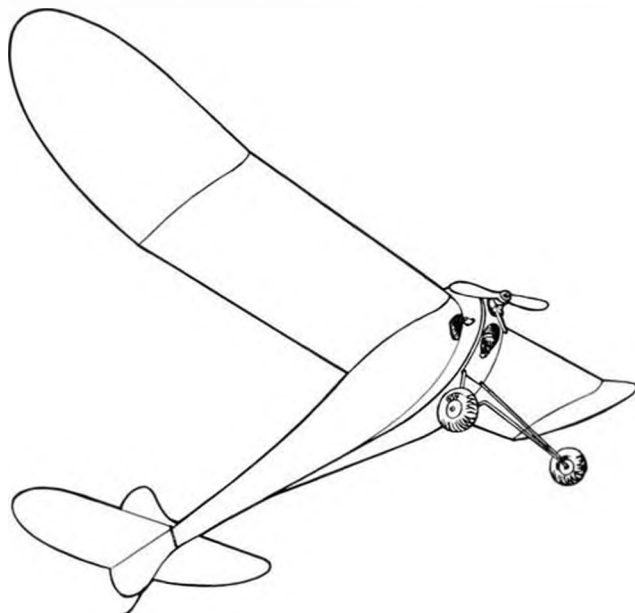
event was held from dawn until 10:00 AM and was called the Dawn Patrol. For those who may never have heard of the Texaco Trophy, we asked Sal Taibi for a brief history of the event from its beginning up to the present time.

"This contest was originally sponsored by Texaco, the company that refines and sells gasoline under the trade name of Texaco. The event was run as part of

the 1935, 1936, and 1937 Nationals.

"The models that had been entered were weighed, and a fuel mix of gas and oil was allotted according to the total weight of the model at the rate of ¼ ounce of fuel for each pound of model weight. A seven pound model would receive 1¾ ounce of fuel. Many modelers led their models so they could get the maximum fuel allotment of 1¾ ounce.

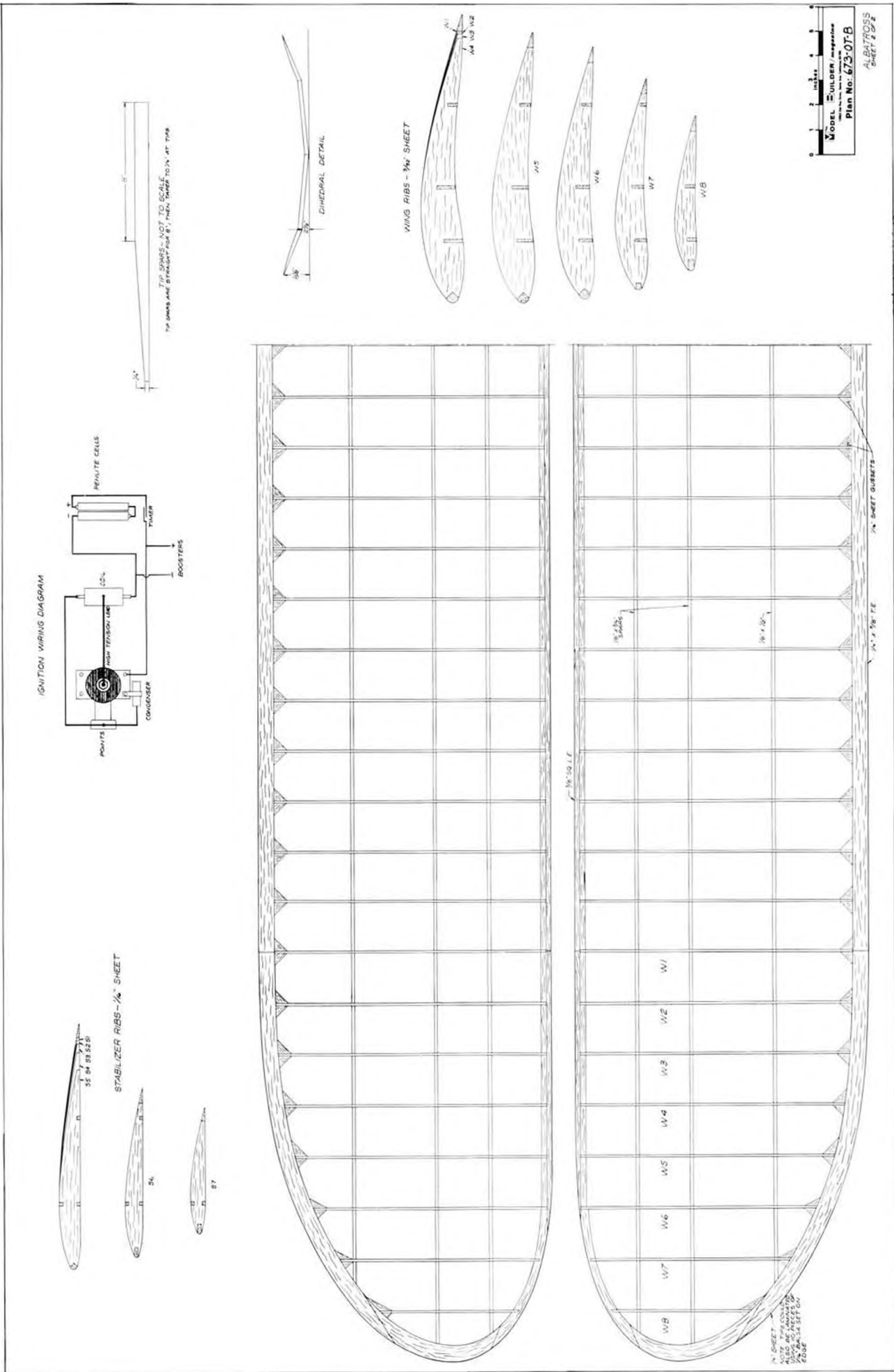
"Engine runs varied according to power



O.T. MODEL of the MONTH — The ALBATROSS, designed by George Reich

The Albatross was originally published in AIR TRAILS magazine . . . April 1941 issue. George Reich may be better known for his designs and accomplishments in Wakefield, but in our estimation, this is one of the most beautifully proportioned gas models of all time.

The original Albatross used a DennyMite engine (ignition, of course). However, it was suggested by the designer that the lifting stab thickness be increased to about 13/16" if a more powerful engine, such as an Ohlsson 60, is used. (George felt that a lifting tail of proper thickness would eliminate the need for downthrust.)



FULL SIZE PLANS AVAILABLE - SEE PAGE 64



Chuck Partch and his beautiful 10 ft. Nimbus, a Shereshaw design, won in 1970 and 1973. Hez half of P & W with Gene Wallock.



Cliff Silva, SKIF's, won the revived 1972 Texaco meet with this model of Frank Ehling's 1938 Texaco winner. Cliff's time, 78-1/2 minutes.



Jim Adams (rt) receives new reproduction of Texaco Trophy (donated by K & B) from Sal Taibi for his win in 1969 with 8 foot K-G.



John Keller won the first revived Texaco meet in 1967 with this reproduction of the PB-2, on a 39 minute flight. 'P' stands for Thracey Petrides. Anyone know about the 'B'?

setting and the size of prop used. With a 16 inch prop and the engine set at $\frac{3}{4}$ power, a Brown Jr. engine would probably run about 10 to 12 minutes with $1\frac{1}{4}$ ounces of fuel. Baby Cyclone with the same fuel allotment would probably run 20 minutes.

The largest model ever built for this event was Vernon Boehle's (pronounced "Bailey") 15 footer. Vernon had a large model for good visibility, and powered it with a Baby Cyclone for a long engine run. It should have been an

ideal model for the Texaco event but it never won. SCAMPS member Hugo Lung built the Boehle 15 Footer in 1968 and powered it with a Super Cyclone, but Hugo was no luckier than Boehle, always close but never a winner.

The Texaco event was discontinued after 1937 in favor of the limited engine run of 40 seconds, which as performance increased, has been reduced to the present engine run of 11 seconds at the Nationals Free Flight gas events.

"In 1966, the SCAMPS decided to

run a contest using the Texaco event rules. K&B Mfg. of Downey, California, generously agreed to pay for a four foot high reproduction of the original Texaco trophy, duplicated from old photos. A preliminary contest was run which was called the Texaco Trials. The purpose of this contest was to evaluate the planes and the D-T systems. Everything went well and the first meet was scheduled for April 1967. The contest was a huge success . . . all the participants

Continued on page 58



Look at the beautiful lines on this 1936 Texaco entry designed and built by Leo Weiss. Dig the Cessna-type gear! Also, whatever happened to knickers? Maybe Arnie Palmer can bring 'em back.



Another photo of Boehle and his 15 footer. Both appear to have about the same dihedral!

● One of the most exciting and competitive classes in the American Model Yachting Association is the 50-800 Class. There have been over 200 of this class registered with the Association. The basic requirements are an over-all length of 50 inches plus or minus ¼ inch, and a sail area not to exceed 800 square inches. There are a few minor limitations on the amount of roach (curve on the trailing edge of the sail), battens not to exceed 2" (stiffeners in the sail), and a jib stay height of 80%.

There are several kits on the market, and also many scratch built models. The size makes them better all weather boats than the 36-600's discussed last month. But cost increases with size. Nevertheless, it is now possible to travel just about anywhere in the U.S. and find a 50-800 that can be raced. While R/C yachting is still just beginning, this is the class in which you will find the most competition.

The Class was started in Marblehead, Mass., by Roy Clough, when free-sailing was very active. The English, in their quest for a good handling, portable free-sailor designated them as Class "M", for Marbleheads, and have had much success with them. It is also the largest class among the free-sailing groups. When the boats became a class in the AMYA, they were re-named 50-800 to avoid confusion between R/C and freesailing. The basic rules for the two types are the same.

The past three years have seen the 50-800 grow from the fourth largest class to its present leadership. There seems to be no end in sight for this domination in class membership. There are several reasons for it, besides its good sailing characteristics; availability of good kits, many plans, and portability.

The Annual Class Championship for the 50-800's will be held in San Diego on August 18 and 19 this year. The competition has been tough in the last two Championship Regattas, and we see no reason for that not being the case for the coming regatta.

In 1971, two of us from San Diego traveled to Denver to attend the First 50-800 Championships. Kirk Kuykendall and I enjoyed the hospitality of the Denver Club. The racing was good and the wind went from 0 to 35 mph during the two days. When the results were in, I managed to take first with a Soling prototype from Vortex, with six wins in seven races. My only loss was to Scottie Shroff, sailing a Phoenix. He produces the boat that Ray Hottinger designed.

The Second Class Championship was held in Memphis, Tenn., and both the



The very popular Soling 50-800 manufactured by Vortex Model Engineering. Over 200 have been registered with the American Model Yachting Association (AMYA).

main sheet

By DON PROUGH

past and present Class Secretaries were there. The weather was light and lighter. Again the California group managed to stake its claim on the title and John Converse, of Vortex, took home the Championship.

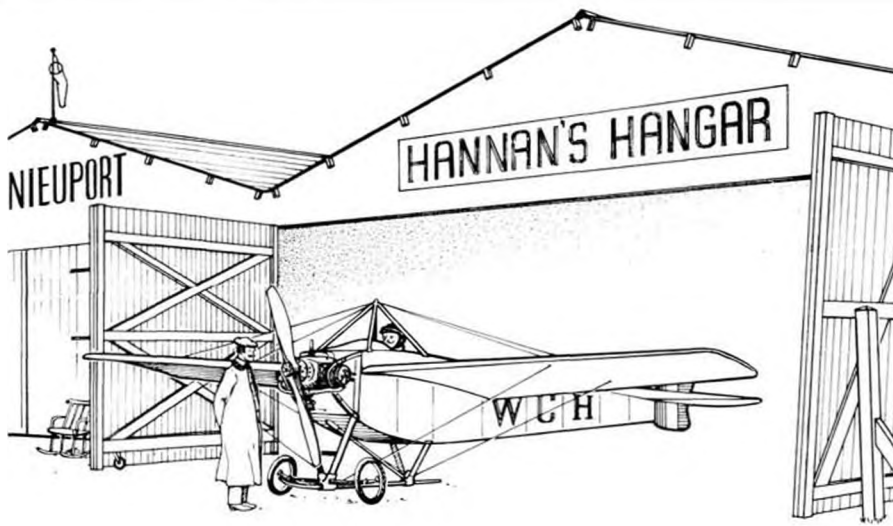
If the Spring Sail Regatta hosted by the San Diego Argonauts is any indication then the upcoming Championships should be a real test for the skippers.

The largest Sail Regatta for R/C took place in San Diego on April 21 and

22 with 67 model yachts entered. The largest entry Class was the 50-800's, with 21 competitors. I managed to sneak by Andy Littlejohn Sr.'s Boomer (his own design) and Alvin Smith's Soling for a first place.

The 36-600's put on a good show, with 20 skippers fighting it down to the wire. Bill Barton with "Equation", was first, second and third went to Bob DeBow (Starlet) and Chuck Black

Continued on page 49



... items found whilst sweeping out ye old aeroplane shelter.

A LITTLE AVIATION PHILOSOPHY

"No bird soars too high if he soars with his own wings." Blake, (submitted by J.D. Gillies, Scotland).

Juan de la Cierva, of Spain, was the inventor of the autogiro, and also quite a sage, as can be seen from the following: "We find new things by looking for them. Most of us are too incurious, too self-distrustful or too content with things as they are to make the effort"

Which sort of lines up with the thoughts of another great inventor, and autogiro enthusiast, Thomas Edison, who said: "There is no expedient to which a man will not resort in order to avoid the real labor of thinking."

Henri Rousseau (1844-1910) was famous for his landscape paintings, but was evidently something of an aero buff too. In a recent art collection brought from Russia, appeared a painting by Rousseau entitled "Zeppelins", which features a spherical balloon, an early dirigible, and an aircraft resembling a

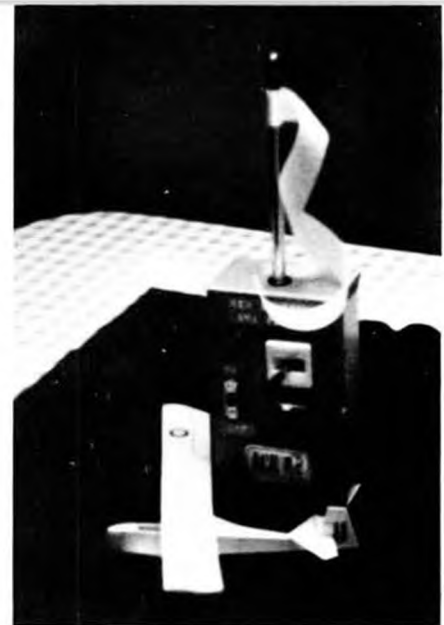
Wright Brothers type.

FINGER LICKIN' GOOD

Nothing more annoying than having rubber lube all over one's hands, unless it is having glo fuel and exhaust residue all over one's hands! Try using the inexpensive "Wash 'n Dri" packaged "towlettes". Some of the fried chicken emporiums give them away at no extra charge with meals. The type we use here at the hangar, after wiping down the 'ole Nieuport, measure only 2 x 3/4 inches in the package, yet unfold to 5 1/2 x 8. They are impregnated with some sort of liquid soap that does a good job of cutting through grease, etc. Everyone should keep a few in their field kits.

KITE TALES

Offhand, one might expect that it would always be windy in Washington, D.C., what with all the hot air in that vicinity . . . however, during a recent kite contest there, the only flier to successfully keep his entry aloft all afternoon was Bill Bigge, well known for



Peanut Scale Kirby Cadet glider with 11-3/8" span by Ken Simpson. Duplicate was inhaled by exhaust fan during indoor flight!

his blimp models. Bigge also currently holds the world record for largest total number of kites in the air at the same time. He accomplished that feat with a fleet of exceedingly small flexible plastic creations.

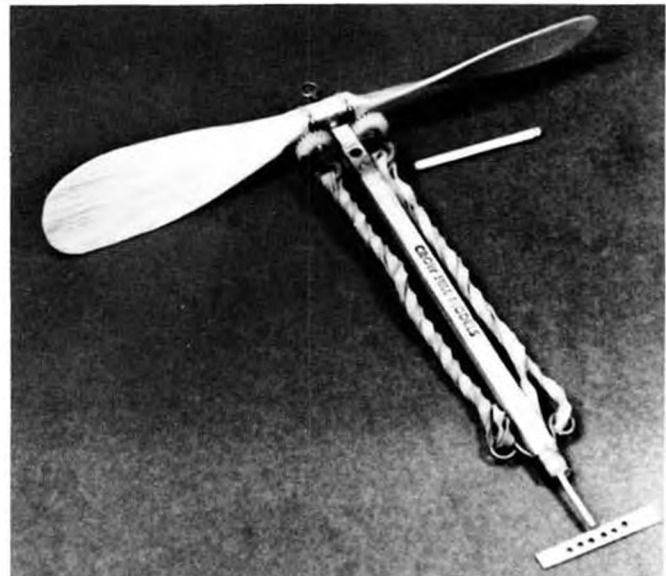
Here in the West Coast, Bill Watson was pursuing a similar sort of objective by SLOPE SOARING in the Santa Ana blimp hangar! Bill achieved this paradoxical distinction with an Escondido Mosquito which had been converted to a glider by replacing its prop with clay gallast. By moving a large cardboard box lid at exactly the right angle, speed, and distance underneath the model, Bill was able to sustain flights of about one minute duration. The only real limitation, in fact, seemed to be the endurance of the operator.

Bill also flew a model so tiny, that he was able to wind its sock-elastic

Continued on page 50



Stan Fink's one-man Peanut Scale winding rig is simply made from an old shoe box. Details in text.



Geared drive for rubber-powered models is new offering from Crow Hill Models. Good for short fuselage and keeping CG forward.



FUDO TAKAGI PHOTO

You'd think a modeler had called the shots on this one since it has such nice free-flight proportions. FH wheels are almost standard these days!

PEANUT GALLERY

This month we have expanded WALT MOONEY's department to include the PEANUT GALLERY, so that we may publish pictures of Peanuts built by some of our readers. This month's feature, the HUNTINGTON H-12, is another two-in-one model; the peanut on the next two pages, or the 19" span model from Plans Service.

● This is a model of one of the first homebuilt airplanes in the U.S.A. Not that all the first airplanes weren't really built at home, but this was designed after WWI and was actually intended to be built by amateurs. It used a two cylinder "V" type engine, undoubtedly out of a motorcycle. It was truly an attempt to obtain an airplane for a minimum first cost.

As a consequence of this effort it was built very simply and therefore makes a simple model. We have once again designed the model in a larger size, but in a format that will be reduced in the magazine to a full size PEANUT SCALE plan. You are therefore free to build a peanut Huntington H-12 from the magazine plans, or for a nominal price, you can purchase larger plans from the Model Builder Plan Service.

Both sizes of the Huntington have been built and both fly well. However, it would be dishonest to claim that the model wasn't tailheavy. Before it would perform a stable flight pattern it had to be ballasted to the CG shown on the plans and in addition, it was necessary to add the up elevator shown in phantom on the plans and in the photos. With these adjustments it was obvious that the nose of the model could have been made

stronger and heavier, so the plans were drawn this way. One side benefit from this modification is that a block nose as shown is easier than bending the longerons for the former built-up front end.

Construction of this model is as simple as a little box fuselage monoplane can be. Try to keep the model as light as possible while still retaining adequate strength. Most of the balsa should be medium for the sticks. The leading edges of the wings should be hard balsa or even bass

wood or spruce if desired. These are the part of the airplane that must survive the hardest knocks. The wing tips and the tail outlines were laminated. Use .012 by 1/32nd basswood. Three layers were used around the tail and five layers were used for the wing tips.

If you are a regular reader of this magazine you've read Fernando Ramos' articles extolling the virtues of the thin basswood strips that are available at model railroad supply stores. All I can



Beautiful little 13" span Boulton & Paul P-9, by Maj. E.F. Heyn (Ret). Wheels were heat-formed from acetate sheet. Power is a loop of 4mm Filati rubber.



Photo by Tom Hoyt shows Ken Johnson launching his Jumbo Scale (48" and over in span) Gee Bee "D." Erie Model Aircraft Association, Erie, Pennsylvania.

it dries, it will be quite taut. Coat the outer edges of a framework, such as a rudder or stab, and place it directly on the tissue. As soon as the glue has dried cut around the framework and repeat process for the other side. Obviously, a drawback to this method is that you have to have various sizes of frames in

order to accommodate several structures, otherwise you waste time and tissue.

The traditional method of covering is to brush several coats of dope on the framework. Tissue is then applied by applying thinner over the tissue, which softens the dope, permitting the tissue to adhere. This is followed by several

coats of dope around the edges prior to water shrinking. This takes a lot of time; considering that the process has to be repeated for each structure. So you can see why I prefer the first covering method mentioned.

Just for the heck of it, I timed myself to see how long it would take for me to cover and dope the Shark. Covering took about 30 minutes, alcohol shrinking about 15 minutes (each wing panel was done separately), and doping about another 15 minutes. Doping was also discussed by Walt Mooney, so I'll pass over this for now.

With all parts covered and doped, the Shark was assembled. In place of the machine carved prop that is furnished in the kit, I used a plastic prop of larger diameter. Both the prop and the thrust button were reamed to accommodate an aluminum bushing. This is to eliminate any slop in the prop hook or prop. A great deal of efficiency is lost if the prop is not running true. It is better to have metal to metal or metal to plastic rather than metal to wood . . . friction prevents good performance. I also use a teflon washer between the prop and a thrust washer to eliminate friction. A couple of drops of light oil on this whole assembly is recommended.

Making up the rubber motor is next. I personally like using SIG contest rubber. It is very consistent and can take lots of turns without the usual fear of breaking at the wrong time. For a model the size and weight of the Shark, 1/8 inch, or 2mm rubber will do the job. A question here might be, how long should you make the motor loop? The way I start out is to make the loop(s) 25 percent longer than the distance between the prop shaft hook and motor peg. I moisten the ends of the rubber in my mouth (This may cause your

Continued on page 53



The Shark glides in after a test flight, prop free-wheeling. Model is an excellent trainer for the beginning modeler, both in building techniques and flying adjustments.



One of Fernando's public school students, Steve Martlaro, demonstrates proper launching technique. With winder wound motor, you better be ready for a chase in the event a thermal happens along!



Bill Purtell winds his Unlimited model, Stan Colson holding, Mrs. Purtell in middle. Ship has won most every Unlim. event on East Coast for years.

FREE FLIGHT

By RON EVANS

● Two recent decisions which directly affect FF'ers were published as this is being written; one, to hold the U.S. Nationals at Oshkosh, Wisc., August 1-6, 1973, and the other, to hold the U.S. F.A.I. Finals at a non-central single site, most likely Taft, on the Labor Day

weekend, 1974.

In addition to the Finals site change, the Semi's flying process is new (15 rounds in 3 days in each event, instead of 8 rounds per event, all flown in one day, one day per event) and the Finals will be flown in the manner of past Semi's, but with only 5 flights per day, to select a team member. Each day's flying then yields one team member in each event. Both of these changes can be considered quite substantial, and for the FAI at least, quite controversial.

As far as a non-Navy Nats goes, this writer is fairly certain it will result in a better all-around contest. The site is larger than the Glenview N.A.S. which has hosted the Nats since 1970, and site size is of great importance to competing FF'ers . . . and the A.M.A. will have more latitude by not having to depend upon the Navy for any "favors". It will place a greater burden upon the Nats administration, but this has clearly been the case with even the last few Navy-hosted Nats.

The result of the new F.A.I. program does not get my approval quite so easily (for whatever that is worth!). Since the first "Central" F.A.I. Finals, fliers have questioned the validity of selecting our Team in the windy and/or strong thermal conditions typical of the Central U.S., The last 2 Finals at Albuquerque, New Mexico and Caddo Mills, Texas, did much to add fuel to this argument. Moving the Finals to Taft may indeed calm the

winds that caused so much trouble at the last two Finals, but I doubt if the thermal conditions will be drastically different from normal . . . normal for Taft, that is. Making the Team on the basis of 5 flights at Taft may provide an easier time with retrieval, but whether it will actually result in a team better qualified to compete in an European World Champs is open to question. And in all fairness to the Easterners who must cross the U.S. to compete, it seems logical that any Finals at Taft should be countered by a subsequent Finals in the East, right? . . . Wrong! No such proposal has been heard, nor is it likely to be put forth. Anyone having opinions on this subject is invited to submit them to Model Builder, but bear in mind that this is a family magazine. (And since Ron is a member of the family, submit opinions directly to him! Address appears later. — WCN). SAM-5 A/2 AIRFOIL . . . Part 2.

Since writing the SAM-5 article (July '72 Model Builder) I have continued trials with different wing sections. This was not a result of any particular dissatisfaction with the GF-6 section shown on the drawings; just the hope that there might be an airfoil a little bit better, somewhere. As mentioned in the text at the time, the CH 407 has potential, and in fact turned out as well as the best of my F 6's.

The model I used at the Caddo Mills Team Finals sported an aluminum nose,



Ken Oliver launching his FAI Power model. The ballet should have such form!



You can hardly find Bruce Hannah's field box in this photo, it's so cleverly camouflaged! Box houses fuel, stater, etc.



Sam Stallard, Montreal, Canada, with his "Lively Lady" at the "Great Grape Gathering" contest near Quebec. Prizes were bottles of wine!

sub-rudder (never again!) and the CH 407 wing section. Everything else was per plan, including wing and stab construction. In the event that you are looking for something a little bit different for your new Nordic, coordinates are enclosed. Other wing sections you might consider; the Drew "Lively Lady" airfoil, the B 6356 B (with string turbulator), the Thomann F-4, or the B 6456 F.

SLIDE SWAP

Most clubs have a pretty good backlog of contest slides, dragged out at the banquet or when attendance is lagging. Did you ever stop to think that what is "old hat" to you might be of great interest to some other club? For example not one member of my club (SCAMA) has ever seen a Class D gas job, other than magazine photos, but at a Southern Cal meeting it wouldn't be a real attention grabber. Get the picture? (That is a bad pun!) Also a few clubs have members who attend contests of great interest, such as Free Flight World

Champs or U.S. Nationals, but the slides never go past the next club meeting. How about a national swap? If you like the idea, and/or have slides to trade (temporarily), contact this writer at 83 Blake St., New Haven, Conn., 06511.

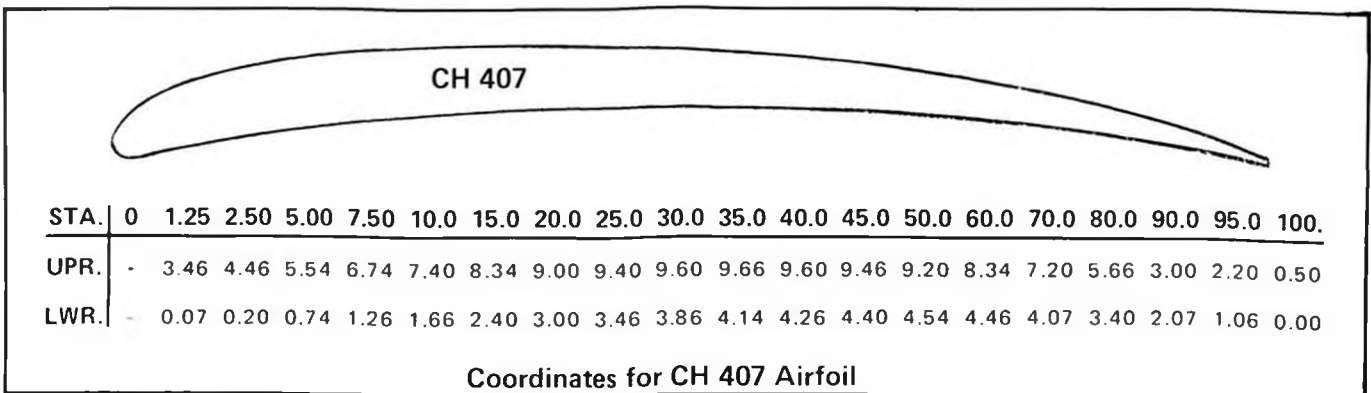
TRACK SHOES

Vic Nippert once wore a pedometer (human mileage indicator) to a typical Galeville trim session, and found he logged better than 10 miles on foot in one day. Are your feet trying to tell you something? With the walking and running that is so much a part of free flight, it will pay for you to look into a good pair of track shoes. Two well-known brands that this writer can vouch for are "Adidas" and "Pumas". Adidas may ring a bell; about 90 percent of the World's Olympic track men and women use them. A pair of either Adidas (model "Rom") or Pumas (Model no. 163) will set you back between \$15 and \$20, and they are worth every penny.

Continued on page 50



Our F/F Editor, Ron Evans, with SAM 8, at Galeville record trials. Where's your "Typical Group", Ron?



Coordinates for CH 407 Airfoil

SCALE 1/4" = 1"

5 PENNIES TIP WEIGHT

PLATE ONE

GRAIN RUNS VERTICAL ON 1/2" SHEET SPACER BETWEEN MOTOR MOUNTS. THERE IS NO PLYWOOD ON NOSE - TO SAVE WEIGHT, USE FIBERGLASS CLOTH AROUND NOSE-WING JOINT.

VECO 3 OZ. PROFILE TANK RE-VENTED

HOT .35 MOTOR ON SUCTION

MAPLE MOTOR MOUNTS 1/4" X 3/8" X 6"

9-7 PROP

1/2" Balsa NOSE FAIRING

3/32 M.W. GEAR

APPRX. WING AREA 340 SQ. INS.

Swamp Rat

A GOOD SLOW COMBAT THAT TURNS TIGHT, KEEPS LINE TENSION AND IS REASONABLY STRONG

CENTER SECTION PLANKING IS 3/82" SHEET

DESIGNED & DRAWN BY DICK MATTHEIS

1/2" SHT FUSELAGE

1/16 M.W. PUSH ROD

1/8 SHT. STAB & ELEVATOR

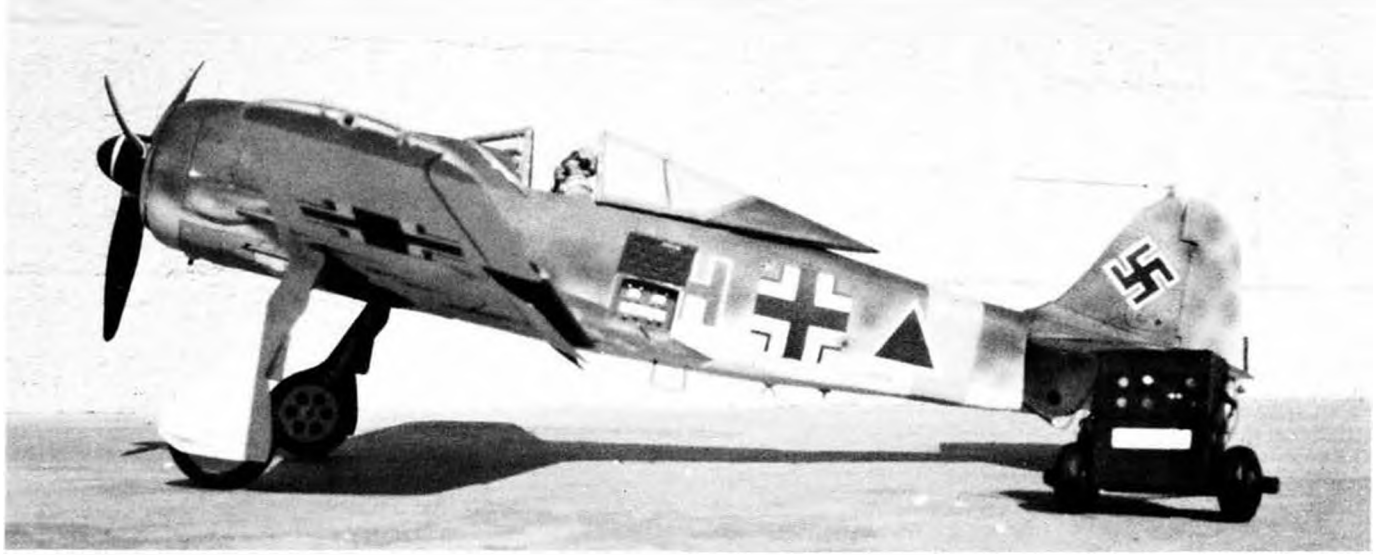
IF IT COMES OUT NOSE HEAVY ADD 1/16 PLYWOOD RUDDER -

GLUE ON SIDE OF BODY

HOLE FOR STREAMER

COVER WITH MONOKOTE

LEADOUT 3/4" BEHIND MAIN SPAR



Focke-Wulf 190 control-line model by Mike Fulmer features sliding canopy, functional access doors, even a scale auxiliary starting unit!

CONTROL-LINE

By DICK MATHIS and DALE KIRN

● This month, I have a sketch of our latest slow combat, which works OK. You can build one from the info given on the drawing, with a little ad-libbing of your own, and have about as snappy a slow combat as anybody. The important thing is having the shortest nose possible for better turning plus having a long enough tail moment and big enough tail for the same reason. Light weight isn't as important as strength in crashes, so don't spare the epoxy and glass cloth.

Next, we're developing a slow combat design to eliminate the two quickest ways to lose a match: The easiest ways to lose are to crash and not be able to continue because the wing is shredded, and, second, to run out of gas, and lose on air time. The answer, we hope, is a thin, solid balsa elliptical wing, and a 4 to 5 minute tank, instead of the stock tanks which are good for 2½ to 3 minutes. The tank will have to be specially made to give that much capacity, yet not be so long that the motor

ends up a foot away from the wing, making the airplane hopelessly nose-heavy. I think too much emphasis is put on attacking ability and not enough on simple stuff like defensive flying . . . and merely remaining airborne.

COMBAT THOUGHTS

The first combat meet in the Dallas (Snider Swamp) area transpired last weekend. It was supposed to be a small "fun" thing where everybody, beginners and pro alike, could get his jollies without being too serious. To the organizing club's amazement, it came to pass that it was a little more hot and heavy than that. The slow combat event was most popular and most spectacular. If this is a trend, we'd better come up with some rules quick so kit manufacturers can get with it and we can all have designs that will be legal when we go to out of town meets.

Slow combat is a pretty good thing for several reasons: First, you get more combat flying per match, since the pace

is not so fast as in regular combat, where you've had a long match if you're both in the air more than 30 seconds without colliding, crashing, or tangling lines. Second, a novice has a better shot at breaking in successfully at slow combat. Third, the technology of the airplane and motor is not as advanced as in fast combat. Fourth, the slow combat airplane is more pleasant to play around with, than a hot fast one, on Sunday afternoons when there is no contest . . . in other words, it's more of a dual-purpose thing.

Don't get the impression slow combat is dull, however. At the above mentioned contest, we saw virtually every kind of crash, fly-away, collision and cut that you could dream up, but at least, since they happened slower, the spectator and flyer could see what actually happened. The difference in speed between slow and fast combat must be 25-40 mph, and that is important.

Continued on page 52



Which head has the 1973 Cox Tee Dee .049/.051? The one on the right, but don't go by part numbers . . . they're the same! See text.



Proper way to remove Cox cylinder. DON'T stick wrench in exhaust slots or your piston will end up looking like a splined axle end!

FULL-SIZE SLOW COMBAT TEMPLATES

RATE TWO

WING LEADING EDGE
1/2 SQ HARD Balsa

USE 3" BELL CRANK
MOUNTED ON 1/8
PLYWOOD

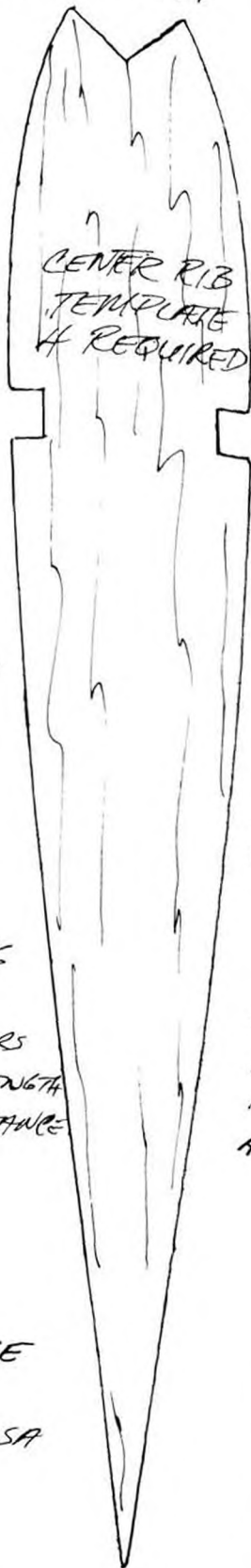
WING SPARS
1/4 SQ. HARD Balsa
OR SPRUCE

IMPORTANT - ROUND
LEADING EDGE
VERY BLUNT.

BE SURE TO
FASTEN COVERING
MATERIAL TO
ALL RIBS & SPARS
FOR ADDED STRENGTH
AND WARP RESISTANCE

WING TRAILING EDGE
3/32 X 1/2 X 36
"C" GRAIN HARD Balsa

MAKE SURE WOOD IN WING
IS HARD - LET IT BLOW UP
WHEN YOU CRASH! - FAST RICHARD



CENTER RIB
TEMPLATE
4 REQUIRED

NO THRUST
OFFSET
REQUIRED

SPACING
BETWEEN
RIBS
IS 4"

WING TIPS
ARE 1/8
SHEET

ALL RIBS
ARE 1/16 SH T
"C" GRAIN HARD
Balsa

WING WARPS
MAKE IT
FLY FUNNY
AND SLOW IT
DOWN!



MAIN RIB
TEMPLATE
8 REQUIRED



FALSE RIB
TEMPLATE
8 REQUIRED

ALL RIGHTS
RESERVED
4-5-73



A Fox (not Duke) car, the author's 1234 custom, and an old McCoy spur car (l to r) wait in line at Whittier Narrows track.

TETHERED RACERS!

By TED MACIAG . . . The T-Cars are still at it, and once again growing in popularity. Dooling engines are finding a firm challenge after all these years from the Italian OPS. Keep an eye on them.

● This is shaping up to be the year of the Dooling versus the OPS. The OPS engine is already making its mark in the model racing world with several European car and airplane records. Last fall, an OPS powered custom car owned by Franny Wolf broke the world cold fuel record with a speed of 155 MPH, but the record was protested because of problems in calibrating the timer. However, there is little doubt that the car is capable of that speed and even more. Phil McDonald put an OPS in his already fast custom car and turned a 158, which is just a fraction off the track record at Anderson, Indiana. Phil used some of his super hot fuel for his run.

The race car people still have a lot to learn about pipes. Once these and the tire problems are solved you can look for a large increase in speeds. The OPS engines are also finding their way into other classes of cars, such as the Dooling Arrow, for running in the Class II or manufactured class. Jim Pattee has put one into an old Papina car for running in Class IV. When he gets the fuel problems sorted out, and if the antique car holds together, it should challenge the Arrows with speeds in the 140's. Only a few years ago the Class IV cars were considered the "dog" class with

speeds of 100-110 MPH being a good run.

The OPS looks like the wave of the future . . . if we don't run into parts problems and monthly model changes as with other Italian engines.

Heading up the old guard with the Dooling powered cars are Lloyd and Roy Torrey who swap the "all out" custom class record between themselves. It is only natural that they and some other top contenders should prefer the Doolings since they are still winning with them, but the newer people with the OPS cars are hot on their heels.

As with full scale racing, increases in power must soon be followed by improvements in cars and tires, since added horsepower does no good if you can't get it to the ground. The tires that we are using now were designed over twenty years ago and are going to have to be improved in the speeds are going to take the large jump that the increased horsepower allows. European tires and wheels are being tried as a possible answer but I feel that a whole new approach is going to be needed. With all the new modern materials being developed it is only a matter of time until better tires are found. They will work until more power is found and then the cycle will begin again. The old tires and



Cris Lupo whips cable to help car get started, then jumps on platform until run is finished.

wheels are great for speed plane dollys, so if you have any in the darker corners of your workshop, don't throw them away.

MONTHLY RACES

The regular races at Whittier Narrows in California are now having a turnout equal to the yearly national races only a few years ago. There is experimentation with new ideas and refinement of the older cars which is evidence of the revived interest in what is considered by participants as the most sophisticated of all the branches of modeling.



Franny Wolf (Franny's Chrome) and his trophy winning OPS powered car. The OPS is making its way into many phases of the racing hobby.



"My Daddy smokes OPS's!" Jim Pattee and his OPS powered Papina. R/C Pylon folk should drop by and take a sniff at the fuel some of these T-car guys are running in their engines.

Because of the recent increases in speeds and the trend toward heavier cars, the cable size has been raised from .051 to .059. This is the size of landing gears on smaller U-control planes! The increase drag of the cable slowed the cars down, with everyone losing 3 to 5 miles per hour from their usual speed. However, I feel that this will be only a temporary loss and the speeds will soon be climbing again. The discussion now is whether to have a light car and let the heavy cable bow back during a run to shorten the radius of the track, or to use a heavy car and hope that the cable won't affect it as much.

In the February race at Whittier Narrows, disaster struck both of the cars that we brought to run. On the

Dooling powered custom car, a wrist pin pad was pulled out of its usual position and sucked through the transfer port, destroying the beautiful split ring piston. This piston had two half thickness rings in each groove which may not have helped the speed but gave a great psychological advantage. The OPS powered Arrow shredded out the gears on a slow break-in run, so there is a lot of car work ahead for us.

Ralph Flaaten ran his old McCoy spur car. These flat, rather strange looking cars are front wheel drive, and if running properly have only the inside front wheel touching the track. This was thought at one time to be the most efficient system, but losses in the drive train and the fact that they are hard

to work on have kept down the speeds for this type of car.

There was a lot of talk at the track about building smaller .15 and .29 powered cars to compete with the Europeans in the upcoming 1974 World meet. Ed Baynes has a .29 car and Jerry Klien knight is starting on one to be powered by the new K&B 15. These smaller cars should become more popular because of the lesser cost and the availability of some really hot engines.

FLYWHEELS

To a lot of people running boats and cars, flywheels are just a convenient place to wrap a starting cord or mount a gear. Actually, the flywheel has a very important place in the drive train from the crankshaft to whatever is powering the craft; be it wheels, marine screws or helicopter rotors. When an engine is running, the power is produced only during a small portion of the rotation of the crankshaft, the rest of the time something must carry the working parts around for the next power stroke. You might say that the horsepower is stored in the mass of the spinning flywheel until the next power portion occurs. The flywheel should always be mounted on the crankshaft and not on the driven gear or after a universal. When the gears are operated the ragged edge of destruction, as our car gears are, they would never hold together under the

Continued on page 51



Garold Frymire checks a tire on his own design custom car. Note air intakes.

● Modelers spend a great deal of time designing, building, and trimming models which, when flown properly, will stay in the air for the maximum time. They drive hundreds of miles annually in order to fly their creations in competition. There are many good models and the flyers who win are usually the ones who can avoid losing. That is, the competitor who can fly all day without making costly mistakes will generally be successful.

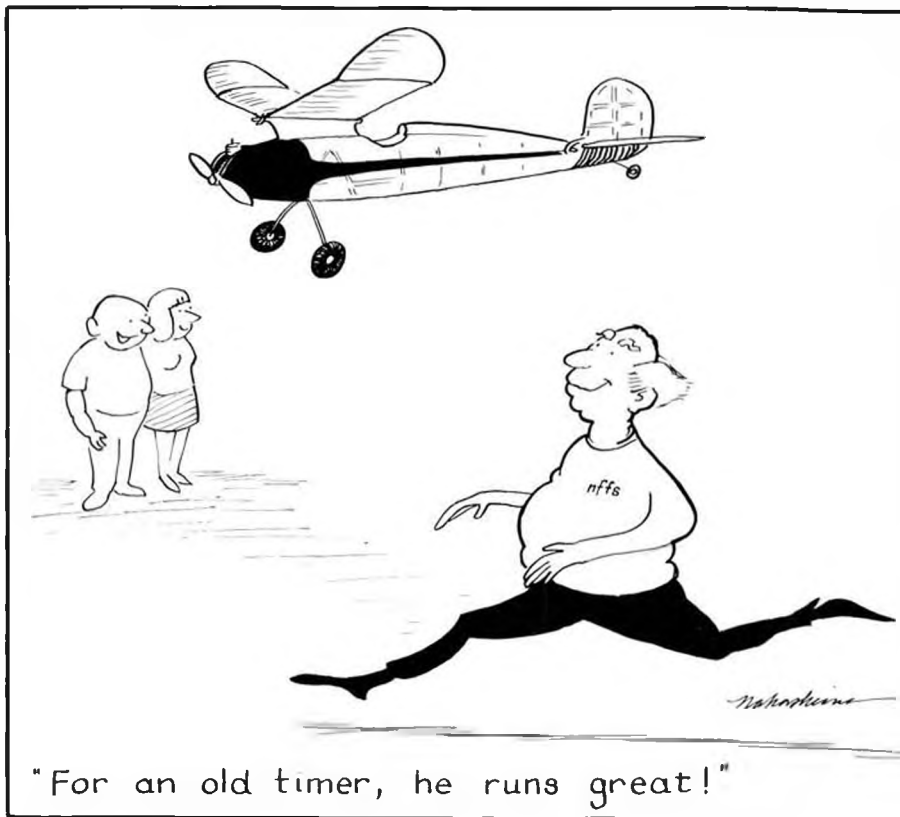
The value of a high level of physical fitness for Nordic and hand launch glider flyers is obvious. However, flyers in other events might also do well to consider their physical condition. It can be very rigorous to fly in a model airplane contest. Fatigue takes the pleasure out of flying, and adversely affects physical performance. When one is tired, it is difficult to concentrate, attention span tends to be shortened, and mistakes are more likely to be made. In short, a fatigued flyer is likely to make the dreaded "bad flight".

Good planning can help to eliminate fatigue. Get plenty of rest during the week preceding the contest and especially the night before. If it's necessary to drive a long distance to the flying site, arrange for suitable accommodations before leaving. Some flyers can do just fine sleeping in their cars, while others need the convenience of a motel room in order to get adequate rest.

The average person is not active enough in his daily living to maintain an acceptable level of physical fitness. Therefore, he is likely to tire more easily during a contest. If this is the case, it is advisable to plan a daily exercise program. The type of program will depend on the needs of the individual.

Some ideas to consider:

1. It is wise to consult a doctor to see if there should be any limitations to vigorous activity.
2. Decide what is to be accomplished: lose weight, improve cardiovascular efficiency, improve strength, increase flexibility, develop coordination (strength, flexibility, and coordination are important factors in throwing a hand launch glider.)
3. Set up a regular workout schedule. It is easy to decide that you don't have enough time. However, if you believe in the value of physical fitness, it is not very smart to consider other things more important.
4. Establish goals and then plan a program. Remember, there are no short cuts. Cardio-vascular efficiency can be improved through exercise by raising the rate of the heart beat well above



PHYSICAL FITNESS FOR MODEL BUILDERS

By Bob Isaacson

Building a model to win is only half the game. If you aren't in physical shape to properly launch, chase, and retrieve that F/F bird you're not giving it . . . and you, the chance you both deserve. Be prepared.

normal for extended periods of time. Activities include jogging, running in place, swimming, bike riding, and vigorous games such as badminton, handball, and tennis. Calisthenics, weight lifting, isometric exercise, golf and other slower games are not as good for cardiovascular conditioning because they do not require vigorous activity for extended periods of time. These activities are good for improving flexibility, gaining strength, and developing coordination.

5. Start slowly. You can't get in shape in a single workout. You are less likely to get stiff and sore if you gradually increase the amount and intensity of your workouts. However, you must be willing to work through periods when you are a little uncomfortable.

6. Working out on hard surfaces is very hard on the back, legs, ankles, and feet. A jogger should try not to run too often on sidewalks, streets, or hard running tracks. Grass is much softer.

7. Try to find someone to work out with. Pick a partner who is about as fit as you are. If he is able to perform much better than you, you are more likely to become discouraged and quit.

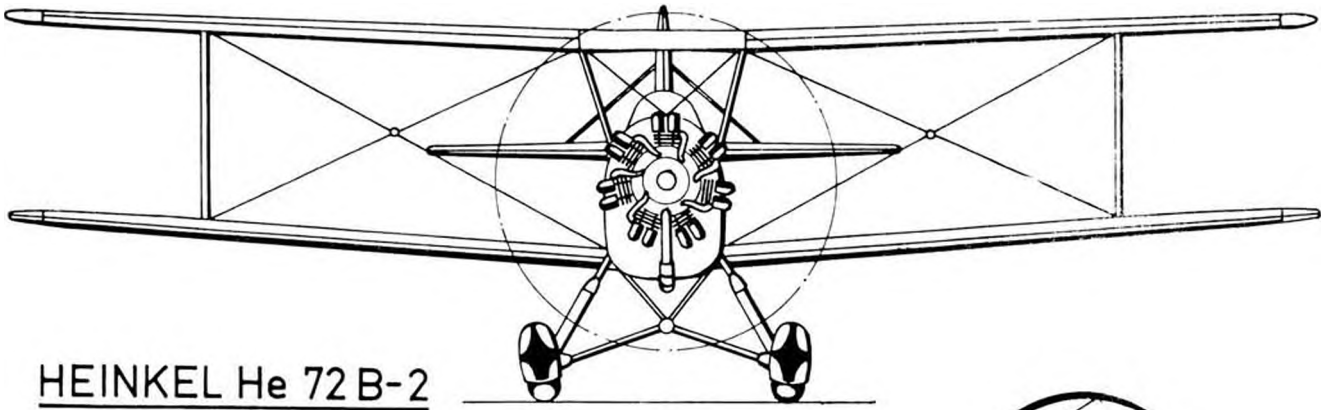
8. Pick activities which are interesting or fun. Some people find it very challenging and relaxing to go out alone to jog three miles. Others hate to do anything unless it is a game.

9. Obtain good equipment. This is especially true of footwear. It is foolish to try to jog in combat boots or to play tennis in sandals.

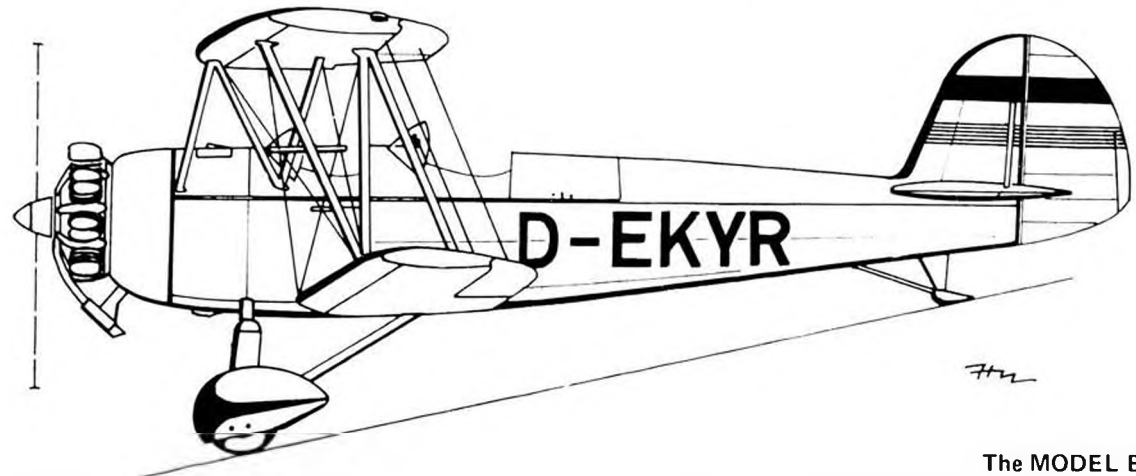
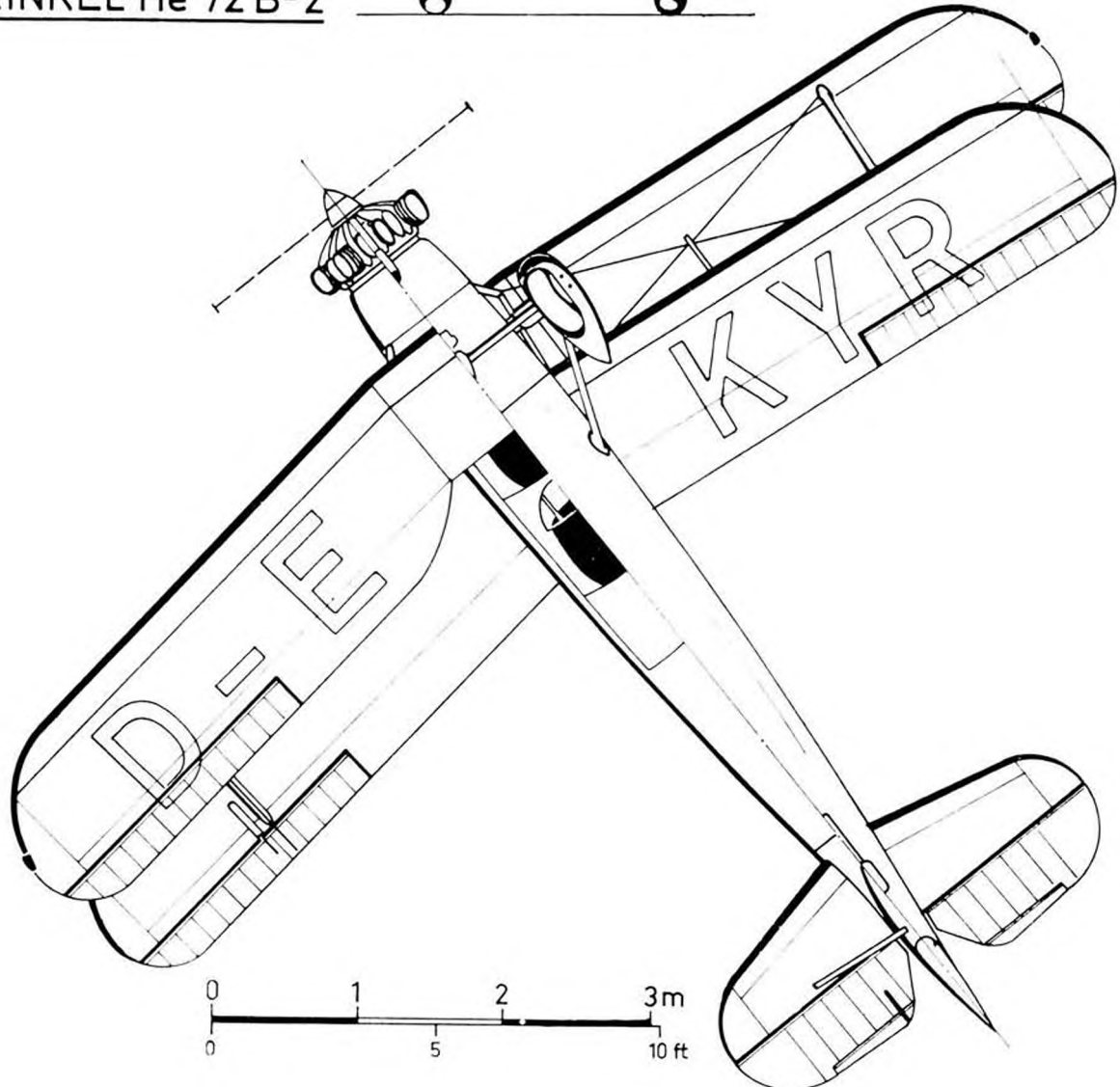
10. Always warm up slowly before taking part in any vigorous activity. Also, cool down slowly after vigorous activity.

11. The day following an especially hard workout, it is advisable to ease up a bit on the intensity of activity. This will help to prevent soreness.

12. If help is needed in planning a workout program, check the local high school, college, or recreation department for a physical fitness class. Read Dr. Kenneth H. Cooper's book on aerobics. (Dr. Cooper provides charts for numerous activities which show exactly how much workout is needed to keep fit. He also includes various graduated workout programs for people of varying degrees of fitness, and includes a simple test to determine an individual's level of fitness.) ●



HEINKEL He 72 B-2





HUNGERFORD SPOKE WHEELS

A "must" for vintage model aircraft

Available in many sizes for small indoor types, control-line and small R/C. Send stamped envelope for complete list.

- Dealers inquiries invited ●

FH WHEELS - 1770 Lilac Circle
Titusville, Florida 32780



Marlow
Kits and Accessories
for Creative
Modeling
At your local dealer

MARLOW ENGINEERING
6850 Vineland
North Hollywood, Ca. 91605

ably in a wide left-hand circle with a right glide. Adjust glide circle with rudder, power circle with engine thrust changes. Ailerons may be dropped on "low" wings to bring plane into safe bank attitude. It is capable of beautiful R.O.G.'s, but may take a bit of a breeze blowing over the fin/rudder area to keep it from ground-looping.

DETAILING

Most details are better left until after test-flying damage is repaired. Save vacu-formed louvers, hypodermic white-glue dot "rivet heads" etc. until last. Color-doping before test flying is a waste. Clear dope will do. Finish plane only when you are satisfied that it is "ready for action".

FINAL NOTE

This plane should be considered "semi-scale". Many liberties have been taken to make it rugged, flyable, and easy to build. A "Superscale" model of this aircraft would be a joy to behold, but would give you ulcers crashing about in nasty flying conditions. Hang glider pilots recommend that you never fly higher than you would be willing to fall; I recommend that you never put more work into a scale model than you are willing to see go down the drain in one bad flight. Don't get discouraged, though. The Waco is gorgeous, it is forgiving, and as model subjects go, it exudes sex. Who can resist?

NOTE: Although the model now resides in Russ Barrera's Model Museum in San Marcos, the subject ship was destroyed some months ago when a crank let go, allowing the prop to slice through the cabin. A sad end to a beautiful matron of the North Las Vegas skies. ●

Pylon Continued from page 13

Our thinking is that this is supposed to keep the "Hot Specials" from competing! "Stock" means that an engine is set up exactly as the manufacturer specifies within his production tolerance rating. In most cases, this will still allow "Reworking". Remember now, even after the engine has been reworked, it can still remain within the specification, and thus still be considered "Stock".

The two major custom engine manufacturers are George Aldrich and Clarence Lee. They both have assured us that their engines will perform and yet be "Stock" by adhering to manufacturers' specs. If these people can make engines perform better . . . idle, top end, etc., and still be legal . . . good!

Our thinking prior to this was that the engine should be used as is, out of the box. This way of thinking would be great if everyone was perfectly honest.

Waco Continued from page 11
hollowed out block is adorned with angled platform for Kraft-Hayes beam motor mount. Use thin "tin-can" soldered nut-plates behind K-H firewall mounting. Actually, the amount of down-thrust shown on the plan could be increased by a degree or so. This was not possible on the original, as I had the dummy motor in the way of major adjustments, but it would improve the flight characteristics. A bit more right thrust might also help. Plywood gussets for the landing gear wire attachments are recommended.

INTERIOR

Lordy, Lordy, if you've never tried covering an airplane on the inside you are in for a treat! Silkspan cover inside to represent white naugahyde. Seats are vacu-formed (Mattel) to save weight. Window cranks and minor hardware are made by soldering a blob on a pin and filing to shape. The panel, which took about 20 hours to make, consists of a drilled plywood (1/64 inch thick) facing followed by a thin acetate sheet covering the instrument faces glued on a stiff balsa backing. The whole thing was held together with tiny flush model railroad screws. Some of the instruments were photographic reductions, while others, such as the radio dials, were made from artists scratchboard (available at art supply houses). Placing a tiny, folded map in the map pocket on the back of the pilot's seat and "sewing department" seat belts with heavy aluminum foil ends are nice additions. "Planting" wee plastic model railroad bolt-heads at appropriate points also catches the eye of the experienced scale judge.

The windows are mounted in thin frames of steamed veneer by flowing thinned, clear cement or dope around edges. Coating the frame first with cement, allowing to dry, and then mounting acetate window panes with film-splicing cement also works well. Take extra time and whittle windows to fit

"just-below-flush".

EMPENNAGE

A removable tail-block is keyed into the rear of the fuselage and held on with a metal screw. The stab moves as an entirety, as does the fin/rudder. Moving just the elevator or rudder is much less efficient as altering the shape of the surface reduces its docility. Movement right or left of the fin/rudder pivoting on its vertical 1/8 inch hardwood dowel is accomplished by a nylon screw with its head caged in nested aluminum tubing working a nut affixed to a wire attached to the leading edge of the fin. The up-and-down movement of the leading edge of the stab is accomplished by two nylon screws in nuts epoxied into the tail block pushing the L.E. up against a couple of small coil springs pushing down on it from above. These screw adjustments are, in my view, the best approach to field adjustments for flight trim.

POWER/FLYING

I recommend that the model be flight tested only after extensive measurements of incidence angles, alignments, and de-warping of flying surfaces. Keeping wings at all times bound to 3/4 inch plywood boards to keep them flat is cheap flight insurance. Bind them down right after doping and keep them flat by constant inspection and de-warping over heat (twist in opposite direction from warp viewed along underside of wing or stab). For power I recommend a diesel. The .06 (1cc.) Rebell Diesel which carried the Waco was 10 years old when installed. Having gone from California dry sunshine to Chicago rain with a two week interval, the diesel started on the first flip. If an .06 is not available, a hot .049 or an .09 with a throttle would do, I think. An easily-removable cowl of fiberglass held on by 3 vinyl grommets pushed over aluminum stubs coming out of the firewall allows easy access to the motor.

The Waco seems to fly most comfort-

The Great Age of Sail . . . Lives Again in these Authentic Scale Model Kits

THEY'RE EASY TO BUILD

We know it seems unbelievable, but it's true. New techniques in the heretofore difficult rigging installation and ratline making, are simplified so that almost anyone can produce a craftsman-like job. Density selected prime balsa wood is a real pleasure to work with, and the step-by-step plan is simple and complete.

THEY'RE COMPLETE*

With machine carved hulls, that require only a little trimming and sanding. Kits include many finely detailed cast metal fittings (as required for each kit) such as: Cannon, Life Boats, Windlass, Anchors, Steering Wheel - Wheel House, Water Cask, Lights, Stern Castles, Figure head, etc. Brass Chain, Black and Tan rigging line, Printed Cloth Sails, Decals, Display Pedestals and much more . . .

* Dry Kit, paint and cement not included.



USS FRIGATE
CONSTITUTION
KIT G2 — Length 11"



SPANISH
GALLEON
KIT G1 — Length 10"



SCHOONER
BLUE NOSE
KIT G3 — Length 11 1/4"

THEY'RE UNIQUE

Because such amazing detail and authenticity is achieved in kits that are relatively easy to build. Plans include full size, as well as assembly drawings for each step of the way. Authentic color scheme shows on full color kit box lid.

THEY'RE HISTORIC

Plying the Spanish Main, the Galleons carried the treasures of the New World back to Spain. Outfitted with cannon they were used both as merchant men and warships . . . The Blazing Guns of the *Constitution* helped to establish our Nation. Now enshrined in Boston Harbor, it is the oldest commissioned vessel in the U.S. Navy . . . Built by Angus L. Walters the *Bluenose* was one of the finest Schooners to take the water. It came to world-wide fame racing against the *Gertrude L. Thebaud*. *Bluenose* captured the hearts of U.S. and Canada to such an extent, that today it is on the back of every Canadian Dime.

THEY'RE ONLY

6.95
ea.

- CARVED WOOD HULLS
- CLOTH SAILS
- CAST METAL FITTINGS

AND THEY'RE AT YOUR DEALERS NOW

GET OVER AND SEE THEM . . . BUY ALL THREE!

You don't have to STAND OFF to admire this

CITABRIA

SPECIAL THANKS

The beautiful Citabria is manufactured by one of the oldest and respected names in American Aviation, The Bellanca Corporation, who so graciously provided us with the plans, photos and details of the full size aircraft. With this illustrious lineage, it is not surprising that the Citabria is just about unbeatable as a fun plane. Primary trainer, or for Aerobatics.

CITABRIA IS FOR YOU

If you're a Sport Flier, if you have a feeling for Scale, if you love R/C*, then this is your ship. It's a beautiful machine that builds easy — goes together fast — plenty of room for any equipment — rugged for hard use — flies great — and is just about the right size.



Span 54" Area 415 sq. in. Length 36" For Engines .23 to .35 Scale: 1.61" Equals 12.0"

ABOUT THE KIT ITSELF

This kit is a real joy . . . Balsa Wood is the finest grade, density-selected and sanded to micrometer tolerance; as is the imported Finland Birch Plywood. Every part is numbered to insure fast and accurate assembly as shown on the easy step-by-step plans.

* Can be flown Control Line too—instructions on plan

THE FUSELAGE

Fuselage sides are die cut full length. Cabin sides and inner doublers are plywood as are the firewall and landing gear bulkheads. It's easily assembled with die cut balsa bulkheads, nose block, formed music wire landing gear, custom dural engine mounts, etc. Cowling and wheel pants are rugged plastic.

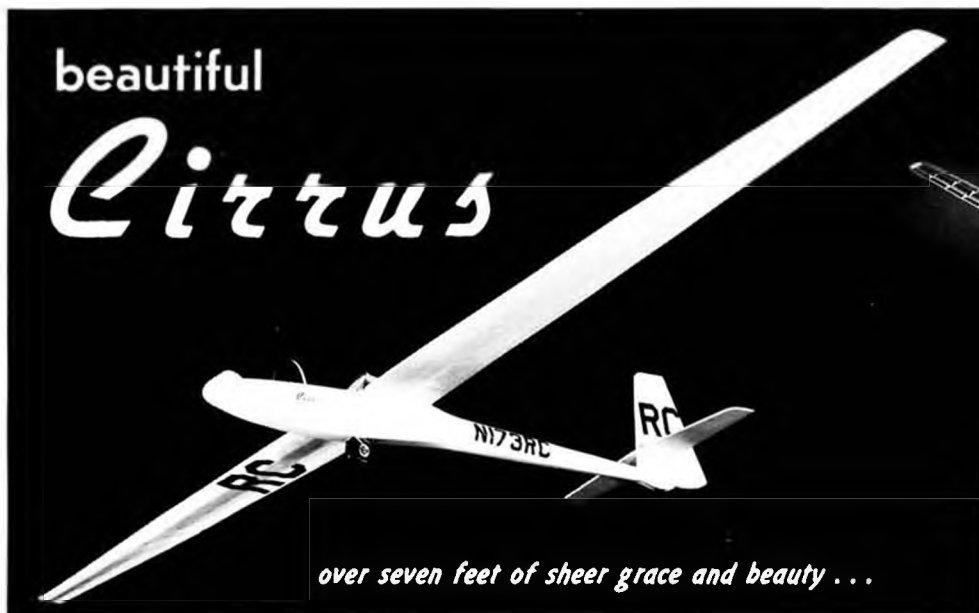
WING AND TAIL SURFACES

Complete wing is built on work bench without having to remove it—so it's flat and warp-free. Parts are die cut and carved. Balsa sheet cover makes for tough wing. Wing is installed like it ought to be—with dowel pins and nylon screw in wood nut-block. No unsightly rubber bands to deteriorate,

break or slip. Rudder and Stab are die cut sheet for simplicity and no warp. Included is all the linkage hardware: pushrods, aileron and elevator horns, bellcranks, clevis, connectors, etc., plus giant authentic decals, plastic windows, etc., etc.

STRUCTURE

Frame Photo reveals the excellence of the design engineering of the kit. Although structure is relatively simple, it is one of fine detail and great strength.



over seven feet of sheer grace and beauty . . .

SPAN: 87 $\frac{1}{16}$ "
LENGTH: 37 $\frac{1}{4}$ "
WEIGHT: 12 oz.
SCALE: 1.5" Equals 12.0"

KIT E7
10.95

GREAT FLIGHT PERFORMANCE

A real soaring machine is this model Cirrus. Eiffel 400 soaring wing section seeks out and takes full advantage of every thermal current. Can be flown Tow Line - Free Flight, Single Channel or pulse R/C for Slope and Thermal Soaring. Large Cockpit area provides ample room for R/C Equipment.

A FINE KIT

Top quality Balsa used throughout. All parts accurately die cut and numbered to insure fast accurate assembly, as shown on the detailed plan. Also included are shaped trailing edges, finished nose cone, giant clear canopy, authentic decals, full size plans with step-by-step drawings and instructions, etc.

STERLING MODELS • BELFIELD AVE and WISTER ST • PHILA., PA. 19144
If no dealer available, direct orders accepted—with 10% additional charge for handling and shipping. 160c minimum in U.S., \$1.25 minimum outside U.S.)
 Catalog of entire line of airplane control line model kits, R/C scale and Trainer kits, boat model kits, accessories, etc. 25c enclosed
 Secrets of Model Airplane Building—Including design, construction, covering, finishing, flying, adjusting, control systems, etc. 25c enclosed.
 Secrets of Control Line and Carrier Flying—Including preflight, soloing, stunting, Carrier rules and regulations, Carrier flying hints and control line installation instructions. 25c enclosed. No checks. Only U.S. money orders or currency accepted.

Name _____
Address _____ City _____ State _____ Zip _____



AVAILABLE
IN CANADA



PATTERN FLYING!



FREE FLIGHT!



FLY WITH **K&B** .40's

K&B .40 R/C "Series 71F" W/FRONT ROTOR

The K&B .40 R/C "Series 71F" has been engineered with power to spare. Others have tried to duplicate its performance... none have succeeded! Ideal for that beautiful scale airplane or pattern plane; it provides all the thrills and performance of the "big jobs." No engine in its size class offers better control, from top speed to idle. Instant response is achieved through an exhaust valve control linked to the specially designed Perry Carburetor

*Power to size ratio

\$37.00



K&B .40 "Series 71F" W/FRONT ROTOR

The K&B .40 "Series 71F" is a standard version of the K&B .40 R/C. It is the same powerful engine, less the Perry Carburetor and Exhaust Valve Control. Both engines feature K&B's exclusive no tension, single ring and aluminum piston and a hemispherical head machined from solid aluminum bar stock. For Free Flight at its best, power your model plane with a K&B .40 "Series 71F" with front rotor.

\$31.00



See the complete line of K&B engines at your favorite hobby shop.



K&B MANUFACTURING

DIVISION OF AURORA PRODUCTS CORP.
12152 WOODRUFF AVE. DOWNEY, CALIFORNIA 90241

The word RACE will see to it that there will always be some who will do anything and everything to try and win! I guess this is only natural because it happens in any kind of competition. We now say, "If the engine will idle for 10 seconds, hands off... wheels (all of them) free rolling, and on smooth pavement, have at it!!!" As the rules read now, there are some engines that are "out-of-the-box" stock and some that are "Reworked-and-still" stock. If you want to win, you had best be in the second mentioned group! We would like to hear your comments.

The NMPRA National Championship

Race Schedule has been selected! For Formula I, the 1972 National Championship will be held at Mile Square, Fountain Valley, California, Nov. 22-25. The 1974 Championships will be at an FMPRA selected site in Florida. The 1975 Championships will be held at Corpus Christi, Texas. The Southern California district will host the 1973 race. Chuck Smith is handling the pre-contest planning. This "Tournament of Champions" will have the top twenty or twenty-five percent of each district represented.

It appears that 1973 will be the year of the engines in Formula I. Here are the latest facts and rumors:

1. George Aldrich now has available the OPS ABC RV Racing 40, with side exhaust. A rear exhaust version will be available later in the season.
2. RAF. Jack Frye, of Englewood, Ohio, sends us word that his RAF ABCD engine is now ready and will be competitive for the 1973 season!
3. John Maloney, of World Engines tells us that the new Supertigre X-40 will be ready for the summer season.
4. K&B hints that there may be some more Racing 40's produced before the Nats.
5. Rumors are flying that there will be a ROSSI 40 very soon! Mercy!

These are just a few choice stories that have been floating around!

Reference is made to the drawing of the Supertigre X-40. There have been quite a few minor changes made since this preliminary drawing, however, the basic mounting dimensions and size of the engine are reasonably correct. This should give you Supertigre lovers a chance to see whether or not your plane will take it! Good luck with that rear exhaust system!

The rear exhaust system will definitely cause problems in the design, location and vibration of exhaust ducting. Last season we used an RAF in a Stafford Minnow. Although the engine finished every race entered, it was not competitive and encountered many problems with rear exhaust vibration and ducting, not to mention pilot vibration! A probable solution is to incorporate the exhaust system in the aircraft, with the engine assembly completely separate, as in some Rossi 15 powered free-flight versions. Side exhaust, currently, seems more desirable from a building standpoint.

The Formula I season will be underway by the next issue. Full race reports will be forthcoming. GOOD LUCK!!!!

Mexico Continued from page 23 with "pie"), and the Open class, named a "Thompson" race, and sponsored by Enrique Velasco, one of Mexico' largest hobby dealers, importers, and manufacturers of a line of excellent model products distributed under the brand name of "Ciclón".

There are a few rules in the Open class: engines of .40 or less displacement, landing gear, cockpit with pilot, and some realism is desired but not enforced.

Prior to the beginning of the races, the contest site had the usual atmosphere, screaming engines, the last minute test flights and general rush always seen at such

times. Only this time the events were highlighted by the presence of a team from Mexico's Government Television Station, Channel 13, which was filming material for a series entitled "The Fascinating World of Aviation", scheduled to start May 1st. As the winner of the only already completed racing event, Bob Root was interviewed, filmed, and will doubtlessly be presented to Mexico's TV audience as "the Norteamericano with the winning ways."

The first race of the day set the pace for the entire day: fast airplanes, good flying and lots of the general excitements of racing. This first race also saw the only sour note of the contest. It came about as a series of unfortunate circumstances, probably none of which could have been prevented, but which we must all heed as a warning.

It was the end of the first race, pretty much a clean sweep for Bob Root, who pulled up into a perfectly executed three turn vertical victory roll, cut the engine and set himself up to land. At about the same instant, one of the other flyers had engine failure, downwind, and extremely low. In his attempt at a downwind landing, his airplane struck Bob on the upper part of left arm, from the rear. It was a scary few minutes for all of us but not at all serious. I have since heard from Bob and Kathy after their arrival back in Washington, and all is well.

That it could have been much worse is evident. That absolutely no one is to blame is also evident . . . and this I am convinced of, since I was on the runway as an interpreter/assistant to the Roots. The lesson I learned, and one which I will pass on to you racing bugs, for what it's worth! Signals. Not only the Readeeee . . . TURN signals, but a DUCK LEFT-DUCK RIGHT-DIG A HOLE, or something that you as a team have practiced for in such an eventuality. Had we previously practiced this, I believe I might have guided Bob out of the airplane's path.

Another lesson I learned is that if I ever take up drinking seriously, I'm moving to Mexico and will make a practice of being run into by airplanes. Prior to the mishap, and all during the contest, there were no more bottles insight than you find at the neighborhood AAA meeting. Yet, after we all got calmed down again, Kathy's comment was that if they had had every drink that was offered to them they would have stayed bombed all the way back to Seattle.

With Bob, almost a sure winner, out of the race, the FIA (remember, in Mexico, you pronounce it) First, Second

and Third places went to Manuel Sierra, Roberto Mathelin, and Salo Feiner. Just to keep it all in the family, Roberto took home a most attractive plaque, donated by his father, Gaston Mathelin, owner of Mathelin Modelismo, of Mexico City.

Winners of the "Ciclon" Trophies for Open Class were: First, Salo Feiner; Second, Luis Castaneda; and as a very pleasant surprise and welcome change, Third place was won by 17 year old Horacio Berruicos, also of Mexico City.

The tremendous trophy seen in one of the accompanying photos is also donated by "Ciclon" and requires three wins in the Open Class to take home. There have been two previous two-time winners, but neither one made it the lucky three this year. I have mentioned in earlier contest reports that our South-of-the-Border flying friends are gung-ho competitors, right down to that last inch under the checkered flag. Yet, an almost unbelievable spirit of friendliness prevails. As an example, one of the mentioned two-time winners for the "Ciclon" trophy was offered the only K&B Schneurle 40 in Mexico, by one of his competitors, to give him a better chance at that big chunk of hardware.

The other U.S. contestants, not previously mentioned were Henry Bartle, of Huntington Beach, California, and Jerry Krause of EK Products, Hurst, Texas.

All in all, we, the U.S. contingent had a lousy time. It is really terrible place where you are forced to survive in accommodations not unlike to Beverly Hilton . . . you are almost always uncomfortable from being overfed . . . you are tired from lack of sleep due to being forced into night clubs, parties and belly splitting banquets . . . your hands ache from handshakes . . . you get talked out . . . and you almost miss your airplane on the way out because so many people insist on wishing you a good trip home. YOU wouldn't like it at all, yet we, as neighbors to Mexico, can't ignore the goings-on down there. So YOU stay home, and our little group that has been going down will continue to make the supreme sacrifice and will go again, in an effort to preserve the continuing friendship between the modeling population of both countries. ●

Main sheet . . . Continued from page 28 (Diegan).

In the Santa Barbara Class, Bill Barton and I tied for first with 11 boats entered. West Coast 12 Meter was won by Jack Thomas with 8 skippers competing. Jim Atkinson, one of six skippers, took first in the Regatta Design Class.



● **SATELLITE 1000 PRO-KIT** ●

8 **AMA SATELLITE RECORDS**
unbroken as of April 1973

CLASS B-C-D

for engines .29 thru .41

KIT PK-1000 FEATURES

- **130 PRE-CUT PARTS**
of the finest balsa and plywood.
- **FULL SIZE PLANS**
complete detail and contest trim.
- **EXPLICIT BILL OF MATERIALS**
for straight wood on plans.

\$24.00

DIRECT ORDER ONLY

NO C.O.D. PLEASE

Add \$2.00 U.S.A. Postage & Handling

Cal. Res. Add 5% Sales Tax

SATELLITE CITY

BILL HUNTER

9486 Sandusky Avenue

Arleta, California 91331

213-899-2301

A list of the known 50-800 kit manufacturers follows: Black's Boat Accessories (Warrior II, Harvey & Etchells 22), 4761 Niagara, San Diego, Ca. 92107; Carr's Boatyard (Flying Eagle), 2713 Blaine Dr., Chevy Chase, Md. 20015; Hartman Fiberglass (Mark I), Argenta, Ill. 62501; Model Yachts and Things (50-800), P.O. Box 105, Collierville, Tenn. 38107; Scottie Shroff (Phoenix), 2410 Caramillo, Colorado Springs, Co. 80909; Vortex Model Engineering (Soling) 210 E. Ortega, Santa Barbara, Ca. 93101.

If you are interested in joining AMYA, send your dues (\$3.65 . . . penny a day) to C.H. Black, 4761 Niagara, San Diego, Ca. 92107. Any comments or information to pass on drop me a line, P.O. Box 639, Escondido, Ca. 92025.

See us in our booth at the MACS Trade Show, Anaheim, California, June 30 - July 31. ●

Mooney . . . Continued from page 31

The cockpit opening and side windows are simulated with blue tissue doped over the lighter fuselage covering. I don't know how they ever got away with that tiny windshield, but there it is, make it out of thin plastic.

An open cockpit model deserves a pilot. Mine was carved out of a piece of very lightweight styrene foam. This

PLANS & THINGS

PLANS • ACCESSORIES • SUPPLIES



Fokker FII Peanut plans by Walt Mooney. Span 13", stick and tissue type 65¢

MANY MORE! SEND A QUARTER FOR OUR CATALOG!

PEANUT SCALE!



BD-4 Peanut plans by Bill Hannan. Span 12-3/4", stick and tissue type 75¢

FIRST CLASS postage add 25c. W. C. HANNAN, GRAPHICS, P.O. BOX A
California customers add 5%. ESCONDIDO • CALIFORNIA 92025

is used for packing radios and other delicate equipment, is fairly easy to come by and adds almost no weight to the model. The pilot is painted with plastic model paint and cemented to the model with white glue or epoxy. Regular dope or model cement will dissolve styrene.

The model in the photos flies nicely and will make perfect takeoffs and landings in a reasonably smooth area. It is powered with a single loop of 3/16th flat rubber 12 to 14 inches long, and requires about 1/16th of down thrust to keep the nose down under the initial power burst. It is adjusted to fly in wide left circles. Best time so far is only 30 seconds, but it's capable of much more under the right circumstances. ●

Hannan . . . *Continued from page 29* rubber motor by blowing on the back side of the prop.

CROW HILL MODELS

New products for rubber-power enthusiasts are being offered by Crow Hill Models, Box 37, Mill River, Mass. 01244. One is a double geared motor unit, especially suitable for short-nosed scale models. It has the advantage of concentrating the weight toward the front of the model. Twenty percent more turns and a more even torque curve are claimed, as compared with a similar amount of rubber used ungeared.

The unit is very cleverly and strongly constructed, and features nylon gears, a brass pinion, ball thrust bearings, a winding loop, plus a positive action free-wheeler. Provision has also been made for easy thrust adjustments. Supplied complete with a carved balsa propeller, the product sells for \$5.95. The 7 3/4 inch diameter props are available separately at 95 cents each. Crow Hill Models also offers lightweight stabilizer incidence adjusting screw jack assemblies, for only 50 cents each.

While we're on the subject of rubber

power, Royall Moore suggests using a drop of contact cement on rubber motor knots to prevent slippage. **REALLY BIG SHEW!**

Stan Fink has developed a simple one-man winding rig for Peanut Scale models, made from a shoe box. Stan cuts a hole just large enough to clear a wound rubber motor, in one end of the box, about an inch down from the top (exact location might vary, depending upon the model's configuration). The aircraft can be placed into the top of the box with its wings resting on the box sides. Note that certain models may fit best in an inverted position. The rubber motor is threaded through the hole (nose block removed) and the nose of the model is guided against the small hole in the box. If necessary, the rear of the model may be anchored with a rubber band placed around its fuselage just forward of the tailplanes, but many models will not require this.

Brace the box against your foot, and proceed to wind the motor with a winder. The tricky part involves getting the wound motor on to the prop hook, as the motor must first be passed through the hole, etc. Perhaps a slot above the hole would simplify matters. *(Either that, or simply let the box go along for a ride! — wcn)* ●

Free-Flight . . .

Continued from page 37 They also last forever, or at least it seems that way. Most good sporting shops carry one or the other, and some Thom McAn stores now carry Adidas.

DRAGMASTER MODIFICATION . . .

While the "Dragmaster" kit is no longer being produced, there are still several to be found on dealer's shelves and in workshops around the country. The basic design is sound, but as Tom Hutchinson has noted, the kit had changes which did not improve it any. The wing wire stock was much too soft, for one thing, leading to much added

dihedral after windy weather tows. This can be corrected by merely using regular modeling music wire for joiners. The towhook is easily replaced with an FAI Supply version.

Local fliers here have tried using tapered doublers of 3/32 x 3/16 inch spruce glued to the main spars for about 12 to 15 inches of the main panels, to improve overall strength. This eliminates the perennial weak spot just beyond the wing wire tubes. A break-away wingtip made by joining the centersection to the tips with double 1/4 inch balsa ribs (butt-glued as on a HLG) makes an easier-to-repair wing, and a fiberglass boom adds a final touch.

Contributions to this column are more than welcome . . . send them in! ●

Draggin' Fly . . . *Continued from page 17* summer days which seemingly were designed especially for R/C sailplanes.


There is no long list of awards or important competition statistics to hang out for review. The Draggin' Fly has never been registered on a contest flight schedule. An introduction to battle remains to be made by subsequent builders . . . Hyer's original is still pure and true to purpose, the casual challenge of sport soaring.

The Draggin' Fly is not difficult to build, but it's not a weekend project. There are a lot of pieces . . . mostly sticks and other straight cuts. The basic structure of the forward-cranked wing panels is quite similar to modern competition free-flight practice . . . check some of those "Fast Richard" Mathis brainstorms. The V-tail hasn't a rib in it . . . just geodetic capstrips and sheet balsa movable surfaces. The fuselage is classic . . . functionally as developed by years of practice and evolution. A review of Zaic's Model Aeronautic Yearbooks will substantiate its heritage.

If you're a Builder you may be on your way to the local balsa dispensary before

SU-PR-ROD^{T.M.}

THE ALL WEATHER PUSH ROD
BEATS THE OTHERS *HOT* OR *COLD*

WILL PUT A  ON YOUR FACE

44" LONG
AND FLEXIBLE

A
HIT AT
TOLEDO

**SU-PR-LINE
PRODUCTS**

PLAINFIELD, ILLINOIS 60544

MAKERS OF ADVANCED PUSH RODS SYSTEMS: PROROD-NYROD-MASTEROD & MASTEROD-XF

reading this far. If you have yet to achieve that happy status, give the Draggin' Fly a chance to help you know an added dimension of pleasure in your chosen sport. You'll find it to be a project of long lasting and most prideful rewards. You may even learn something. It won't hurt.

CONSTRUCTION

Building details are on the drawings . . . where you need them . . . and won't be buried in this text. So what's left to say? Maybe a bit of philosophy rather than specific directions. How about this: "Waste a little balsa if necessary to get good joints . . . and enjoy. This, Friend, is modeling."

PREFLIGHT

Do it at home . . . not on the field. We're talking about pre-flight check-out. Essentially this means to know what your machine is before you commit it to flight. Check for unwanted warps . . . washout as called for on the plans if good stuff, but must be equal in each wing panel. Wing and stabilizer should be square to fuselage center line. Dihedral should be the same distance above horizontal on either side of the fuselage. Balance point should check at, or forward of, point shown on drawings. About 1/4 inch forward will be safe for test flights. And while you're checking, find out how much weight change gets the CG right on the 33 percent point. Write it down so you can remember it at the field. It's an odd day that is calm enough that a good balance check can be made outside. Do it at home . . . then, at the field "by the numbers".

Make careful measurements of the stabilizer setting. The angle must be negative to that of the wing . . . which happens to be parallel to the top surface of the fuselage. Minimum angle should be 1 degree, which measures out to be about 1/16th inch. More negative is all right, but shouldn't go much beyond 2 degrees . . . about 1/8 inch. Prepare

wood shims . . . plywood is best . . . of various thicknesses so that you can accurately adjust stabilizer incidence on the field. These shims should be about an inch long and 1/4 inch wide. Remember to make them in sets because they must be used on either side of the V saddle. A couple of sets of 1/32 and 1/16 will give you enough combinations to make adjustments in 1/32 increments.

Check radio equipment operation . . . and especially the movement of control surfaces in relation to movement of control sticks. This is especially important in rigging the V-tail arrangement. Be sure you're right. The surface on the side of the direction of the turn moves "down". This is opposite to the roll action caused by ailerons, so don't let that confuse the issue. Up's still up.

FLIGHT TESTS

The Draggin' Fly is just the right size for meaningful hand glide tests . . . if you know what you're doing. It's got to have air speed . . . and a reasonable angle of attack when released. Otherwise it's just going to go out there a-ways and die. The Draggin' Fly . . . as most sailplanes of reasonable size and loading . . . flies at someplace around 15 mph, maybe a bit less. If you can run at this speed, you oughta get in touch with the U.S. Olympic Committee, 'cause 15 mph is like a 4-minute mile. (*But don't call 'em unless you can run that fast for the whole 4 minutes!* — WCN). They might have a spot for you. But in case you're not of championship stock, plan on giving that sailplane a heave as you let it go.

Chances are you'll (a) hand launch the thing at least slightly nose high, and (b) . . . hopefully, due to "a" . . . fling it at a higher speed than required for level flight. Thus, expect it to climb immediately upon release . . . also and expect an immediately following stall if you don't do something about it . . .

Quick; Be ready on the transmitter and get that nose down as the climb speed/rate starts to slow. Don't dive it into the ground . . . just round off the climb and utilize the altitude. Let the flight speed stabilize, then let it glide hands-off . . . if it looks safe . . . to almost touch-down. A bit of a flare by gentle back stick might soften the landing. One thing to keep in mind for almost any aircraft/flight situation: a little too much speed is so much better than not quite enough.

Give the Draggin' Fly a chance and those early hi-start or winch launches should be a pleasure. There's no reason not to enjoy first test flights . . . if you do your homework and take your time. . . . and that's it . . . ●

T-Cars *Continued from page 42*
firing impulses of the engine if the flywheels didn't smooth out the power.

The best way to mount a flywheel is on a tapered shaft. This method won't allow slippage, and if made properly to begin with, is the truest running system. With a key, the entire horsepower is transmitted through a tiny piece of metal to the flywheel. Also the flywheel may not run true to the shaft. If you must use a set screw, use only one. Two or three can never be set to run true. Be sure that the flywheel is balanced with the access holes to the set screw drilled and the set screw in place.

If you are going to be running at high RPM's (and who doesn't nowadays), don't use cast flywheels but stick to ones machined from bar stock, be it brass, steel or aluminum. If you think a broken blade is bad, imagine a chunk of brass coming loose at several hundred RPM surface speed. Lighter aluminum flywheels are used where instant RPM is needed and time can't be taken to wind up a heavy brass one. Keep in mind that these are used at the expense of smoothness and occasionally the drive

Tatone ^{cast aluminum} ENGINE MOUNTS

Engines run smoother and cooler on Tatone Engine Mounts. The cast aluminum absorbs engine heat and provides a solid support for better engine performance. Tatone mounts are one piece and easy to install and are most often specified on magazine plans and in kits. For your convenience, we make a mount for 98% of all engines made and always in stock.

1/2A	Short or Long	-- \$2.00
.09	Short only	-- 2.50
.15	Short or Long	-- 2.50
.19	Short or Long	-- 2.50
.29-.40	Short or Long	-- 2.75
.45-.59	Medium only	-- 3.25
.40RV	Long only	-- 3.25
.60	Short only	-- 3.50
.60RV	Long only	-- 3.75

NOTE: Specify engine, model number and displacement. We will drill mount for your engine at no extra charge if requested, undrilled otherwise.

GUARANTEED to satisfy

-NEW-
Special mounts for:

Tee Dee .049	\$2.25
K&B .15'73 Series	..	3.00
Testors .29-40	2.75
K&B .40 Pylon	4.95



TATONE PRODUCTS
1808 GENEVA AVE
SAN FRANCISCO, CA. 94112

NEW COX TEE DEE .049 AND .051 ENGINES IN STOCK!!



KK-01	\$13.50
Tee Dee .049, fitted with left hand crankshaft and Kirn-Kraft front needle valve assembly.	
KK-02	\$17.00
Tee Dee .049, fitted with left hand crankshaft, pressurized backplate, opened up venturi and Kirn-Kraft front needle valve assembly.	
KK-03	\$17.00
Tee Dee .049, regular crankshaft (right hand) pressurized backplate, opened up venturi and Kirn-Kraft front needle valve assembly.	
KK-04	\$17.00
Tee Dee .051 (same features as KK-03).	

Also in stock - individual replacement parts for Tee Dee .049/.051 engines.

Send check or money order. No C.O.D. available. Mail order only.

KIRN-KRAFT

SEND 10¢ FOR LIST OF OTHER 1/2A ITEMS
P.O. BOX 224
ANAHEIM, CALIF. 92805

train. A light flywheel is only needed when you want fast changes in speed. If your model runs at a constant speed, a heavier flywheel is better. Because of their inherent roughness, diesels should always have a heavier wheel than their glow counterpart of equal displacement.

If you haven't already done so, dig out that old car and come to the races. Everyone there is more than willing to help you get it running again and even the oldest and slowest cars . . . and people . . . are welcome.

One final note that is both good and bad. Russia and the other Communist block countries are showing interest in

the tethered cars. While the added interest is welcomed, European races are already being dominated by their special built cars and engines. We also await the first record claims resulting from runs that no one has seen, as in the case of several current model aircraft records. ●

C/L Continued from page 39
THE 1973 COX ENGINES by Dale Kirn

The 1973 Cox Tee Dee .049 and .051 engines are now available. You will have to look at them twice in order to determine if they are the new type. The major identifying mark is that the venturi opening on the 1973 version is covered with a fine wire mesh screen. All of the other changes are internal, except for the number of fins on the glow head.

The new glow head has one thick fin and two thin fins. But this isn't what makes it so different. The combustion shape has been changed (see photo) and it has a much higher compression ratio than the old style "trumpet" head. Be careful when you buy a replacement plug for it, as the 1973 plug has the same part number (no. 1702) as the old plug. Have seen both the old and new style plugs in the same packaging, so count the number of fins to be sure which plug you are really getting. The old style plug has one thick fin and three thin fins. In real hot weather the old style plug may give just as good performance (or better) than the new one, so don't throw away the old ones you have lying around.

The depth of the bypass grooves in the cylinder walls is approximately .010 deeper than in previous engines. The height of the center groove has been raised about .005. All three grooves are nearly the same height now. The older engines had the two side grooves about .007 higher than the center groove.

There are a couple of changes on the crankshaft (both left hand and right hand

versions). The hole in the center of the shaft has been reduced to .175 I.D. (old one was .191 I.D.) and the shaft has been relieved around the port opening . . . for less drag. The thicker shaft has enabled them to produce a much rounder crankshaft, and at the same time it helped to pack the crankcase. The back cover has been thickened .015 which also helps to pack the crankcase.

There are several changes in the venturi and needle valve assembly. First, the hole in the venturi has been increased flightly . . . from .106 I.D. to .116 I.D., and a screen has been placed over the top to help prevent large pieces of dirt from entering the engine. It appears that the three metering holes in the venturi have been made larger. Also, the hole in the needle valve body appears larger. This will permit quicker response when the needle valve is turned. However, this situation might be too sensitive for a pressurized fuel system . . . either crankcase pressure or a pen bladder. If it is sensitive, we'd suggest you try a Kirn-Kraft front needle valve assembly as it has a much finer thread on the needle (see Kirn-Kraft ad - this page).

There have been several minor changes in the instruction sheet. The leading paragraph calls out that some engines will require more break-in time than others before full power is achieved. Also, a warning that these engines should not be run above 24,000 RPM as "damage" could result to the engine.

It is called to your attention that you should use two wrenches now to remove the glow head. One of the wrenches has a big open end which fits onto the top cylinder fin (see photo). DO NOT remove the cylinder by inserting a wrench along side of the exhaust ports!! There is too much danger of distorting the cylinder or inducing burrs if not done properly.

It is suggested that you read this new Cox instruction sheet over quite closely, as there are several other changes . . . such as revised RPM data. ●

R/C Report . . . Continued from page 21
name in English on one side and Japanese on the other (very, very cool), and this was my first chance to use them. This along with my Model Builder Magazine card was presented to the young lady at the switch board and she called someone else and I was ushered into a waiting/reception room. Presently two gentlemen entered, Mr. Tadokoro and Mr. Tsubota (Chief Editor and Editor, respectively) and I recalled meeting Mr. Tsubota at the '71 Doyles-

town Internationals.

After a few minutes of the traditional Japanese tea ceremony (that is, you have green tea and relax a few moments), we launched into a bi-lingual conversation that at times, I thought, went very much astray. I tried a joke . . . to Mr. Tsubota I said that my subscription to his magazine had run out and I had come all this way just to renew it! I was sure this would convulse them and break the ice somewhat. Mr. Tadokoro translated . . . Mr. Tsubota looked at me. Obviously the joke lost a whole lot in translation.

Question to the Editor: Would he like to know about R/C in the U.S.A.?

Answer: No.

Question:; Would he like to ask me anything at all?

Answer: No.

By this time we all realized that we weren't getting across to each other, so a young member of the Staff, Joe Joeichi was called in. Joe is a modeler and also a ham operator, and is the new editor of one of their magazines, The Mobile Ham. This is a new magazine devoted to Hams who operate their stations from automobiles . . . popular in Japan as well as in the States. Joe's linguistic accomplishments mainly revolved around ham radio, and when he found I had been an active ham operator (W4KFK) for twenty five years he plied me with questions and we began to drift farther and farther away from model airplanes.

Finally, a most engaging modeler, Mr. Yoshiro Sato, who is a friend of MB's editor, was called and shortly dropped in. Now the conversation picked up and we were able to get through to each other. Later Mr. Sato took me to some of the local hobby shops and was most kind and accommodating to me, in that he spent most of the afternoon, driving me to the shops and translating for me. It was his day off and he had been flying that morning. His Formula I racer was in the trunk of the car.

To sum up some interesting observations about Japanese modeling. First off, their magazine has a tremendous amount of advertising and the magazine itself if the size and thickness of Popular Mechanics. It is full of drawings and kit reviews and such, much like our magazines in this country, only much more of it. R/C modeling is not limited to airplanes. Gliding, boats, helicopters, dune buggys, cars and even an R/C model motorcycle (I've got the magazine pictures to prove it) all enjoy much interest. R/C cars have died much the same way slot racing has in this country. A few areas have a few adherents but

that's all. Not so in Japan. R/C car racing is big! There was to be a big slope soaring contest outside Tokyo that weekend but unfortunately I was leaving for the States and missed it. I did not see as much interest in scale as I think there is in the States, but sport flying is big and I would guess that 95 percent of the engines, kits and R/C equipment are made in Japan. There is a wide variety of kits and fittings that are never seen in this country. Some of them most exceptional, and I am sure they would enjoy some real popularity if imported to this country. Unfortunately the U.S. dollar, at this time, does not enjoy a favorable exchange rate in Japan (and in many other countries as well) and, as said before, there were no bargains to be had. Had I been able, I would have brought some kits back. They really impressed me. For example, there would be a kit for a really beautiful .60 powered pattern type plane . . . in addition there would be a .40 size kit and also a .19 size kit . . . all of the same plane. Further, I found a wider variety of kits and in all sizes than in this country. Oddly I found that dry cells are popular in transmitters as well as airborne packs, especially for the sport flyers. I would assume they are cheap and due to the small size of Japan the delivery time from factory to consumer is short and the batteries would normally be fresh. My only regret is that I did not have more time to browse the hobby shops and visit more with my gracious hosts. Japanese R/C modeling is big . . . really big and I was very impressed. They are ahead of us in many respects.

I have a few of the Japanese magazines I would reluctantly lend (on short loan) to any interested parties who wanted to see one. It is all in Japanese but the pictures tell most of the story.

Also I would appreciate hearing any comments from any who read my column. Questions, comments and such are most welcome as well as contributions for publication, pictures and the like.

If Chief Editor doesn't mind I'll add that I also collect old ignition engines and if any of you have any oldies I could add to my collection, I'd appreciate hearing from you.

Next month: more on sport flying.

Frank Schwartz
2400 West End Avenue
Nashville, Tennessee 37203 ●

F/F Scale . . . Continued from page 35 neighbors to raise their eyebrows!) then tie a square knot followed by an over

CONCEPT



New
concepts in
open gimbals
from
RS Systems

RS Systems
has taken a step forward by using the modern molding techniques of D & R Products, and is introducing the first truly precision OPEN GIMBAL STICK ASSEMBLIES. All parts are accurately molded of tough nylon for continuity between part to part and stick to stick. All functions are supported by bearings, thus removing any play or interaction between channels. No other stick assembly, open or closed, can approach the D & R stick for smoothness or accuracy.

RS SYSTEMS

2407 SOUTH BROADWAY
SANTA ANA, CALIFORNIA 92707
TELEPHONE (714) 979-5822

The hit of the Toledo Show



THE **ISLANDER MK II**
A bit of old nostalgia — water flying is easy with these expertly designed aircraft. The answer to fun flying.

\$39.95



the **GEE BEE line**®

143 E. Main St., Chicopee, Massachusetts, 01020

THE MALLARD

For the sport flyer or novice — a true triphibian (water, land, snow). Extremely stable . . . simple to build . . . superb water performance.

\$39.95

SPAN 50" AREA 437 SQ. IN. ENG. 19-25 WT. 3¾ LB. 3 CHANNEL — sturdy airframe construction mounted on a polyethelene hull — see your dealer or write direct.



MODEL FIBERGLASS HULLS

Create your own CUSTOM-BUILT craft



36 inch cruiser hull **\$27.95**, 48 inch yacht hull **\$35.95**. Built-in supports for engine/servo and deck. Virtually unbreakable. Basic white or color. Send stamped addressed envelope for details. No C.O.D. Add \$1.50 shipping. New Jersey residents add 5% tax. **Fiberite Co., P.O. Box 61 Waldwick, N.J. 07463.**

hand knot, and trim off any extra length.

Lubing the motor is the next step. Again, I choose to use another one of SIG's products; SIG's Rubber Lube. I've seen everything from silicone to Preparation H used for this purpose (Something about to each his own?)

Once the motor is lubed, safely secure one end of it to your workbench. Take your winder, (16:1 gear ratio is ideal and this, along with a 9:1 winder,

is available from Marlow Engineering) and stretch the motor as far as you think you can go without breaking it. Hold it this way for a few minutes, then ease off. Wait a few minutes and start packing in the turns, counting them carefully, until the rubber motor breaks. Having another rubber motor of the same size and length already in the model, I will wind it 10 percent less than the number of turns it took to reach the breaking point of the first motor. This is a pretty good rule of thumb to follow.

With the rubber motor inserted into the Shark, a check for balance was made. My model needed a little ballast on the tail. Now for a test glide. The model had a rather steep flight path. Knowing the balance was right, the solution was to place a shim under the leading edge of the wing, which gives a more positive angle. After doing this, the glide flattened out the way it should be. Yours may take more or less shimming.

For the first powered flight, I usually put about 25 turns of the crank (400 actual at 16:1) and release the model into the wind. If it goes into a steep climb, down thrust is required. This is accomplished by placing a shim (paper matches work well here since they will not compress like balsa under the load created by the wound motor) on the top of the nose block, between it and the fuselage. If the model veers too much to either right or left, a shim on the opposite side may solve the problem. If not, a gentle twist of the rudder in the opposite direction of the turn should do the trick. The important thing is to make any or all changes very gradually.

As it turned out, the Shark didn't require any adjustments and long satisfying flights have been achieved.

Janick Model Engineering of 32 Farley Road, Scarsdale, N.Y. 10583, has come out with four new Peanut Scale plans for sale. These include Fairchild's PT 19, Whittman's Tailwind, Reed Clipped Piper Cub, and the Jodel "D" 150. Each

is very complete and well drawn. The plans sell for \$2.00 per set of four.

Next month we will describe the 1st Annual Flightmaster's Indoor Scale Contest that was held at the Marine Air Facility Blimp Hangar in Santa Ana, California. ●

R/C Soaring . . . Continued from page 15 utilizing 4 or 5 inch drums. Gas engine powered generators feeding AC electrical systems will be available at major competition events . . . highly variable winch speeds.

More and more contests will be staged at airfields with asphalt or concrete runways . . . abrasive surfaces that can cause major damage to a heavy, fast-landing sailplane. One touch-down can eat well into a mere 1/8 inch plywood skid. The N-G-S will have a landing wheel . . . some will retract . . . with braking function. The brake will provide control on the rollout for greater accuracy in precision landings. Without a wheel brake, these big turkeys would roll into the next county . . . tail high.

The N-G-S will be sleek and slick. No exposed attachments . . . no drag inducing gaps. The workmanship will be masterful and pre-flight preparation meticulous. Open control hinge lines or big, ugly control horns will be a tie back to today. On field support equipment for rigging check-out, ballast changes, protective covering and tie-down anchors will be standard in many field boxes.

What will the N-G-S look like? It's a matter of taste . . . as with current designs . . . but probably they will be quite scale-like. Seems reasonable that as function more closely approaches that of full-scale, form will follow. The N-G-S will be long-winged, clean and graceful. Three-dimensional beauty . . . airborne sculptor . . . all that stuff.

The use of thermal sensors in the N-G-S will be more prevalent than current practice, but they won't be standard equipment. The majority of

— JOIN —

EAST COAST SOARING SOCIETY

come fly with us



ECSS members attended a series of eleven soaring contests that were open to all AMA members. Members of the ECSS were included in a percentage point system that led to the final ECSS championship at the close of the 1972 season. The ECSS has sponsored 21 contests since its beginning in 1970. Contests were held in seven states this season, many more states and contests are contemplated for the 1973 season.

For additional information, a free copy of the ECSS Journal, 'SAILPLANE', and an application blank, forward your request to:

Clive Sadler, ECSS Sec.
46 Oakcrest Drive
Dover, DE 19901

SCALE THE HEIGHT OF FUN WITH THESE NEW DUMAS MODELS

Shelley Foss Tugboat

Now available in answer to many modelers' requests is a 36" scale model of America's newest type 90' tugboat. A beautiful model that can be the pride of your model fleet. Plywood construction for long life. For RC, free running, or display. **Kit TU-36 \$47.95** ■ (For the real tug enthusiast, we have a limited number of 45" fiberglass hulls which are excellent for steam engines, etc. Hull, with plans and wood for superstructure, is \$69.95. Inquire through your dealer or us direct for Kit TU-45F.)

U.S. Coast Guard Lifeboat

Here's a brand new scale model of the U.S. Coast Guard 44' Lifeboat — that's bound to please the most exacting modeler. Makes an eye-catching display model and can be electric powered with Dumas-Pittman motors for radio control. Kit includes die-cut mahogany frames and deck, 1/8" x 1/2" balsa planking and all deck hardware. Length 33", Beam 9". **Kit S-200 \$33.95**



Trojan 31' Cruiser — new cabin cruiser in 1" scale. Equally at home on mantle or lake. Rugged plywood construction for gas or electric power.

Kit TR-31 \$37.95

Do you get your biggest kick out of your models on the workbench, sitting on the mantle, or cruising nearby waters? Whichever your pleasure, there's a Dumas scale boat (a baker's dozen, in fact) ready to provide you with hours of enjoyment.

And you don't have to be an experienced modeler to have fun with a Dumas kit. Our clear, easy-to-read plans and quality materials and accessories make a craftsman out of a beginner. In addition, all necessary hardware and accessories such as the famous Dumas-Pittman motors, adapt-a-drive marine transmission, shafts, props, etc. are available for all models.

Take a look at the Dumas line at your hobby dealer's or send 25¢ for our complete catalog to get in on the fun.

*dumas
boats*

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



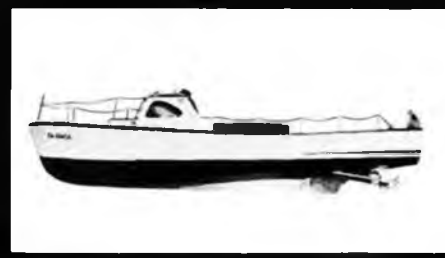
Chris-Craft 35' Sport Fisherman — One look at this 35" beauty and your resistance will melt. A balsa wood kit designed for the experienced model builder.

Kit N-20 \$26.95



PT 109 — 33" authentic replica for 15 — 19 cu. in. Glo Plug engine or electric motor and RC. Kit includes deck hardware, mahogany plywood and veneer construction.

Kit PT-109 \$24.95



U.S. Coast Guard Utility Boat — 29" beautifully detailed model of the famous 40' workhorse. Balsa construction for electric power or display.

Kit S-100 \$16.95

S/B

SANTA BARBARA
 ONE DESIGN. More than five hundred sold — and #10 can still beat #500! Length 70 in., mast 72 in., sail area 1100 sq. in., displacement 28 lb. Prefinished fiberglass hull, deck, cabin and keel \$165.00

SOLING-M. Scaled from the exciting new Olympic-class three-man keel boat. Length 50 in., mast 60 in., sail area 800 sq. in., displacement 18 lb. For American Model Yachting Association 50/800 "M" class racing. Prefinished fiberglass hull and deck, machined cast-iron keel \$125.00

BOTH KITS include finished Dacron® sails, spruce spar blanks, stainless rigging, brass fittings, and die-cast aluminum rudder. For two- or three-channel r/c operation with the Vortex sail control unit.



SEE YOUR
 HOBBY DEALER!



210 East Ortega Street
 Santa Barbara, CA 93101
 Telephone (805) 963 1636



SAIL CONTROL UNIT with gel/cell® battery and charger \$75.00

fliers will continue to utilize eyeball radar to find and follow lift.

Technician licenses will be common for N-G-S pilots, and the more serious competitors will have quick-switch frequencies. Two-man Pilot/Builder competition teams may become popular. An air of professionalism . . . in a non-monetary sense . . . will characterize the on-field activities of most contestants.

Is the N-G-S far fetched? Fetched, maybe, 'cause it's a personal vision, but "far" . . . not at all. On a limited and, granted, less than "all out" basis, the trends are all around right now. Some designers have been pushing in these directions for several years. They may have been must a bit early.

Jerry Nelson's famous Ka-6E was quite advanced back in 1968 . . . as is the subsequent growth version, the J and R Kestrel. These may be on the "hot" side of the N-G-S spectrum, but certainly in the realm of what can be expected. Harley Michaelis' "Miskeet" was a brush with the future . . . so to speak. Ray Smith has been pitching 12 to 14 sailplanes at upwards from 12 ounce wing loadings for several years. Konrad Nierich or the Harbor Soaring Society thinks that any sailplane weighing less than 6 pounds should be registered for indoor events . . . and he thermals his 8 to 10

pound sleds when "reasonable" designs are suffering from Chicken Little-itus. Bob Crumley, another HSS member, put it all together in a fabulous, scale ASW-12. Spans 14 feet and has everything . . . retractable gear with locking tow hook, flaps, ailerons and drogue chute. Heavy. Fast. Efficient.

Jerry Krainock, of the San Fernando Valley Silent Flyers, followed the big timber trail in the design of his FAI Straight Line Distance world record holder. Santa Barbara's Tom Protheroe flies a beastie.

Today's predecessors of the N-G-S development might be in the form of Neil Liptak's "Yankee Soar". At 16 feet and 8-plus pounds, keep your knees together when you pick one up. Or Lee Renaud's Airtronics' Grand Esprit . . . with spoilers. Eleven feet of soaring machine. Dale Nutter flew one to second place in Speed at the 1972 LSF Tournament. John Simone's 13-foot stretched wing version boggles the mind.

Hugh Stock's Soarcraft "Kestrel 19" is eleven feet of scale sailplane configuration that's pushing the N-G-S concept. And it wins a lot. Placed in the top five Overall and in each Competition Task . . . including scale . . . at the '72 LSF Tournament. And there are others . . . mostly one-of-a-kinds . . . on the boards

and in the air all around the country.

There will be those who disagree with these predictions. They could be right. Others will flip a quick "thumbs down" while crying "it ain't for the average guy". Well, neither is anything else that's worthwhile, cause "average" means "mediocre" and that's just not very interesting. If the N-G-S isn't for the "average guy", it'll be because of his lack of enthusiasm to become involved. It won't be due to cost prohibitions. Three channels of radio will get the essentials . . . elevator with coupled ailerons, and spoilers with interconnected wheel brake. The airframe may call for 25 or 30 percent more stuff, but that's hardly a Wall Street wipe-out.

Too difficult to fly? Ask the guy who's flown one . . . not a big, mean, hot machine, but a big, good machine. Chances are he'll bend your ear about the delights of the larger, heavier ship. Spelled f-u-n. The N-G-S won't be suitable for all flying sites, such as some of the smaller schoolyards utilized on the West Coast. The N-G-S may never replace the 8-foot span, 3 pound sport/competition machine. But one thing's for sure . . . the technologies resulting from N-G-S development will improve the whole breed line, though "fallout" doesn't seem to be an appropriate word in this context.

And one other thing is for sure. The N-G-S is on the way. You ready? ●

About two months ago, our club, the Greater Detroit Soaring and Hiking Society, decided to investigate the possibility of a Junior Team Competition similar to the team event that now exists at the Soaring Nats.

Dan Pruss and the S.O.A.R. Club in Chicago have concurred that this would have excellent possibilities and could help boost what is already a rather active junior participation in R/C soaring.

In the Southern Michigan area, junior participation in soaring is quite phenomenal as compared to other phases of R/C flying and these kids are beginning to scare the pants off of us old timers. (That's not just a "problem" in Michigan! — wcn).

noirs around the country to warrant a Junior Team event at the Soaring Nats.

Team event at the Soaring Nats.

So, in conjunction with S.O.A.R., the sponsor of the 1973 Soaring Nats, the Greater Detroit Soaring and Hiking Society is proud to announce the contribution of the Soaring Nats Junior Team Perpetual Trophy, to be awarded to the best Junior Team at the 1973 Soaring Nats.

In addition, there will be three individual permanent trophies awarded to the three winning team members. These also will be contributed by the G.D.S.H.S. for 1973.

Further information on this event can be obtained from: Dan Pruss
 Bos 49D Plainfield, Illinois 60544

new HEATHKIT 3-CHANNEL SYSTEM



goes to 4 channels
when you're ready

New Heathkit GDA-1057
Systems, starting at \$139.95.

There's no magic involved. Just traditional Heath planning and attention to detail. What appears to be a dandy kit-form 3-channel system, quickly and economically becomes 4 channels with the addition of an optional modification kit. Order 3 now, add the fourth later. It's a system designed to grow as your plans do.

The Heathkit GDA-1057 System uses the flight proven circuitry found in the popular Heathkit GD-19. The GDA-1057-1 3-Channel Transmitter comes with a 2-axis stick assembly. Add the GDA-1057-4 modification and you put 3 channels on the stick with the fourth controlled by a thumb tab. The GDA-1057-1 Transmitter is available on all R/C frequencies, and is housed in a slender new case for positive one-hand action during launch or engine adjustment. Other top-flight features include all nickel-cadmium battery packs with external charging unit, vinyl-covered front panel, adjustable hand strap, telescoping whip antenna,

and relative power output meter that doubles as a battery-charging indicator. The new compact GDA-1057-2 3-Channel Receiver has a molded nylon case and connector block for servos and receiver battery pack. It's compatible with all Heathkit servos, and the GDA-1057-4 mod kit converts it to 4-channels too.

SPECIAL SYSTEM PRICE #1 — Order 3-Channel Transmitter, Receiver, Receiver Battery, two GDA-19-4 Standard Servos, pay just \$139.95.

SPECIAL SYSTEM PRICE #2 — Order same system as above, substituting either GDA-405-44 Miniature Servos or GDA-505-44 Sub-miniature Servos, pay just \$149.95.

SPECIFY FREQUENCY WHEN ORDERING.

Kit GDA-1057-1, 3-channel transmitter,	
4 lbs.	74.95*
Kit GDA-1057-4, 4-channel modification pack for both transmitter and receiver, 1 lb.	19.95*
Kit GDA-1057-2, 3-channel receiver,	
1 lb.	34.95*
Kit GDA-405-3, receiver battery, 1 lb.	9.95*
Kit GDA-19-4, standard servo, 1 lb.	19.95*
Kit GDA-405-44, miniature servo, 1 lb.	24.95*
Kit GDA-505-44, sub-miniature servo, 1 lb.	24.95*



The FREE Heathkit Catalog has over 350 fun to build kits. Order yours today

HEATH COMPANY, Dept. 238-6
Benton Harbor, Michigan 49022

Please send FREE Heathkit Catalog.

Name _____

Address _____

City _____ State _____ Zip _____

*Mail order prices; F.O.B. factory.

RC-101



**Have Fun--Fly the Proven System!
Pulse Proportional Rudder-Only**



PULSE COMMANDER R-O SYSTEMS

Completely wired and tested with transmitter, receiver, actuator, NICAD BATTERY, airborne pack and CHARGER, switch and connectors. Transmitter battery not furnished.

10G 15—Baby System '72	\$69.95
10G 15T—Baby Twin System '72	\$72.95
10G 16—Standard System '72	\$71.95
10G 17—Stomper System '72	\$74.95

26.995, 27.045, 27.095, 27.145, 27.195
Please Specify Frequency

We have airplane kits designed especially for pulse, as well as accessories and items from other manufacturers in our
PULSE HANDBOOK-CATALOG
Only \$1.00

Completely updated, contains data on pulse: How Pulse Works, Installation, How to Fly, and much more.

Price is \$1.00 via BULK Third Class Mail. For faster delivery add 50¢ for FIRST CLASS.

Ace Radio Control, Inc.

BOX MB
Higginsville, Mo. 64037

Plug Sparks . . . Continued from page 27
enjoyed watching their models soaring overhead for flights of 30 minutes or more. The winning flight that day was a single flight of 39:10 posted by John Keller of the SCIF's (So. Cal. Ignition Fliers) with a PB-2.

"During the first three revived Texaco meets many models were lost. Even though the wind drift was not over 2 to 3 MPH at any of these meets, when they go out of sight straight up there is not much that can be done to retrieve them. Some modelers were very badly shaken up by the loss, others were philosophical about it, figuring it was part of the sport.

"Starting with the Fourth Texaco Annual, the SCAMPS ran a Dawn Patrol Texaco event for the modeler who wanted to enjoy the long flight and still not lose his model to the booming Taft thermals. The Dawn Patrol starts at dawn and ends at 10:00 AM. The regular Texaco event starts at 8:00 AM and ends at 3:00 PM with no flights after 2:00 PM. This gives the contestant time to get back for the awards at 3:00 PM. The Dawn Patrol meet has cut down the losses considerably. Average winning time in the Dawn Patrol is about 30:00 minutes, while the average winning time for the Regular Texaco event is about 52 minutes.

FIBERGLASS GLIDER KITS

ASW-15 1/6 SCALE / \$35.00 DIAMANT 1/6 SCALE / \$35.00 HP-14 2 1/4 SCALE / \$45.00 kits include fuse, canopy, plans & ribs	send check or money order to EARL WOLSLEGER & ASSOC. 1024 n. parker, orange, ca. 92667 ca. res. add 5% sales tax
---	--

Listed below are the winners, models flown, and the winning flight times for the seven Texaco meets that have been run to date.

Year	Contestant	Model	Winning Time
1967	John Keller	PB-2	39:10
1968	Don Whitacre	Quaker Flash	43:03
1969	Jim Adams	K-G, 8 foot version	57:47
1970	Chuck Partch	Nimbus	48:32
1971	Russ Johnson	Powerhouse	49:36
1972	Cliff Silva	Ehling 1938 Winner	78:29
1973*	Chuck Partch	Nimbus	31:58

* In 1973 the SCAMPS ran only the Dawn Patrol portion of the Texaco.

"Reflecting back through the seven meets run to date, some models appeared to be consistent winners. The PB-2 was always in contention, flown by two or three modelers. The Nimbus' flown by Gene Wallock and Chuck Partch, have been in the first three places in every meet they have entered. The Powerhouses flown by F.L. Swaney, Russ Johnson and Hal Cover have always placed. The most unusual Powerhouse was Hal Cover's powered with a Cannon .29. This model had an official flight with a 21 minute engine run, and has placed high in every Dawn Patrol entered. The Ehling Texaco model is another consistent winner, easy to fly . . . many of these have been lost.

"The Powerhouse, Ehling winner and the PB-2 are easy models to build and low cost; probably around \$30.00 for balsa and covering, etc. The Nimbus's however, are a model builder's delight, planked fuselage, sheet covered and cap stripped wing and stab . . . very similar to the Cavalier in construction, but I believe a much better flier. Both models were originally designed by Ben Shershaw. Although the Valkyrie designed by Carl Goldberg, never won a Texaco, it always placed high and it was the winner in the first Texaco Trials".

Following are the rules used by the SCAMPS for their revived Texaco trophy contests:

AIRPLANE

- a. The model must have been designed,

- published (plans or picture) or kitted prior to January 1, 1939.
- b. The model must conform to the outside dimensions of the original model.
- c. Airfoil shapes shall not be changed.
- d. Wheel sizes shall be the same or larger diameter.
- e. Thrust line location shall be the same (side and down thrust may be added).
- f. Empennage configuration may be changed to permit dethermalizer actuation. Character of the original model shall be retained.
- g. Dihedral angle(s) must conform to plans.
- h. Covering material shall be at the builders' option. However; paper cloth, or similar materials, cannot be substituted for sheet wood or metal.
- i. Wing span (planform) shall be no less than five (5) feet.
- j. There shall be no restriction on wing loading or power loading.
- k. The model and its plans shall be presented to the Contest Director for processing. The contestant should be prepared to do this at the time of entry.

FUEL

- a. Fuel shall be furnished by the contestant.
- b. Fuel shall be of gas and oil mixture.
- c. Fuel allotment formula: 1/4 ounce

of fuel per pound of airplane weight. Maximum fuel allowed: 1 3/4 ounces.

- d. Fuel tank will be drained by the Contest Director (or his representative) prior to official flights.
- e. Fuel will be allotted by the Contest Director just prior to an official flight.

ENGINE

- a. The engine displacement shall not exceed one (1) cubic inch.
- b. The engine must be of spark ignition type, using coil, condenser and breaker points.
- c. No modified "modern" glow plug engines will be permitted.
- d. No exhaust collectors will be allowed.

FLIGHT

- a. Two (2) flights will be flown. The highest flight time of the two will be counted.
- b. All flights shall be rise-off-ground (R.O.G.)
- c. A flight will be constituted when the model leaves the ground and remains airborne for four (4) minutes.
- d. The model may be guided by one wing tip on take-off. It shall otherwise be unassisted.
- e. The timer will follow the aircraft as necessary to keep it in sight. The contestant will furnish transportation.
- f. Flight time will end when the model goes out of sight (O.O.S.) or lands.

GENERAL

- a. The contestant has the burden of proof in validating the age of the design.
- b. AMA membership is required to enter.
- c. Situations not provided for by the above will be governed by SAM or AMA rules.

(Back to Jack)

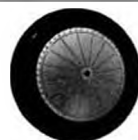
It was our pleasure to have timed Chuck Partch on his winning flight, at the 1973 Texaco Event and to show how exciting even just timing can be, the plane took us on an eight mile chase from the launching point. There have been several flights over the last few years that have ended over twenty miles from the takeoff point, so unless you have unlimited flying space, it can be a little risky. *(For restricted areas, an R/C Texaco could be held, using verified designs, but allowing .60 glo engines with, say, 30 second engine run, rudder-elevator-engine cutoff control, timers held position, and bonus points for initial touch-down in a 25 foot diameter circle —*

WORLD WAR ONE MODEL ACCESSORIES



SCALE PILOTS

AVAILABLE IN
1", 1 1/2", 2"
AND 2 3/8"
SCALES



VINTAGE WHEELS

AVAILABLE IN
3/4" THROUGH
5" DIAMETER



LE RHONE ROTARY
ENGINE KITS
AVAILABLE IN 1 1/2"
AND 2" SCALES

ENGINE CYLINDERS



AVAILABLE IN
VARIOUS TYPES & SIZES



SEND 25c FOR COMPLETE ILLUSTRATED CATALOG
DEPARTMENT MB • 181 B STREET
SAN MARCOS, CALIFORNIA 92069

wcn.)

The Old Ruler event that followed the Texaco had to be one of the wildest flying events this writer has ever entered. Just as the Dawn Patrol was ending the wind came up and never stopped the rest of the day and when we say wind we mean wind. It was reported that it got up to 45 MPH before the day was over and OOS flights of under 3 minutes were not uncommon. And they consider that a good contest day in England?

The contest brought out more than just contestants and airplanes. Bruce Chandler, of Chandler Engineering Co., brought out a couple of new ignition engines he is going to produce. They



are basically built up from O.S. Max parts, with Bruce machining the rest to make a truly beautiful engine. The case has been finished in a black crinkle finish, thus the name "Black Knight A", and "Black Knight B", which should also give you a hint as to their engine classes. Bruce also produces several other converted glow-to-ignition engines, including Cox .049, .09, and .15's! These engines, with plug, cost a little over \$30. Send a stamped, addressed envelope for full particulars to: Chandler Engineering Co., 7858 Farralone Ave., Canoga Park, California 91304.

One more engine that came to our attention was a home made original built back in 1941 by Larry Jenno, which he was flying in a Megow Ranger. As the photo shows, the engine is quite original and good looking. When running, the engine almost sounds like a diesel rather than ignition. Larry started the engine back in 1940 while attending trade school. He originally intended the engine to be a side port like the Ohlsson, but then in 1941, when the Cannon came on the market, he changed it to side shaft intake, as it is now. Larry ended up running the engine in on a lathe to get the piston free enough and seated in so that it would run. The

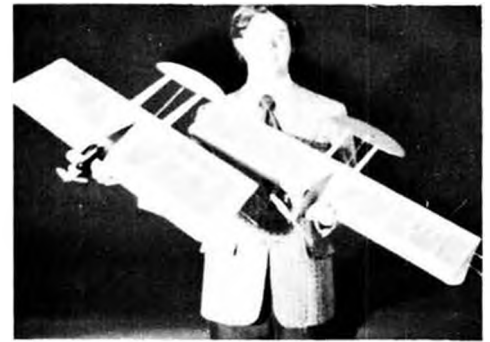
NOW AVAILABLE! NEMESIS II COMBAT

FOR SERIOUS COMBAT FLYERS ONLY!

HOWARD RUSH'S FANTASTIC, SUPERTIGRE .35 POWERED, NATIONAL CHAMPION DESIGN, REPRODUCED IN KIT FORM TO BE EXACTLY LIKE THE ORIGINAL DESIGN

- SUPERIOR CONTEST BALSA. SAME WEIGHT AND GRAIN AS SPECIFIED BY THE DESIGNER.
- THIS IS NOT A MASS-PRODUCED KIT! IT IS MADE UP IN SMALL, CAREFULLY INSPECTED BATCHES, COMPLETELY MACHINE CUT.
- ABSOLUTELY NOT AVAILABLE THROUGH HOBBY SHOPS. ORDER BY DIRECT MAIL ONLY: SEND CHECK OR MONEY ORDER.
- ADD 10% FOR POSTAGE. PRICES: SINGLE KIT \$6.50, DOUBLE KIT \$12.00, TRIPLE KIT \$16.00. SATISFACTION GUARANTEED.

DICK MATHIS AERO DESIGN GROUP
1222 BRIARCOVE DRIVE, RICHARDSON, TEXAS 75080
ATTN: DICK MATHIS



last time the motor had been used was in 1945, and when he tried to start the engine again after 25 years it fired up on the third flip . . . Larry said that the only time he came close to losing the engine was during a typhoon off the coast of Okinawa while in the Navy. The engine has a displacement of .14.



TIP OF THE MONTH

Do you climb the walls trying to figure out how to tie all those ignition components down? Well, maybe this will solve your problem; try bath tub caulking compound, such as Dow-Corning Silicone Rubber. Just figure out where you want the battery box, coil, and condenser to go, squeeze out and apply enough of a glob to hold each part, and stick 'em to it. Let dry over-night and you will have a permanent, shock-proof mount. If you ever want to replace any one part, a good hard tug will free it. We have found that if you break the glaze on each part with 80 grit sand paper, it helps the compound to hold a little better. ●

Counter Continued from page 7
llite City", 9486 Sandusky Ave., Arleta, California 91331, are now marketing, among other things, a partial kit for the Class B-C-D Satellite 1000. This "Biggun" spans 83¼ inches and carries 1021 projected square inches of wing area.

The kit is partial in that it consists totally of full size plans (with complete wing layout) and 130 pre-cut balsa and plywood parts. A bill of materials is supplied for all required straight wood.

Those pre-cut wood parts are not to be passed over lightly. Produced by P&W Model Service (Chuck Partch and Gene Wallock), which is making partial kits for Old Timers, the quality of the wood and the accuracy of the machine cutting is perfect.

The kit No. PK-1000, sells for \$24.00 plus \$2.00 packing and postage (in U.S.A.). Satellite City also markets covering mylar in 1/4, 1/2, and 1 mil. thicknesses, and "Hot Stuff" . . . a clear, non-toxic, one part, 10 second adhesive with the viscosity of water. It is strong enough to have replaced 1600 pounds of rivets formerly designed into the Boeing 747. Write to the company for full particulars.

Dave Platt, well known scale modeler from England, and a designer for Top Flite during the past five years, has resigned his position with Top Flite, and with Joe Hancock of Ft. Lauderdale, Fla., has formed a corporation to produce kits and accessories. The new company, Dave Platt Models, Inc., is based at 1300-C West McNab Rd., Ft. Lauderdale, Fla. 33309.

The first product by the company, not too surprisingly, will be a kit for a

Stand-off scale WWII R/C model. The subject is to be the Spitfire, and the plans will show several different versions that may be built from the kit.

Joe and Dave have over 60 combined years of modeling experience, so their products should be well accepted. The Spitfire is due to be out about mid-summer.

* * *
Janick Model Engineering, 32 Farley Road, Scarsdale, N.Y. 10538, is offering a series of Peanut Plans. For full particulars, see Fernando Ramos' Free Flight Scale Column.

* * *
JenEsco Engineering, 1649-1 W. Sepulveda Blvd., Torrance, California 90501, Phone 213-530-5244, is producing a beautifully made refueling manifold and shutoff valve for all types of gas-powered model planes, cars, or boats. Priced at \$5.95, the manifold/valve can be used with or without pressure fuel systems, eliminates having to remove fuel, vent, or pressure lines. Also eliminates risk of flooding engine during refueling. Only requires two lines from fuel tank.

* * *
Snappy Products, 16441 Vanowen Street, Van Nuys, California 92406 phone 213-988-1150, is producing a flight and tool box which will hold up to two gallons of fuel inside. The box features fold-up legs, three storage drawers, fuselage supports, and very light weight. Box comes completely assembled, including all hardware, for \$39.95. Without fuselage supports and legs, but all hardware, price is \$29.95. Dealer and Jobber inquiries invited.

* * *
The Harbor Tug "Douglas Greg" is

SOARCRAFT Kestrel 19

Proven — Highest Performance Model Sailplane currently available

1st Place Winner
National & Regional Contests
Thermal Speed & Soar
25 trophies in 1972

Span 134.5 in.
Area 852 sq. in.
Length 49.5 in.
Weight 50 oz. min.
Wing Loading 8.5 oz. — 10 oz./sq. ft.

Windspiel Models
Quality R/C Sailplanes

3704 Montgomery Drive
Santa Rosa, CA 95405
Phone (707) 544-2334

Available only from

the latest molded fiberglass offering by Hartman Fiberglass R/C, Argenta, Ill. 62501. Designed by Clayton Thomas, the tug is 42 inches long, 11½ inches across the beam and displaces 33 pounds. Complete kit, including hull, deck, and superstructure of molded fiberglass, sells for \$135.00 plus shipping charges.

Catalog of entire line is available for \$1.00, refundable with any order.

* * *

Dodgson Designs, 2904 So. West Camano Drive, Camano Island, Washington 98292 produces the Todi (Toe-Dee), an R/C Glider that has many features separating it from the usual types.

Most immediately noticeable feature is the 3 foot long flaperons. Operated by a flap-aileron coupler which is included in the kit, but which may be purchased separately for \$3.00, the flaperons may be moved simultaneously, down to 5 or 10 degrees to produce an undercambered airfoil, to 30 degrees negative for high speed flying, outside loops and sustained inverted flight. Naturally, the coupler also provides aileron action at any flap setting.

Control to the flaperons is through an instant connect system which allows just as instant disconnect, without damage, in case of an awkward landing.

Fuselage is composed of a molded fiberglass pod and a rolled balsa boom weighing under 4 ounces. Kit includes 3 plan sheets, step-by-step instructions, formed canopy and pre-cut base, two pre-cut stabilizers, pre-cut rudder, vertical fin, and materials to build both the short (76½ inch) and long (100½ inch) wings. All hardware is also included, except hinges and push rods. Price of complete kit is \$55.00. All parts may be purchased

separately.

Hallum Racing Enterprises Inc., is the name given to a company recently formed by Chuck Hallum, well known R/C race car competitor. Plans are to manufacture quality car components for the scratch builder and/or the enthusiast desiring to improve his stock kit car. Currently, plans do not include the production of a complete car kit.

First item from HRE Inc., is a cradle mount for the K&B Beco .19. Machined from T-6 aluminum alloy, the HRE-10 cradle mount is designed to mount the engine both at the mounting flanges and at the thrust bearing housing, forming an integral unit that can be quickly bolted into the car. Unit also permits quick engine changes in the field in less than four minutes, including gear alignment and backlash adjustment.

Mount is priced at \$8.95, and is available from HRE Inc., c/o Omni Industries, 17751 Skypark Circle, Suite E, Irvine, California 92707. Dealer inquiries welcome.

* * *

Kirn-Kraft, P.O. Box 224, Anaheim, California 92805, now has the 1973 Cox Tee Dee .049 and .051 engines in stock. K-K immediately improves the breed by subtle but significant modifications.

The KK-01 is the Tee Dee .049 with left hand crankshaft and Kirn-Kraft front needle valve assembly (\$13.50).

The KK-02 is same as above, plus a pressurized backplate and opened-up venturi (\$17.00).

KK-03 is the same as KK-02, but with righthand crankshaft (\$17.00).

KK-04 is the Tee Dee .051 with the same features as KK-03.

In addition Kirn-Kraft stocks individual replacement parts for Tee Dee .049/.051 engines. K-K also markets the very fast ½ A Proto (Profile) TORKY for \$10.00 postpaid. No C.O.D.'s. Mail order only.

For further info on the 1973 Cox Tee Dee .049's, read Dale Kirn's preliminary report in this month's Control Line column.

* * *

J(Jim). L. White, 19372 Worchester Lane, Huntington Beach, Calif. 92646 is offering beautiful, handmade towline parachutes for R/C gliders, suitable for winch or hi-start launching systems. The canopy is made of tough, light, nylon sail cloth, in high visibility colors. There are eight nylon twine shroud lines, four of which are continuous from one end to the other. At the top, the four lines are formed into a loop to take the tow ring. At the other end, all eight lines are braided into an "Anti-chafe" lead line to which the swivel and tow line are attached. Tension keeps the chute collapsed during tow, and during the descent, vent and gore shapes prevent excessive floating. Price is \$8.00 each, five for \$35.00. ●

Workbench . . . Continued from page 4 name you can bring to mind. His accomplishments in modeling are endless, and his leadership includes past presidency of the AMA.

But get this . . .

Walt just recently settled in Germany, where he will be continuing his work for the Johns Hopkins Applied Physics Laboratories for the next few years. Naturally, he has sought membership in a couple of R/C clubs in or near the city of Heidelberg where he,

VINTAGE R-C PLANS



**9 FT PBY-5A
CONSOLIDATED "CATALINA"**
DESIGNED BY - R.C. SWEITZER

PLANS: 4 SHEETS 36"X70"
**FOR THE MODELER WHO LIKES THEM -
ALL RIBS & FULL FORMERS
SHOWN ON PLANS. -BIG!
(OVER 50 OTHER PLANS)
TRY ONE TODAY. . . . Plans \$12.00**

NEW CATALOG 25¢ - DEALERS WELCOME -
SID MORGAN
13157 Ormond, Belleville, Mich. 48111

Hi-Start

**COMPLETE ASSEMBLY,
INCLUDING:**

- 100' - 5/16" O.D. Surgical Tubing
- 400' - Heavy Duty (126 lb. test)
Nylon Twine
- Stake, rings, swivels and reel

\$25 POSTPAID
READY TO DELIVER
Check or Money Order
DEALER INQUIRIES INVITED
RON KOPP
8010 W. Waterford Avenue
Milwaukee, Wisc. 53220

and wife Joyce, are living. Both clubs have limited membership, and Walt was quizzed by one of them as to his R/C experience. They were worried that they might have to provide him with a teacher!

Tell you what . . . Let's all write letters to Walt which he can pass on to the doubtful R/C club officers in Germany; The address is Dr. W. A. Good, Headquarters, USAREUR, DCSOPS, APO New York, N.Y. 09403 No need to lay it on thick . . . just mention the fact that you have some "vague recollection" about this guy who won the R/C event at the 1938, 1939, and 1940 Nationals, who came up with TTPW (The first non-interacting proportional rudder and elevator control system), and a few other odds and ends like that.

After all . . . don't we owe him the favor?

SOARING NATS CORRECTION

Since our mention in last month's workbench column, the 1973 R/C Soaring Nationals has changed date and location.

Word now comes that the contest site is Lewis College, Lockport, Illinois, and the dates are July 23, 24, and 25. Some accommodations (also co-ed) will be available on the college campus right next to the flying field.

Write to Dan Pruss, C.D., Box 49D, Plainfield, Ill. 60544, (or phone 815-436-2649) for a complete contest info. pack. Entry is by pre-registration only, and forms will not be accepted unless postmarked June 1 through June 30 (You will register on time if you wish to flugen in das contest!)

There will be Junior and Senior/open classes (combined for scale), also standard (100 inch wingspan or less) and open (any wingspan) divisions. Team awards will also include Junior Team competition (see end of R/C Soaring column for additional info).

HELICOPTER BASEBALL

Can you stand on the pitcher's mound of a regulation baseball diamond and fly an R/C helicopter around the bases starting at home plate, making a spot landing at each base as you go, and touch down again at home plate in four minutes or less?

If you can, you will qualify for the formal competition in Orbit Electronics' Invitational Helicopter Competition to be held in cooperation with the MACS trade show on June 29 and 30, 1973. Competition will take place at nearby La Palma Stadium, with top winners being invited to fly an exhibition on Sunday, July 1, for the MACS show



"Do you have one that smells like balsa wood?"

at the Anaheim Convention Center. Write to Contest Director, Orbit Electronics, 1641 Kaiser Ave., Santa Ana, Ca. 92705 for registration forms. The R/C Bee's club of Placentia, California has volunteered to man the competition, and the \$5.00 entry fees will be donated to the club's treasury. WHO IS IT?

Just for the fun of it, we're going to present one far-back photo per month of a frequent or regular contributor to MODEL BUILDER. If you are the first to identify the individual, you'll receive a one-year subscription to MB plus a genuine, zinc-plated, wire-haired cookie pusher.

T'ain't fair if you're one of the guy's relatives, but if you are, and you can come up with an even older picture than the one we've published, we'll do something much better . . . we *won't* send you a subscription to the magazine! How can you beat that? 180 IS MAX

The above is the title of a 16 minute color film made by the National Film Board of Canada of the 1971 World Championships for Free Flight at Gothenburg, Sweden. The film is currently being distributed in the United States by: Film Incorporated, 1144 Wilmette Ave., Wilmette, Illinois 60091. Information we have does not indicate the rental cost or availability. Write to Film Incorporated for details. EXHIBITION ANYONE?

The Museum of the Philadelphia Civic Center, and the AMA are co-hosting a large scale exhibition of model planes, boats and cars in the spring of 1974.

This may seem like extra long distance planning, but consider some of the trophy sponsors: The museum itself (most outstanding craftsmanship), KLM Royal Dutch Airlines (best Fokker Aircraft of any year), TWA (Best model of a TWA Aircraft in show), Naval Aviation Museum (Best model of a Navy or Marine plane, any year),

CLASSIFIED ADS

Non-commercial: Rate is 25 cents per word with a minimum of \$3.00 worth. Commercial: Rate is 40 cents per word with a minimum of \$5.00 worth. No mail-order discount house ads knowingly accepted. All ads are payable in advance and may be for any consecutive insertion period specified. Name and address free. Send ad and payment to: The MODEL BUILDER, Classified Ads, 1900 E. Edinger Ave., Santa Ana, California 92705

Model Engine Specialists, established 1946, hop-up, chrome fuels, chemicals, engines, parts. 25 cents brings information. Franny's Chrome Speciality Products, 513 Vesta Pl., Reading, Penn. 19605. Ph. (215) 929-1169.

Peanut Scale Supplies: Plans, balsa props, wheels. Send stamp for list. Stan Fink, 80 Crest Dr., Eugene, Oregon 97405.

Kirtland Hardware & Hobby Shop, 9138 Rt. 306, Kirtland, Ohio 44094, (216) 951-2220. Specialists in R/C and headquarters for the new QUARTER MIDGET PYLON LEAGUE.

"TOW/CHUTE", Designed for R/C Gliders, Controlled Fall . . . Strong and Ultralight . . . Stays closed during tow. J.L. WHITE 19372 Worchester Lane Huntington Beach California 92646

EIGHTEEN PEANUT SCALE PLANS. \$13.95 Send self addressed stamped envelope for list. MODERNISTIC MODELS Box 6932 Burbank, California 91505

Sterling Models (Best Sport R/C Plane), Sullivan Products (Best Sport Control Line Plane), Ransome Airlines (Best model of a Pitts Special as done in the U.S. Aerobatic Team Colors), Philadelphia Maritime Museum (Best Antique Ship to 1900).

Entry to the Aero-Crafts '74 show is open to any AMA member in the United States and Canadian members of MAAC. Write for entry forms and prize categories to:

Aero-Crafts '74
The Museum of the Philadelphia Civic Center
34th Street at Civic Center Boulevard
Philadelphia, Pa. 19104

Some additional particulars:

Proxy entries may be submitted through a friend of the exhibitor living in the Philadelphia area. Museum staff, helped by Philadelphia area model clubs, will prepare entries for exhibition.

No entry fee. All entries will be submitted to the jury for prizes and inclusion in the exhibition.

To quote Robert Nobel, curator, "As a museum there is interest in presenting modeling as an art form, demonstrating that craftsmen are very active in the U.S. For the modeler,

there will be heavy public exposure for his hobby and sport in front of a new audience . . . to the best of our knowledge this is the first time a museum has undertaken such an exhibit. We believe that the degree of participation by modelers in Aero-Crafts '74 will have a direct bearing on Museum support and involvement in modeling throughout the country."

ENGINE CLINIC

There is a distinct possibility that one of the country's leading engine specialists will be conducting a troubleshooting column in the MODEL BUILDER very soon. If you've got an engine problem, be it R/C, U/C, or F/F oriented, drop us a card or letter and give us the symptoms. Maybe we can help . . . ●

Index to Advertisers

Ace Radio Control, Inc.	58
Classifieds	63
Dumas Products, Inc.	55
E.C.S.S.	54
Fiberite Co.	54
Gee Bee Line	54
Carl Goldberg Models, Inc.	2nd Cover
W.C. Hannan	50
Heath Company	57
FH Wheels	45
K & B Mfg.	48
Kirn-Kraft	52
Ron Kopp	62
Kraft Systems, Inc.	1
Marlow Engineering	45
Dick Mathis Design Group	60
Model Rectifier Corp. (MRC)	4th Cover
Sid Morgan (Vintage Plans)	62
Royal Products Corp.	3rd Cover
RS Systems	53
Satellite City	49
Sig Mfg. Co.	1
Sterling Models, Inc.	46, 47
Su-Pr-Line Products	51
Tatone Products	52
Vortex Model Engineering	56
Williams Brothers	59
Windspiel Models	61
Earl Wolsleger	58

MOVING? SEND NOTIFICATION FIRST!

OLD ADDRESS (Please Print)	NAME _____
	ADDRESS _____
	CITY STATE ZIP _____
NEW ADDRESS (Please Print)	NAME _____
	ADDRESS _____
	CITY STATE ZIP _____
Change of address notices must be received one month before date of issue that new address takes effect. Send old address with new; old label preferred. Post Office will not forward copies unless you pay extra postage. Duplicate issues cannot be sent.	
The MODEL BUILDER, 1900 E. Edinger Ave., Santa Ana, Ca 92705	

PLANS AHEAD

FULL-SIZE PLANS (with instructions) SERVICE

No. 6731 WACO YKS-6 \$3.50
Winner of 1972 Nationals F/F Scale Gas event. Span 33-1/4". By Bill Warner.

No. 6732 DRAGGIN' FLY \$3.50
Lightweight R/C glider for thermal soaring. Wingspan 7 feet. By Duane Hyer.

No. 673-OT ALBATROSS \$3.75
Class C gas ship designed by George Reich. Redrawn by Phil Bernhardt.

No. 6733 HUNTINGTON H-12 \$1.50
Rubber scale model of first US home-built. Span 19". By Walt Mooney.

No. 5731 BANTEE \$3.00
A .19 powered mini-pattern ship for 2 or 3 channels. Span 48". By John Chapis.

No. 5732 WOODWIND \$2.50
A/2 glider with sturdy, warp-proof, all-sheet wing. Span 78". By John Krouse.

No. 5733 TEA KETTLE \$1.50
Twin-boom pusher for the Brown CO₂ engine. Span 15". By Daniel Walton.

No. 573-OT-1 AERBO .020 \$2.00
Replica of 1941 Class A Nats winner. Span 30". Redesigned by Phil Bernhardt.

No. 4731 BRIEGLEB BG-12 \$3.00
Easily built 100" scale sailplane for slope or thermal soaring. By Chris Christen.

No. 4732 ESPIRITU DE SAN LUIS \$1.75
Single or 2-channel semi-scale using Sig 45" foam wing. By Dave Thornburg.

No. 4733 PEA POD \$3.25
A 36" long R/C sailboat easily made of 1/8" Luan mahogany. Clever sail control. Full size patterns. By Tom Protheroe.

No. 3731 CORSAIR "F4U/C" \$2.50
Profile scale C/L stunter for .40 engines. Jig-built wing. By Jack Sheeks.

No. 3732 SATAN MK III \$3.50
High performance, 520 sq. in. Class A free flight. By Bob Beecroft.

No. 1731 SPROUSE GOOSE \$4.00
EAA type R/C sport biplane, mostly spruce, for 60 engines. By Bill Northrop

No. 1732 SPECTRAL \$2.25
Single channel R/C soarer, 57" span, weighs 8 oz. Easily built. Andy McAfee

No. 12721 DON QUIXOTE \$3.00
An 85" span R/C glider of classic lines. Easy to build. By Dave Thornburg

No. 12722 TOAD \$3.00
One-design pylon racer for .40 engines. Also for sport flying. By R/C Bees

No. 12723 FORTY-NINER \$1.50
Great little all sheet balsa F/F sport rubber model. Span 24" By Dave Thornburg

No. 11721 TORKY \$1.50
Half-A Profile Proto U-Control speed model. Great for Juniors. By Dale Kirn

No. 11722 SEAGULL \$4.50
R/C flying boat-amphibian for .29 to .45 engines. Span 27" By Neil Whitman

No. 11723 SKYRAIDER AD-4B \$1.50
Rubber powered, 27-1/2 inch free-flight scale. Great flyer. By Walt Mooney

No. 10721 STEPHENS AKRO \$4.00
R/C Standoff scale of popular aerobatic ship, for .35- 40 eng. By Brad Shepherd

No. 10722 MINI - FAI \$2.00
High performing .010 powered miniature F/F. Only 24" span. Loren Williams

No. 9721 COLEEN-12 \$3.00
Graceful 8 ft. V-tail soarer has slope or thermal wing plans. By Randy Warner

No. 9722 BABY BOOMER \$1.50
Twin-boom sport free flight pusher for .020 power. By Art Reiners

No. 9723 LITTLE TOOT \$3.50
Semi-scale R/C bipe for .40 engines. Great performer! By Denny Elder

No. 8721 BONZO, R/C \$3.25
Semi-scale model of Whitman racer, for Form II, FAI, Open. By Fred Steffen

No. 8722 COUNTERFEIT, A/1 \$3.00
High performance competition A/1 Nordic flying wing glider. By Bob Provart

No. 8723 TAYLORCRAFT, F/F \$1.50
Rubber powered, 24-inch scale seaplane. An excellent flyer. By Walt Mooney

No. 8724 SHOESTRING, R/C \$3.00
Easily built Quarter Midget racer, fits 10% thickness rule. By Brad Shepherd

No. 7721 FAIRCHILD 51 \$3.00
One inch scale Classic for R/C, also F/F gas or rubber. By Hurst Bowers

No. 7722 SAM - 5 \$2.50
Top-notch competition Nordic A/2. Full wing plan. A winner. By Ron Evans

No. 7723 COMANCHE "C" \$3.25
Quick and easy to build, 58" span stand-off scale, 40 power. By Jim Sunday

No. 7724 TRAVELAIR '2000' \$4.00
Two inch full scale Classic R/C biplane. Proven flier, 60 power. By Bill Northrop

No. 6721 WAKEFIELD \$2.50
Highest placing U.S. entry in 1971 World Championships. By Bob White

No. 6722 MONGSTER \$3.50
Two inch scale quarter midget EAA type biplane pylon racer. By Ed Nobora

No. 6723 CALIFORNIA COASTER \$3.50
All sheet balsa R/C soarer featuring a 9 foot Jedelsky wing. By Mat Tension

No. 5721 SEAHORSE II \$3.75
Excellent trainer, designed for land or sea. 19 to 35 power. By George Wilson

No. 5722 HUMMING BIRD \$3.00
Radio controlled F/F Scale early English lightplane. .049. By Walt Mooney

No. 5723 WHETSTONE \$1.75
Half-A Combat ship to sharpen your reflexes for contests. By Steve Fauble

No. 3721 YANKEE GULL \$3.75
Expandable R/C soaring glider with 8'-4" to 12'-0" wing span. By Le Gray

No. 3722 MISS COSMIC WIND \$2.75
Contest winning Quarter Midget racer. Fast, easy building. By Fred Reese

No. 3723 SIEBEL Si 201 \$1.50
All sheet balsa profile freeflight scale for .020 power. By Jack Headley

No. 2721 MINNOW \$2.50
Control-line Profile Goodyear racer, "Cosmic Wind." By John Penhallow

No. 2722 FOKKER E-III \$3.75
WWI R/C scale for .60 engines. Rudder, elevator, and throttle. By Berni Huber

No. 2723 E-Z BOY \$2.75
Half-A competition free-flight for '72 rules and all modelers. By Al Vela

No. 1721 SHOCER \$3.50
Hot Class A/B Free Flight contender for 1972 Rules. By Mel Schmidt

No. 1722 PUSS MOTH \$3.00
Chet Lanzo's famous rubber F/F scale Puss Moth returns! By Hal Cover

No. 1723 WHITE TRASH \$3.00
A proven, trophy winning R/C sailplane with 7 and 10 ft. span. By Rick Walters

No. 12711 CURTISS-WRIGHT JR. \$3.50
Two inch scale model of famous pusher light plane. R/C By Ralph Fidance

No. 12712 TWIN TRAINER \$3.00
Sport R/C model for two .30 to .50 engines. By Bill Northrop

No. 11711 NANCY \$2.75
Scale-like, 96" span R/C glider featuring easy construction. By Jack Elam

No. 11712 BI-PRENTICE \$2.75
Training type R/C biplane for fun flying. Uses .29-.50 engines. By Bill Northrop

No. 9711 BEANPATCH \$3.50
An EAA scale-like model for sport R/C 45 power. By Bob Upton

No. 9712 FAIRCHILD 22 \$2.25
Scale old-timer for single channel radio or freeflight .020 power. By Tom Laurie

.....
Price includes Third Class postage and reprint of building instructions. Add 35 cents PER PLAN for First Class postage. Add 50 cents for orders outside of USA. CALIFORNIA RESIDENTS ADD 5% TAX.

**SEND TO: THE MODEL BUILDER
PLANS SERVICE
12552 DEL REY DR.
SANTA ANA, CALIFORNIA
92705**

SPITFIRE!

NEW FOR
'73

Royal has always strived to produce a line of kits that uncompromisingly combines scale beauty with flyability. The Spitfire is no exception. This hand-cut balsa kit was scaled down from the famous WWII Spitfire which did much to repel the attack of the German Luftwaffe during the war and rekindled British hopes during their "darkest hour".

For a truly unique R/C model, make the Spitfire your next scale project. See it now at your local dealer!



Scale R/C

Features:

- Fuselage length: 52 $\frac{1}{8}$ "
- Wing Span: 64 $\frac{1}{2}$ "
- Wing Area: 736 Sq. In.
- Engine Size:60-.80
- Scale Ratio: 1 $\frac{3}{4}$ " = 1'
- All balsa and all scale
- Spun aluminum cowl
- Hardware package included
- Price: \$69.95

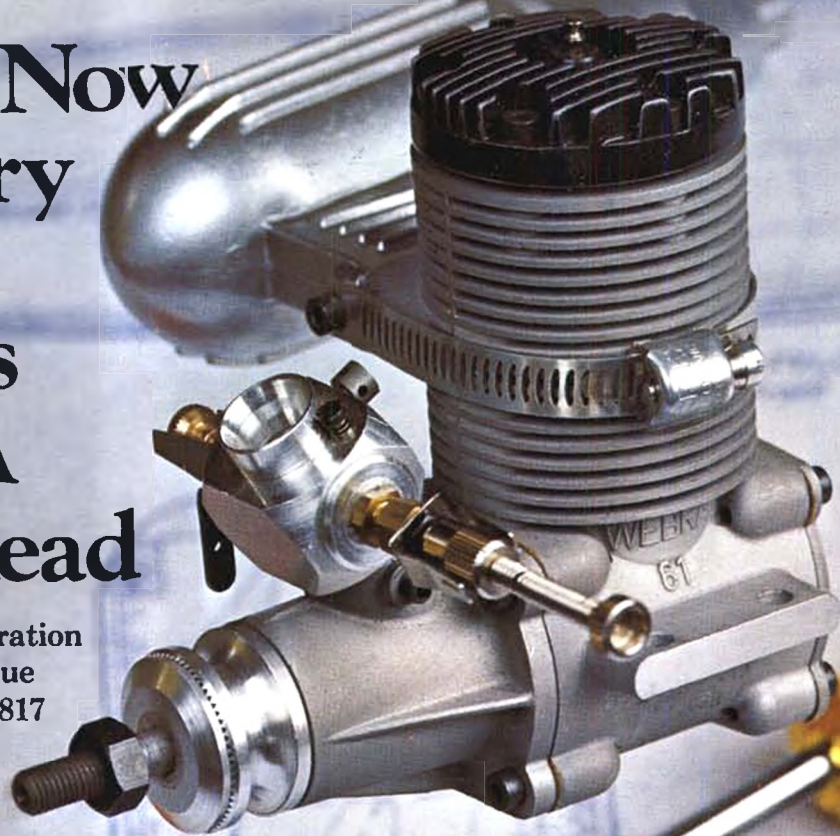


**ROYAL PRODUCTS
CORPORATION**

6190 E. EVANS AVENUE,
DENVER, COLORADO 80222

Starting Now Not Every MRC Webra Is Called A Black Head

Model Rectifier Corporation
2500 Woodbridge Avenue
Edison, New Jersey 08817



Introducing the Speed .61 With Schnuerle Porting

SPECIFICATIONS:

Displacement: .6071 cubic inches
Stroke: .886 inches
Bore: .942 inches
Weight: 16.38
Control: Webra TN Automix Carburetor
Bearings: Double Ball Bearings
Output: 1.55 hp at 15,000 RPM

The all new MRC/Webra Speed 61 joins our famed Blackhead in a line of powerplants that provide an engine for every pattern, scale or sport need.

MRC/Webra Speed 61 (1024 R/C) made in a new Enszfeld Austria plant is already being touted as the "hot" one for speed and power.

It features today's Schnuerle porting system for superior fuel flow to the combustion chamber and most efficient scavenging of exhaust gases. Schnuerle porting further eliminates any need for a piston baffle permitting use of a symmetrically shaped combustion chamber for high

volumetric efficiency. Utilization of Schnuerle porting combines with low friction losses and outstanding new heat dissipation design to provide an engine that exceeds the power output of other 60 engines available to the modeler.

Webra's Automix Carburetor insures positive control of this new engine's tremendous upper power level. At the same time this proven carburetor design retains an efficient idle and effective power transition through intermediate ranges which is so necessary for today's R/C flying... MRC/Webra's Speed 61 can truly be called an ultimate; make sure it's in your plans.



Tom Stark's Free-Flight Rubber Scale winner of the 1972 Nationals, Benny Howard's classic "Mr. Mulligan," has now been kitted by Sig Mfg. Co. to sell for \$2.95. Kit includes an 8-page building and flying instruction book. Wingspan is 20".

FREE FLIGHT SCALE

By FERNANDO RAMOS

● This month the Marlow Shark was completed, so I would like to cover a few points dealing with the covering and flying of the model. As far as covering is concerned, Walt Mooney has discussed this in the last two issues of MB and I'll only add a few remarks that may be of help.

The use of thinned white glue (60 percent glue to 40 percent water is a good mixture) may be new to modelers, but it does work very well and reduces the time it normally takes to cover any model. One word of caution . . . the thinned glue will penetrate right through the paper and stick to your fingers. This can be avoided by keeping your fingers moving while applying pressure. Should your fingers stick, don't pull away or you'll tear the tissue for sure.

Just roll your fingers slowly off the surface.

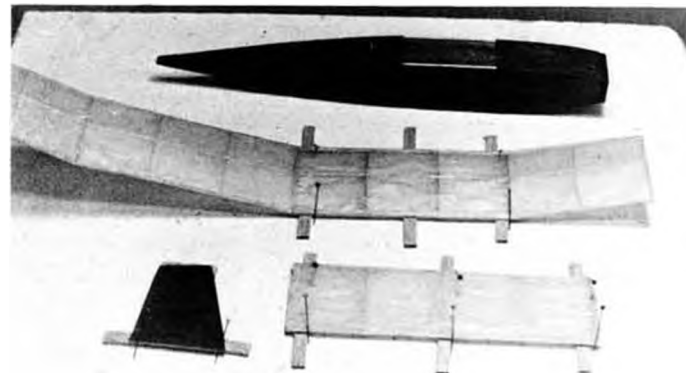
When the covering is complete, instead of the traditional water shrinking method, try using good old rubbing alcohol. (I have used methyl and denatured ethyl alcohol as well). Why? Well, there are several good reasons. When you have a light structure, the water could make it warp. Alcohol evaporates quickly and warping is all but eliminated. I have found that applying the alcohol with a brush, as you would dope, does a better job than spraying it on.

Once you have moistened the tissue, pin the covered framework down to your workboard to dry. This is best accomplished by using 3/32 or 1/8 x 1/4 inch stock to raise the structure above the workboard. This permits air to circulate under the structure and still assures

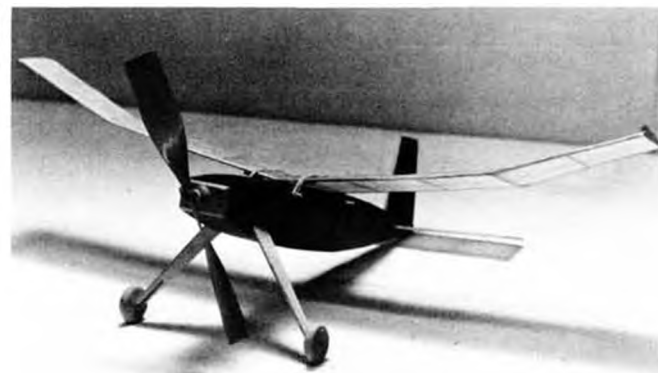
a straight, true framework.

Another idea for water shrinking light structures that may be new to a few readers is to place the covered wing or tail in the freezer for several minutes. While cooling the structure, prepare a tea pot of boiling water. Remove the covered framework from the freezer and pass it over the hot steam coming from the boiling water. Then pin it down on the workboard to thoroughly dry. The theory here is, of course, that the cold structure will not be affected by the hot steam, and will not warp.

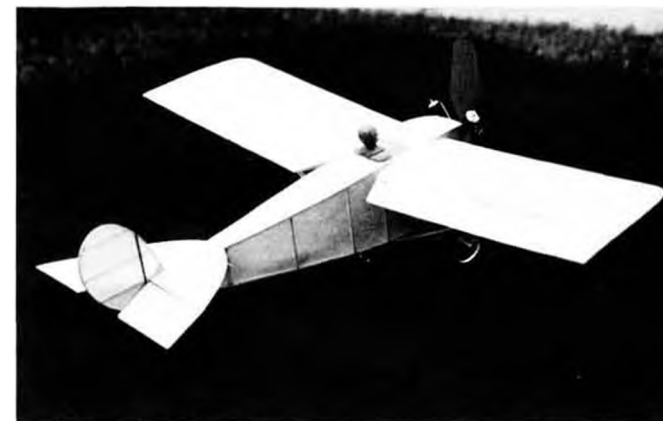
While still on this subject, another covering technique may be of interest . . . pre-shrinking the tissue. This is done simply by taping the tissue on an open framework, such as a picture frame, and then water shrinking the tissue. When



After moistening the tissue, the parts are pinned down to a board to avoid warps. Shimmying parts off board allows air underneath. Alcohol evaporates rapidly, speeds up the drying process compared to water.



The completed Marlow Shark, ready for trimming test glides and first power flights. Fernando has substituted a plastic prop for the machine carved prop furnished with the kit.



The Huntington was the first genuine U.S. homebuilt. The structure was purposely simple . . . for the amateur plane mechanic.



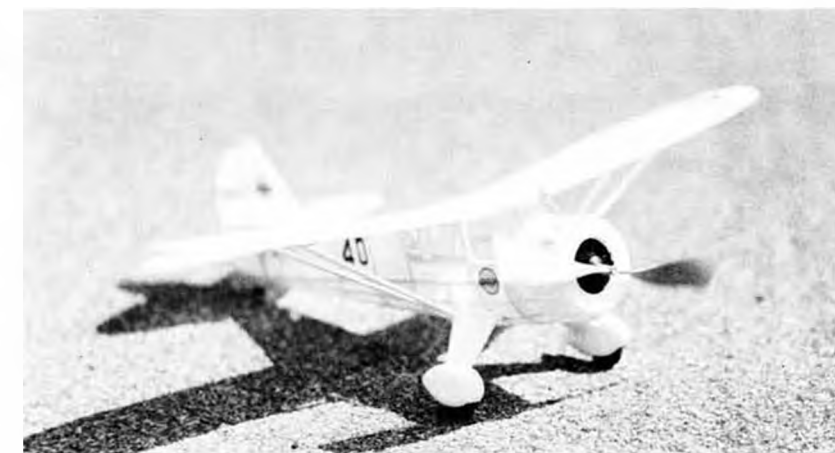
Peanut Piper Pawnee was built by Roald Tweet, Rock Island, Illinois. It's made entirely from sheet foam stock. Bag of Peanuts plan.

add is to say that it's all true. These thin basswood strips laminate easily using white glue or Sigbond for the adhesive. The outlines for this model were wrapped around a line of pins pushed into the plans to form a guide for the correct shape. The pins must not be spaced more than about an eighth of an inch apart in the sharp bend areas, and waxed paper over the plan is a must to keep the laminations from sticking down. You can cut out a cardboard pattern to laminate around if preferred, using masking tape to hold the laminations to the form. This system has to be employed if you are using balsa wood for the laminations in the interest of lower weight, but with basswood in the thinner sections it isn't absolutely necessary.

Standard assembly methods are used everywhere else. Simply make the parts by pinning the outlines down over the plan and then cement the cross pieces or ribs in place. Don't omit the gussets in the corners of the surfaces. Without the gussets the tissue covering will wrinkle in the corners for sure when it is shrunk. Use the covering technique outlined in last month's Peanut Scale article to cover this model.

Note that the landing gear wire is cemented into the fuselage but that it is not cemented to the landing gear struts nor to the landing gear cross axle. This will allow the wire to flex under load without putting any of the load into the wooden landing gear structure. While this technique is not strictly scale, (the original airplane didn't have a wire landing gear structure), it hardly affects the appearance and is tremendously more durable.

Details make the model, and there are several that can be used to advantage on this one. First, Fulton Hungerford's wire wheels (FH Wheels) are used. I never cease to be amazed by their superscale appearance and their strength and durability. Williams Brothers' nose thrust button and cylinders are also used. The propeller on the large version is by Testors. The only way to get one that



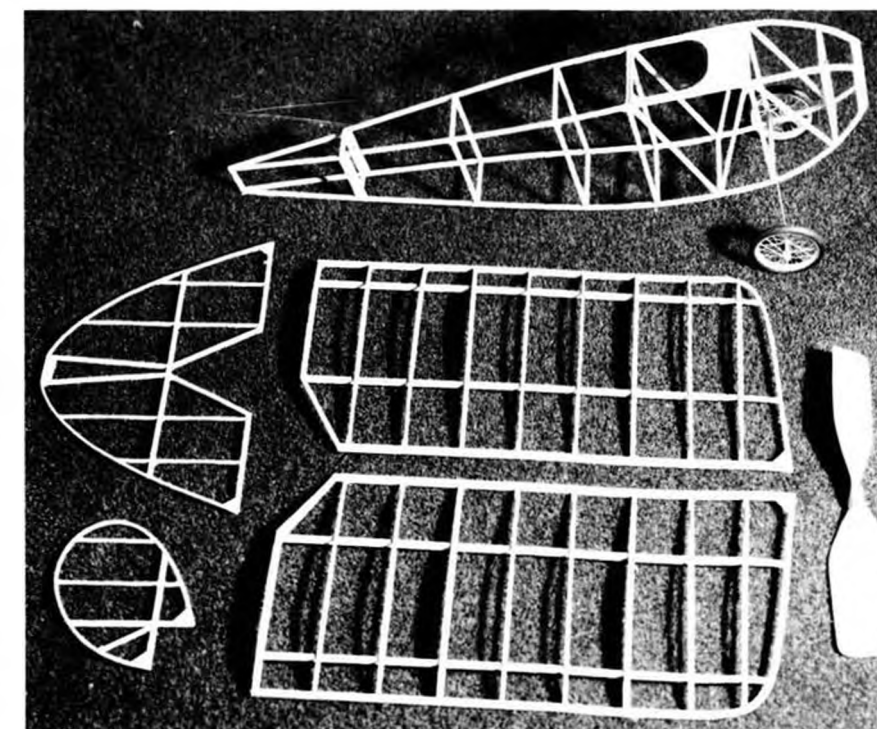
Peanut Mister Mulligan by Hank Nixon, Vero Beach, Florida.

I know of is to buy one of their ready-to-fly models and wear it out . . . finally salvaging the prop for use on the Huntington. Any suitable plastic propeller is really OK.

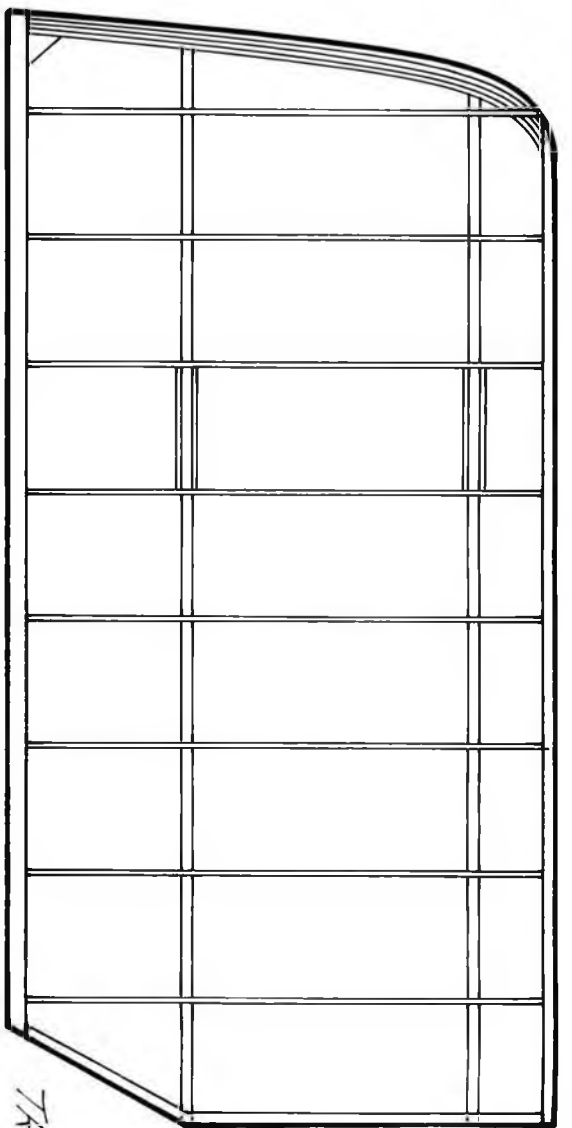
Struts on the model shown were made of thin plywood and are thinner than

those shown on the plans. If you use balsa for the struts, use hard balsa and stick to the plan thickness. The diagonal wire braces between the wing struts are made from 4 pound test monofilament fishing leader.

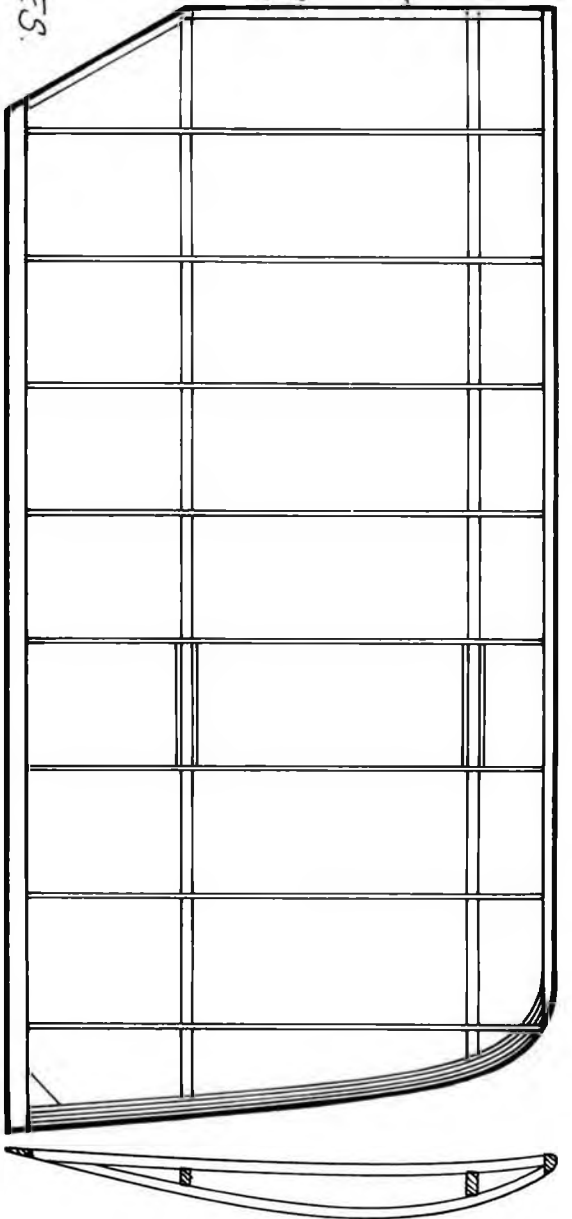
Continued on page 49



Bones of the larger Huntington H-12. Note built-up nose. Tail heaviness resulted in changing to easier built block nose as shown on the plans.



HARD BALSAL OR
BASSWOOD FOR
LEADING EDGES
BALSAL FOR
SPARS FRONT
AND BACK.
SLICED BALSAL
RIBS EXCEPT
ROOT RIBS
WHICH ARE
SOLID.



BALSAL FOR
TRAILING EDGES.

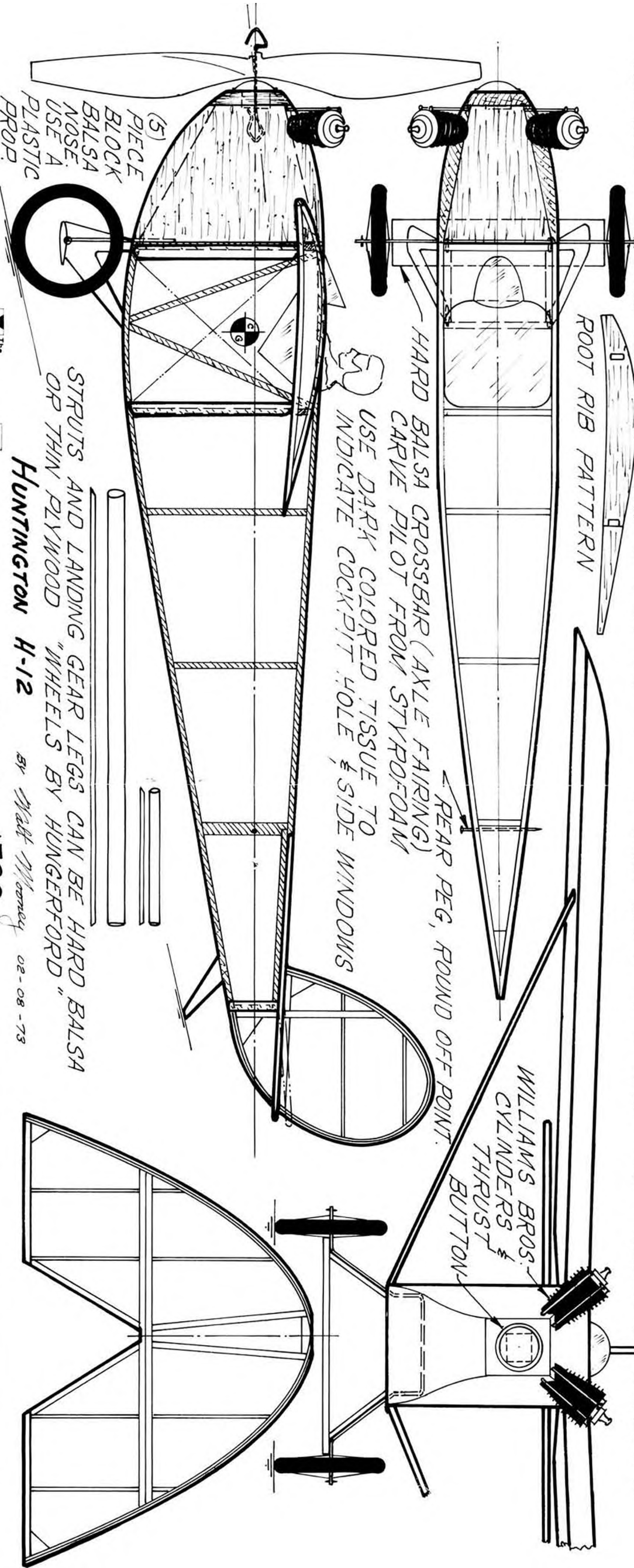
USE BALSAL OR THIN BASSWOOD STRIPS FOR LAMINATING THE WING TIPS AND TAIL SURFACE OUTLINES.

ROOT RIB PATTERN

HARD BALSAL CROSSBAR (AXLE FAIRING)
CARVE PILOT FROM STYROFOAM
USE DARK COLORED TISSUE TO
INDICATE COCKPIT HOLE & SIDE WINDOWS

REAR PEG, ROUND OFF POINT.

WILLIAMS BROS.
CYLINDERS &
THRUST
BUTTON



(5)
PIECE
BLOCK
BALSAL
NOSE,
USE A
PLASTIC
PROP.

STRUTS AND LANDING GEAR LEGS CAN BE HARD BALSAL
OR THIN PLYWOOD "WHEELS BY HUNGERFORD"

HUNTINGTON H-12

BY Matt W. Honey 02-08-73

MODEL BUILDER / magazine Plan No: 6733

