

Radio Controlled *Indoor* Models • Norm Deitchman's SE-5

ICD

May 1959 — 35 cents

MODEL AIRPLANE NEWS



Sablar Special

Digital Edition Magazines.

This issue magazine after the initial original scanning, has been digitally processing for better results and lower capacity Pdf file from me.

The plans and the articles that exist within, you can find published at full dimensions to build a model at the following websites.

All Plans and Articles can be found here:

Hlsat Blog Free Plans and Articles.

<http://www.rcgroups.com/forums/member.php?u=107085>

AeroFred Gallery Free Plans.

<http://aerofred.com/index.php>

Hip Pocket Aeronautics Gallery Free Plans.

http://www.hippocketaeronautics.com/hpa_plans/index.php

Diligence Work by Hlsat.



The *FIRST* .45 R.C. Of Course it's... **TORPEDO**

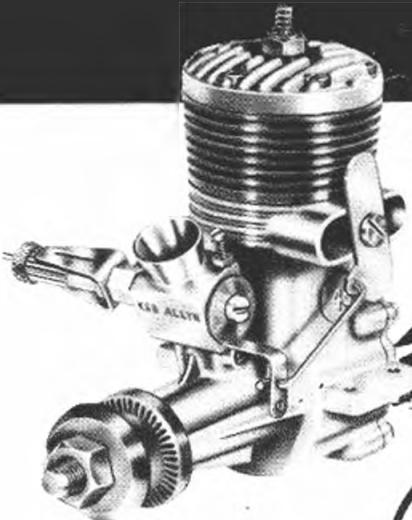
with R.C.F.*

The demand of today's larger aircraft and increased radio control equipment in multichannel flying makes it mandatory that the horsepower in the nose of present day models be increased. After a year of experimenting and testing with top R.C. modelers from the east to the west coast it became evident that a .45 would be the correct engine for today's multichannel aircraft . . . now it is here and available to you . . . the TORPEDO .45R.C.

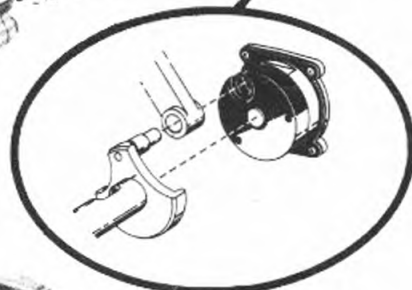
For Radio Control Flying at its best
it's the **TORPEDO .45R.C.** with R.C.F.

The **TORPEDO .45R.C.** brings with it the most exciting advancement ever to take place in the balancing of single cylinder model airplane engines. It is equipped with R.C.F. (Rear Counter-balancing Flywheel) and an exhaust baffle control linked to the "Multi-Speed" carburetor. R.C.F. is a major factor contributing to its outstanding horsepower as well as its unusual smoothness at all speeds. Bearing life, too, is greatly increased with R.C.F. The exhaust baffle control and "Multi-Speed" carburetor provides the slowest, smoothest idling possible. Add these features to the famous **TORPEDO** engineering and you have a .45R.C. with a full range of effortless performance.

NOTE: Modelers flying at altitudes above 3000 feet will discover that the **TORPEDO .45R.C.** has the horsepower necessary to provide top performance.



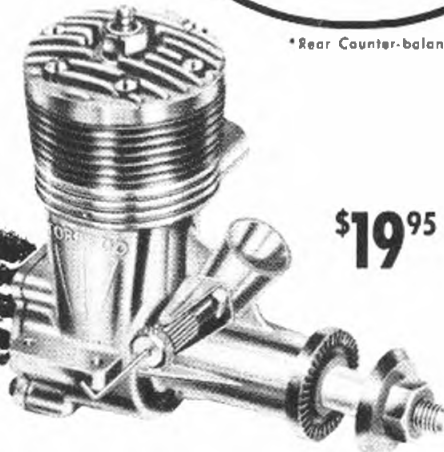
\$27⁹⁵



*Rear Counter-balancing Flywheel

TORPEDO .45

The new **TORPEDO .45** is designed for those who prefer a large class C engine *without excessive weight*. The **TORPEDO .45**, too, is equipped with R.C.F.* to create a powerful flight with vibration at the absolute minimum.



\$19⁹⁵



K&B ALLYN COMPANY • 5732 DUARTE STREET • LOS ANGELES 58, CALIFORNIA

Way Out in Front in Performance and Value

COMET'S *Ready-to-Fly All-Plastic* Gas Models and *Ready-to-Run* Racing Car



Snark SM-62 TRUE-TO-SCALE Intercontinental GUIDED MISSILE

Ready-to-Fly, True-to-Scale, U-Control GAS MODEL. High-Impact Plastic. Complete with LAUNCHER, Control Handle and Lines and .049B "OK" Cub Engine with Auto-Recoil Starter.

A scale version of the Air Force's dramatic intercontinental missile, modified for thrilling control flights! Big—18 $\frac{3}{8}$ " long; beautiful—in rich red and yellow plastic; complete—with mobile 6-wheel launcher, powerful engine, control handle and lines, in striking 4-color box.



PLM-47
\$14.95

Length 18 $\frac{3}{8}$ "
Span 13 $\frac{3}{8}$ "
Weight 7 $\frac{1}{4}$ oz.

Complete with
Gas Engines



Regulus SSM

GUIDED MISSILE

Ready-to-Fly, U-Control GAS MODEL. High-Impact Plastic. Complete with .049A "OK" Cub Engine and Twist-Cord Starter, Control Handle and Lines

This model has only one rival in value—Comet's own Tri-Pacer! Smart, sleek; blue-and-white color scheme; 14 $\frac{1}{2}$ " long; cushion-rubber tires, tricycle landing gear, colorful decals. Complete with engine, starter, control handle and lines in a full-color chest.



Length 14 $\frac{1}{2}$ "
Span 14"
Weight 6 oz.

High
Impact
Plastic

AVAILABLE
JUNE 1st

PLM-31

\$7.95

PLR-3200

\$11.95

BELOND AP Special Engine Powered RACING CAR

TRUE-TO-SCALE

Length 11"

Ready-to-Run, High-Impact Plastic. Complete with .074 "OK" Cub Engine with pull starter, Bridle and Tetherlines.

Replica of the racing car that won the 1957 and 1958 Indianapolis Speedway classics, beautifully molded in dazzling yellow plastic! Genuine rubber tires, decals, driver, bridle and tetherlines—ready-to-run! Telescoping 3-color box.



Send for these 2 BIG COMET BOOKS:

The New Comet Catalog—10c; shows hundreds of models in color. 20-Page Book—"What Makes An Airplane Fly"—lots of pictures and diagrams—printed in 2 colors—25c.

COMET MODEL HOBBYCRAFT, INC.

501 WEST 35TH STREET, CHICAGO 16, ILLINOIS

NEW...

POWER-PACKED and the SMO-O-OTHEST AFLOAT!

**MODEL
9003
BOATMASTER
ELECTRIC
MOTOR
SUPERSEDES
MODELS 9001B
and 9002B**

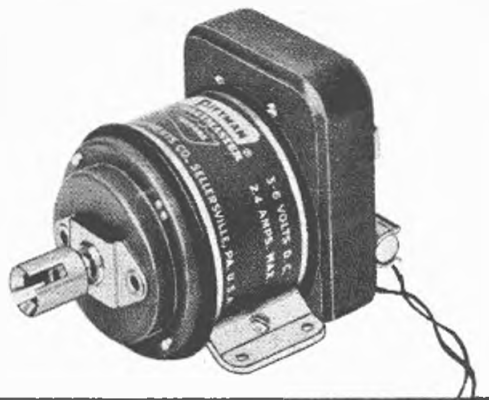
Complete with Universal
Coupling Assembly

GENERAL SPECIFICATIONS: Ceramic lifetime magnet; Stainless steel shaft; Self-aligning, oil impregnated bearings; Felt wicks for oil retention; Neoprene shock insulated mounting; Long life copper graphite brushes; Double insulated armature windings, impregnated and baked; Fully enclosed nylon and plated steel housing; Fused for emergency protection.

3-6 VOLTS D. C.

2.4 AMPS MAX.

WT. 7½ OUNCES



only
\$750



MADE IN U. S. A. BY
PITTMAN
ELECTRICAL DEVELOPMENTS CO.
Sellersville, Pa.



P. G. F. CHINN

Foreign Notes

GREAT BRITAIN

1959 marks the Golden Jubilee of the model flying movement in the United Kingdom. Fifty years ago, on January 21, 1909, the Kite Flying Association was founded at Caxton Hall, London, under the presidency of Major B. Baden-Powell. Soon afterwards, the name was changed to the Kite and Model Aircraft Association and recognition by the Royal Aero Club obtained. Then, in the early 1920's, the K.M.A.A. was completely re-organized under the title of the Society of Model Aeronautical Engineers, the national body which governs the movement in Britain to this day and is probably the oldest organization of its kind anywhere.

AUSTRALIA

Three records were broken at the recent Australian Nationals held at Camden, 25 miles from Sydney, N.S.W. Stunt Champion Bob Hyde clocked 18 minutes plus, to set a new towline glider record. The Rice-Farnan speed team set a new figure of 110.2 mph in Class I (.15 cu. in.) speed, using Class II (.012) lines. Motor was a stock, but well broken-in O.S. Max-II 15 turning a Tornado 6/8 on 30 percent nitro. Model was fiberglassed with all-fiberglass pan. Third record was Kevin Green's 36 min. 53 sec. total in the One-hour Scramble in which 58 models took the air at the start, flights being restricted to a two-minute maximum. Green, like nearly all other Scramble contestants, used a Mills .045 diesel.

In the Stunt event, O.S. powered Thunderbirds took first and second, Bob Hyde winning for the second successive year, with Tony Farnan second. Top appearance points went to third place winner Ken Taylor, who flew a very beautiful Max-35 (engined 60-inch original. Junior stunt was again won by Doug Harlow (Max-29 original). Engines used for stunt were mostly O.S., Fox, K&B and Australian Burford 29's and 35's.

The A Class team race was, as usual, an Oliver-Tiger benefit and was won by J. Ray. W. Penfold of South Australia won Class B with an Enya 29-III powered ship. Class B now appears to be developing into a fight between Enya and O.S. Tony Farnan's Max-29 was reported to be clocking 97 mph and 60 laps, but was eliminated when Farnan put his foot in the prop. The Class C team race—an event, like the Scramble, peculiar to the Australian contest calendar—went to Mike Ware of Queensland (Max-35).

Speed was not too well supported. Jack Finneran won Class II with a Dooling 29 at 127 mph. Bruce Dawe's Monoline McCoy 60 took Class III at 138 mph. In Combat, 30 of the 40 entries were using O.S. engines. Winner was Brian James of New South Wales.

Wakefield rubber and FAI gas both went to the noted Australian free-flight expert and modeling writer, Jim Fullarton. His power model had an auto-elevator to control the climb and was fitted with an O.S. Max-15 motor.

In RC, the equipment was, in general, more impressive than the flying. One Queensland entrant achieved Australia's best RC crackup to date when his Ohlsson (Continued on page 52)

UNBEATABLE!

VALUE QUALITY PERFORMANCE

ESSCO RC PRODUCTS

YOU ASKED FOR THIS: THE ESSCO '59 model all purpose battery charger. A heavy duty underwriters compliance unit that will properly recharge at mfr's ratings all cells and batteries used in RC work. Note that we state "mfr's specified charging rates." Other chargers specs simply state "will recharge all types" but are not designed to recharge the popular B1054 surplus, etc. cells at the 2 amp rate but instead at some low value which would require 24-48 hours to fully recharge them. The Essco charger is provided with a 6 terminal connector board and 3 controls that allow fine regulation of regular and trickle charge of the popular new NICADS, etc. The full wave H.F. rectifier and stepdown transformer will provide constant DC for bench testing of motors/actuators. Will also trickle charge your 6 volt auto battery for fast starting in cold weather. A lifetime super Essco value 8.95



All That's New & Best in RC, available first at ESSCO NEW MONO MODULATOR, a compact stable modulator suitable for controlling ALL CW XMTBs to TONE. Especially suitable for the MAC IIs. Requires only a few minutes to install. Tone variable 300 to 1200 cps 9.95 FOR ULTIMATE PERFORMANCE AND DEPENDABILITY . . . THE EXPERTS SAY: "The Essco TMT is without a doubt the best single channel receiver buy in the RC industry."

STD TMT with MICRO GEM or Paladium non-pitting contact relay, housed in small attractive metal case 21.95

ANOTHER NEW DEVELOPMENT in receivers, asked for by many. THE ESSCO TMT/M.C., gives reliable motor control and proportional rudder, (fall safe if desired). Comes in same size case as STD TMT, only 4 oz wt. A half, drain under 60 ma. Complete ready to fly, deluxe unit 23.95

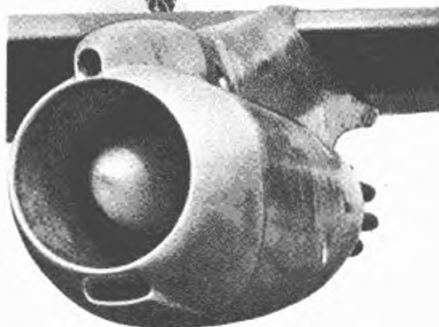
PRICE ELECTRIC paladium non-pitting contacts 100 ohm relay. Ideal for pulse work w/3 volt receivers. 2.25

THE NEW DON STEEB Multi-servo, unbelievable fine workmanship and reliability 18.95

ESSCO - NEW YORK
58 WALKER STREET
New York 13, N. Y.
Telephone WA 5-8187

ESSCO RC PRODUCTS
at your local dealer
Prompt - Friendly Service

The World's Most
Experienced Airline
invites you
to compete in . . .



PAA-LOAD EVENTS for 1959

Move into the Jet Age with Pan American by competing in PAA-Load Jet.

New this year: PAA-Load Gas and Clipper Cargo with the .020 "Pee Wee" engine.

PAA-Load Contests are held throughout the U. S. and 'Round the World.

For 1959 rules and regulations, write to: Educational Director, Pan American World Airways, 28-19 Bridge Plaza North, Long Island City 1, N. Y.



Guillow's

TOP QUALITY • TOP VALUE

GAS MODEL AIRPLANES

★ RADIO CONTROL

★ FREE FLIGHT

★ U-CONTROL

STUNT • COMBAT • TRAINERS

Brand New! 20" WING SPAN CONTROL LINE MODEL

The SKY KING



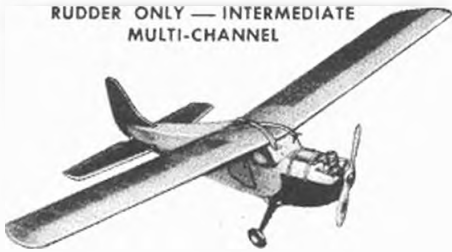
\$179
less motor and propeller

Features:

- Airfoiled balsa wing
- Complete hardware package
- Flying lines and control handle
- Sturdy motor mount system and new angle poised landing gear arrangement

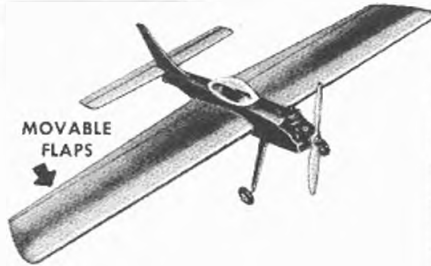
Completely pre-fab kit designed primarily for the .020 engine — also easily adapted for .049 motors. Designed and guaranteed to "stay out on the lines" even in high winds. No equal for flight performance and durability in its class.

RUDDER ONLY — INTERMEDIATE MULTI-CHANNEL

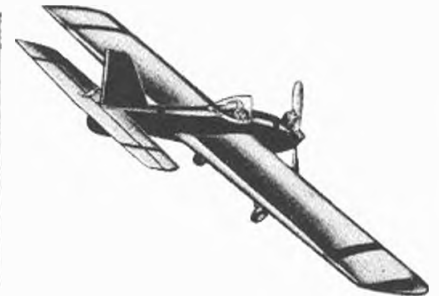


EXPLORER 56" wing span R C model. Wing area 560 sq. in., Engine .15 to .25. \$14.95

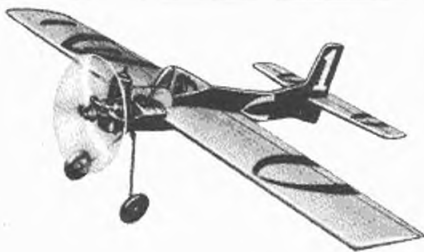
MOVABLE FLAPS



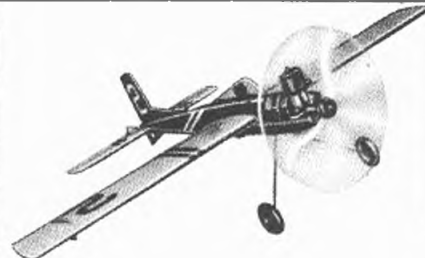
BARNSTORMER MARK 2 U-control stunt model. 47" wing span, wing area 470 sq. in., Engine .19 to .36. \$7.95



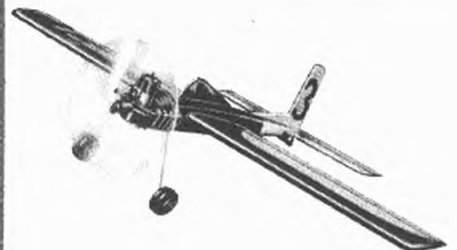
BABY BARNSTORMER 1/2 A U-control stunt. Wing span 23 1/2". Wing area 118 sq. in., Engine .035 to .049. \$3.25



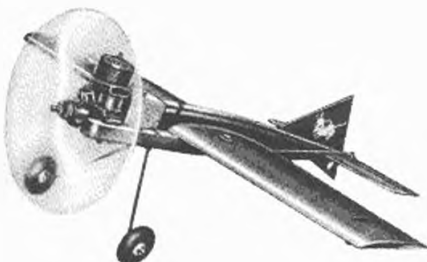
PROFILE TRAINER 1 Ideal control line model for small engines from .049 to .099. 24" wing span. \$3.25



PROFILE TRAINER 2 30" wing span U-control model for engines from .14 to .19. Rugged — dependable. \$4.50



PROFILE TRAINER 3 Giant 36" wing span U-control trainer for engines from .19 to .36. Best value. \$5.95



RAT RACER U-control model for Rat Race event. 24" span — for engines .25 to .40. Indestructible! \$4.50



KIWI 1/2 A 35" wing span free flight model. \$2.95
KIWI A 48" wing span free flight model. \$4.95



New low price!

TRIXY 45" span, swept wing U-control model stunt, combat or sport flying — for .19 to .36 engines \$5.95

If not available at your Hobby Dealer, send direct to factory adding 25c packaging and postage in U.S.A., 40c outside U.S.A.

PAUL K. GUILLOW, INC., Wakefield, Mass.

30th Year of Publication

MODEL AIRPLANE NEWS

JAY P. CLEVELAND, President and Publisher

May 1959

Vol. LX, No. 5

CONTENTS

CONSTRUCTION

The SE-5	9
Pied Piper	22
Whip-Control Starfire	25

ARTICLES

Pop It!	12
Men and Ships	16
Indoor RC	18
The Hand Launched Glider	28
International Airfares	30

FEATURES

Foreign Notes	2
MAN at Work	4
Radio Control News	20
Sablar Special	24
Bulletin Board	32

WILLIAM WINTER, Editor

WITTICH HOLLOWAY, Art Director

Contributing Editors: Peter Chinn (England);

Don Grout, Ed Lorenz, Ted Martin,

Bruce Wennerstrom, Harry Williamson

Executive and Editorial Office:

551 Fifth Avenue, New York 17, N. Y.

Advertising Manager, N. E. Slane, 551 5th Ave.

New York 17; West Coast Adv. Mgr., Justin

Hannon, 4708 Crenshaw Blvd

Los Angeles 43, Calif

Published Monthly by Air Age, Inc. Editorial and Business Offices: 551 Fifth Ave., New York 17, N.Y. Jay P. Cleveland, President; Y. P. Johnson, Vice Pres.; Louis V. DeFrancesco, Treas.; G. E. DeFrancesco, Sec. Second Class Postage paid at Columbia, Missouri. Additional Second Class Entry at New York, N.Y.

Copyright 1958 by Air Age Inc.

Printed in U. S. A.

by
William
Winter



► More than 5,000 devotees of the home-built airplane now belong to the six-year-old Experimental Aircraft Association. In 1953, the EAA was a gleam in a mimeograph machine's eye, so to speak. Today, EAA has chapters throughout the United States and members in 25 other countries. It publishes a highly professional slick paper magazine, Sport Aviation, and manuals, such as Data Book 1959, Typical Lightplane Fuel System, Amateur Builder's Manual, which are a delight to any airplane lover's eye. EAA sponsors a yearly fly-in attended by dozens upon dozens of home-builts—low wings, cabin jobs, midwings, bipes—delightful looking ships, safe to fly, meticulously built (and why shouldn't they be, since practically everyone in the movement is a model builder!).

At the 1960 Fly-In, entries will be judged in an International Design Competition (tentatively \$5,000) for a safe, practical utility plane with folding wings, which can be kept in a garage and towed to the airport.

EAA and home-built airplanes add up to an incredible story. Begun by a group of home builders in Milwaukee in 1953, EAA is staffed by a handful of dedicated people who work for nothing, husbands and wives, who in 1958 got out 83,000 pieces of mail from a basement!

CAA (now FAA) co-operates with the home builders to keep things safe, and on the up-and-up. From various companies and individuals you can buy detailed plans for airplanes that would be a credit to the airplane manufacturing industry. Planes have been built in

schools, and by women. Some members go in for "vintage" aircraft, which might be anything from a Fokker Triplane, Nieuport 28, or Camel, to the more "modern" stuff, like Waco 10's, Monocoupes, Fairchilds and Stinsons.

It takes skill and responsibility to make these things. Probably most of the home builders have prior skill in welding, woodwork, etc. Those who don't, go out and get it, by going to school, or working in useful places. It costs, say \$1000 to \$1500, and three years time, to make a home-built. So many hundreds of home-builts have been built or are under construction that it is getting tough to scrounge cheaply, materials and engines. The 65 hp plants of recent years already are in short supply.

The home-built movement had to happen. In post-war years, the industry has had to follow the market. Planes were made for (Continued on page 70)



NEXT MONTH'S COVER Skyhopper

SUBSCRIPTION PRICES

U.S. & POSSESSIONS: 1 year \$4.00; 2 years \$6.50; 3 years \$9.00
CANADA: 1 year \$4.50; ALL OTHER COUNTRIES: 1 year \$5.50

Payment from all countries except Canada must be in U.S. Funds.

CHANGE OF ADDRESS—Send to MODEL AIRPLANE NEWS, SUBSCRIPTION DEPT., 551 FIFTH AVENUE, NEW YORK 17, N.Y. at least one month before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label or copy. The Post Office will not forward copies unless you provide extra postage. Duplicate issues cannot be sent.

PLANE ON THE COVER

The Sablar Special, a glamorous home-built aircraft by Tony Sablar, was inspired by the Knight Twister, itself a great modeler's favorite before WW 2. An 85 hp Continental affords a snappy 150 mph top and a cruise of 130 mph. Tony is a member of the Experimental Aircraft Association. As to the cover itself, artist Ja Katula outdid himself.



LOOK! LOOK! LOOK!

it's the famous . . .

OK CUB .049A

now only **\$3.95**

**Complete with FUEL-VUE NYLON TANK
HIGH IMPACT PROPELLER • SPIN STARTER**

Yes! Here is the engine value of the year. It's the genuine OK Cub .049A engine at a never before heard of price. Our new attractive package saves you money. No need now for you to have any engine but the best. Ideal for both free and control line flight. Here are just a few of the exclusive OK features:

- Special Bearing Quality Die Cast Crankcase ● Hardened Aircraft Steel Crankshaft ● Fuel-vue Nylon Tank ● Patented 360° Porting ● Replaceable Glow Plug

NEW LOW PRICES — BETTER VALUES THAN EVER ★ ★ ★

		 "OK" CUB .074 \$5.45*	 "OK" CUB .14 \$6.95*		
"OK" CUB .049B Power Kit \$3.95	"OK" CUB .049B \$4.95	"OK" CUB .099 \$5.95*	"OK" CUB .19 \$7.95	"OK" CUB .29 \$11.95 "OK" CUB .35 \$12.95	"OK" CUB DIESELS .049 \$6.95 .075 \$7.95

<p>OK GLOW FUEL</p> <p>Specifically developed to give maximum life and performance with all OK engines (and other engines of similar compression ratios), OK Glow Fuel is a scientifically compounded methanol-base fuel, heavily fortified with nitrates. High heat resistant silicone lubricants won't thin under engine heat.</p> <p>45c 1/2 PT. 80c PT. \$140 QT.</p> <p>OK Diesel Fuel for CUB Diesels Pint 80c</p>	<p>OK GLOW PLUGS</p> <p>"OK" Glow Plugs have a superior platinum glow element for fast starts, ease of acceleration, highest speed. Available in two sizes. G-2 for Cubs 19, 29, 35 and all other makes using 1/4-32 long type plugs. G-3 for all Cubs .039 to .14 and all other makes using 1/4-32 short type plug.</p> <p>49c</p>	<p>OK ACCESSORY SET</p> <p>Just the right fuel . . . just the right accessories for satisfactory engine operation! Contains:</p> <ul style="list-style-type: none"> ● 1/2 pint OK Glow Fuel ● 1 filler spout with tubing ● 1 set battery leads assembled, soldered, battery connection and glow plug clip ● 1 comb. plug wrench and screw driver <p>\$1.25</p>
--	---	--

HERKIMER TOOL & MODEL WORKS, INC.
88 HARTER STREET HERKIMER, NEW YORK

ORDER - BY - MAIL FROM THE COMFORT OF YOUR HOME OUR 27th YEAR OF SERVICE TO MODELERS

SUPERMARKET SHOWCASE

FEATURING AMERICA'S GREATEST MODELS ORDER YOUR FAVORITES FROM AHC



GLO ENGINES

COX .020
"The Wee" sensation that flies most 1/8A planes. 1 1/2" high. Develops max. power at 18,000 RPM.

3.95

COX .049 \$4.95

Fox .29 or .35 \$15.95 EA.
Two most popular 1/8A's. Dependable performance. Gives you easy starts & easy handling.

MARINE ENGINES

Cameron .19 Water Cooled
Popular inboard marine engine that's loaded with power.

Single \$14.95
Dbl. Jet 16.95

Sea Fury OUTBOARD
.049 or .060
Ally's sensational outboard's... model builder's choice.

10.95 EACH

SMOOTHIE
795
VECO's 52" contest winning starter. Designed for windy weather. Wingspan 52". For .29 to .35 eng.

DUCTED FAN
\$4.95
"SKYRAY" F4D-1
A dramatically exciting flyer from Berkeley. Ducted fan model for .049 engines. 25" span. 1/2" scale. Prefab.

RUBBER MODELS
Gullow Flying SCALE MODELS
18" span. Rubber Pm. WW/1
Heros: SES, Spad, Fokker D7
Atrass, Niuport, Sop. Camel

1.29 ea.

British SES 24" Span (Rubber) 2.95
Niuport 11 (Shows) 24" Span 2.95
Thomas Morse Scout 24" Span 2.95

SPORT RACER
169
Another Scientific kit with model builder's. Has an 18" span, covers with 1/8A engine. Ord. from AHC.

GOLDEN HAWK
195
Very colorful 1/8A model from Scientific. Has a big expressive wing. Prefab, carved fuselage.

SNIPPER "29"
225
Popular free flight model from "Midwest". Wingspan is 29". Powers with .020 to .049 engines. Order it!

READY - TO - RUN

YELLOW JACKET
6.95
Brand new WEN MAC gas wing ready to fly sensation. Big value outfit. Reheumatic starter. Real bargain!

COX "PITT'S SPECIAL"
Complete with "Pie Wee" .020 Engine & automatic starter. All plastic model. 12" Wingspan. Order yours from AHC.

8.95

LOOK!

TIGER JET ENGINE

REG. \$19.95

Save \$10.00 on this powerful jet type engine with a 2 1/2" thrust. Quick steering & easy to work. Pre-closed. 18 1/2" long.

9.95

AN AHC SUPER BUY

K&B .29 or .35
From K&B Allyn... a couple of excellent performers. For fan or trophies, they're "Choice of Champions"

15.95 EA.

McCOY .19, .29 or .35
We have 'em all... famous McCoy "Red Meets". We hear nothing but "reves" on these engines.

.19 — \$7.95
.29 — 9.95
.35 — 11.95

395 OK CUB .049A
The hottest 1/8A engine you can buy... at a new low price. Fuel-free nylon tank prep & spin starter.

DOOLING .29
For Modelers who demand the finest. More horsepower per ounce of wt. than any other engine.

23.95

McCOY "60"
Winner and speed record-holder many years of competition. The ultimate in fine performance.

40.00

ENGINE TRADE IN SERVICE

We meet all competition. If anyone advertises a higher trade-in allowance in this issue, also the ad and send it to our N.Y. office with your order. BONUS ITEMS INCLUDED AT NO EXTRA CHARGE. Your old engine is worth 25% of the amount of your purchase. Only 1 engine accepted per order.

Mite \$5.95
Midjet \$6.95
Chemical's sensational 1/8A engines. Both with Automatic Starters.

O & R .049

Veco .29 or .35
Excellent start power plants... very popular with model builders the world over.

15.95 EA.

Sky Fury Twins
.299 — \$9.95
.16 — \$1.95

Four-stroke engines — low priced. New power, low weight, easy installation.

JET ENGINES

PAA LOADER \$1.98
The terrific JETEX "150"... a high performance, solid fuel jet engine. Thrust 1 1/2 oz. Wt. 3/4 oz. Order now.

Jetex 50B
Third A.C. Ideal for model jet model at \$8.95.

98¢

DYNAJET "REDHEAD"
Holder of all world records for jets. Powerful gas engine develops 4 1/2 lb. Thrust! Length 2 1/2". Wt. 1 1/2 ounces.

35.00

AHC HAS EVERYTHING

ORDER FROM THIS MAGAZINE... OR SEND FOR OUR CATALOG

ONLY AHC GIVES YOU ALL THESE EXTRAS!

- One year subscriptions to Model Airplane News, Air Trails and Flying Models or their equivalent value to our regular customers.
- 14-Day Money Back guarantee on unused purchases.
- BONUS TERMS with every engine (\$3.95 or over) purchased. Includes: Correct Size Propeller, Glo Engine Handbook, etc.
- BONUS ITEMS with Gas Planes (valuing at over \$1.95) — includes: Construction Manual, Rubber Wheels, Insignia, etc.
- IN U.S.A. no postage or packing charges for orders of over \$2.00 (include 25c if order is under \$2.00). We insure safe delivery ANYWHERE IN THE WORLD. Outside of U.S.A. (except APO & FPO) add 10% for postage (minimum 50c).
- Membership in "Modelcrafters of America," the club that keeps you up to date on gas modeling and SAVES YOU MONEY ON YOUR PURCHASES. Over 100,000 members!
- No "minimum" orders. Any order is welcome.
- Fastest Service in the World! Whether your order is for 5c or \$500.00, you get our famous 24 HOUR SERVICE.
- Most complete model stock in America — gas, rubber, solids, etc. If it's advertised, we can usually supply it.
- Competent understanding of your modeling problems.
- 64 page giant illustrated catalog FREE with every order.

SATISFACTION GUARANTEED OR YOUR MONEY BACK

DIESEL ENGINES

OK CUB .049
Herkimer's rugged diesel... "doubt-proof" construction. Excellent performer.

6.95

OK CUB .075 \$7.95

ELECTRIC MOTORS

"WONDER"
Electric Motors
Powerful motors — Easy to install. 3 to 4 volt operation.

Planet Drive \$7.45
1 1/2" Reducible 2.00
1 1/2" Reducible 3.00
1 1/2" Reducible 2.50
3 1/2" Reducible 3.00

U-CONTROL

AMERICAN BOY \$1.29
Scientific's profile U-Control trainer for 1/8A eng. (.620 to .074) 18" span. Ideal for beginners in control line.

ATOMIC \$1.95
Scientific's sensational 1/8A team racer for 1/8A engines. U-Control. All prefab, carved balsa fuselage.

BABY CLOWN (P.D.O.)
150
Profile sport 'n' start flyer for 1/8A eng. (.035 to .074) 22 1/2" span. Prefab kit. An excellent performer.

SWORDSMAN 18 \$1.49
C. Goldberg's latest 1/8A contest model. 18" span. Profile & Poly prefab. disc cut.

FLIGHT STREAK \$3.95
Top File's popular contest or stunt profile flyer for .15 to .35 engines. 42" wingspan. Order from AHC!

F-8 F BEARCAT \$5.95
Berkeley's terrific new 1/8 scale model of this WW II fighter. 27" span. For .15 to .29 eng. Top notch performer.

LITTLE BIPE \$1.50
Scientific's big value control line "bipe"... for any 1/8A engine. A fine performer. Carved fuselage. 18" span.

STUNT MASTER
169
1/8A steel model from Scientific. It's highly colorful. Powers with 1/8A engines. Prefab, carved fuselage.

LITTLE MUSTANG \$1.95
Here's Scientific's exciting model of the famous escort fighter. For any 1/8A eng. 18" span. Carved fuselage.

MUSTANG F-51H \$9.95
Big 31" span Jetto model for .19 to .35 eng. Prefab w/ shaped fuselage parts, etc. Note winner '34 to '35.

REDSKIN \$5.25
HENRY ENG.
Another popular model... the fabulous "Redskin" terrific sport or team racer. For .15 to .35 eng. 31" span.

RINGMASTER \$3.50
A combat-stunt ace from STERLING for .29 to .35 eng. Profile, prefab kit. 42" span. Order yours from AHC. Ringmaster Jr. 30" .999-19 — \$2.30

SPITFIRE \$1.95
Enterprise's scale flyer of the famous fighter. 18" span. For 1/8A engines. Prefab. Loads of detail.

BREEZY JR. \$6.95
An adorable R/C stunt model from BARCOCK. For 1/8A Engines. 24" to 29" span is 42". All prefab kit.

NEW AERO "15" \$10.95
R/C AERO 9 \$7.95
From AERO MODELS... this very super R/C flyer. Designed to withstand shock. 48" span. For .09 to .15 eng.

"T" SQUARE \$2.95
Sterling's winner of many combat trophies. 36" span. For .29 to .35 engines. Prefab for easy assembly.

Thunderbolt P-47N \$5.95
New sensational scale flying model from Berkeley. 31" span. For .19 to .29 eng. Order it from AHC, mark!

"WOW" \$3.50
Exciting different flying model from CONSOLIDATED. 35" Wingspan. Powers with .29 to .35 engines. **WOWEE 32" — 1/8A model — \$1.95**

BLAZER 1/8A \$2.50
C-B MODELS contest flyer for .049 engines. 40" wingspan. A truly excellent performer. Order from AHC.

FAIRCHILD PT-19 \$6.95
New Sterling R/C sensation. Prefab-shaped inter-notch construction. 48" span. Powers with .09 to .15 engines.

Harbor Tag \$18.95
Ocean Tag \$24.95
From VECO, these 2 excitingly realistic powered tugboats. For R/C control with elec. power. Prefab kits.

AMERICAN SCOUT \$16.95
Amazingly authentic U.S. Line's Cargo Ship. 50" long. By "Sterling". For elec. or gas power. Ideal for R/C. 239 Pk. Fitting Set \$14.95

42' CORVETTE \$26.95
Sterling's exciting Divis Craft model. An R/C fan's dream performer. 48" long. 14" beam. All prefabricated.

Pitting Set \$9.95

SPECIAL BONUS OFFERS

FREE of extra cost with every GAS ENGINE
Bonus items include: Tube of "REV-UP" Lubricant (makes your engine last twice as long), Ownership Decal, Correct Size Propeller, Glo Engine Handbook, Mounting Nuts & Bolts, Numeral & Alphabet Decals, etc., etc. FREE of extra cost.

FREE of extra charge with every GAS PLANES
Bonus items include: Ownership Decal, Gas Model, Construction Manual, Correct Size Rubber Wheels, Insignia, Numeral & Alphabet Decals, etc. FREE of extra cost.

WE MATCH ANY OFFER

AHC matches any offer made by any other advertiser. Attach ANY ad in this issue to your order — and take advantage of the AHC "extras."

ORDER NOW! Get all these AHC "EXTRAS!"

LITTLE MUSTANG \$1.95

Thunderbolt P-47N \$5.95

"WOW" \$3.50

BLAZER 1/8A \$2.50

"T" SQUARE \$2.95

Thunderbolt P-47N \$5.95

"WOW" \$3.50

BLAZER 1/8A \$2.50

FAIRCHILD PT-19 \$6.95

MODEL BOATS

AMERICAN SCOUT \$16.95

42' CORVETTE \$26.95

READY TO FLY
COX "PITT'S SPECIAL"
Complete with "Pie Wee" .020 Engine & automatic starter. All plastic model. 12" Wingspan. Order yours from AHC.

8.95

PROP ROD \$9.95
Gee's streamlined colorful racer... 12" long. With an .049 Babe Bee eng. Unbreakable spring starter. Top!

Mustang F-51 \$12.95
Cornell's all plastic two-tone beauty. Has an OK Cub engine w/ auto. Re-coil starter. 18" wingspan. Deluxe!

25 Manufacturers' CATALOGS & SHEETS \$1
For Only \$1 plus 64 page Giant AHC Catalog that sells for 25c

Mustang F-51 \$12.95

FLIGHT TRAINER \$7.95
Realistic smooth flying COX model. Hi-impact plastic. Comes with Trimble Drone .049 engine. 17 1/2" wingspan.

FLIGHT TRAINER \$7.95

PIPER TRI-PACER \$7.95
Brand new COMET scale flyer with a Cab .049A engine. Colorful rugged plastic model with a 15" wingspan.

O & R MOTORJET \$16.95
Our most popular control handle. 1 1/2" dia. Wire \$7.95
Branded \$15 — \$7.95
Branded \$18 — \$9.95

AHC ELECTRIC OUTB'D. MOTORS
1 to 6 volt. Takes up to 24" boats. A Terrific Bargain.

Outb'd. Jr. Std. Size Reg. \$2.95 \$1.99
Outb'd. Sr. Std. Size Reg. \$3.50 \$2.39

PROP ROD \$9.95

25 Manufacturers' CATALOGS & SHEETS \$1

With Recoil Starter \$12.95

AUTOMITE \$12.95
Speeds at 35 mph. A truly fun to operate race car by Wen Mac. Complete in every detail. Plastic.

With Recoil Starter \$12.95

AQUAMITE \$10.95
Here's Wen Mac's extremely popular speedboat—ready to run and super seaworthy. 13" long. All plastic.

U-REELY
Our most popular control handle. 1 1/2" dia. Wire \$7.95
Branded \$15 — \$7.95
Branded \$18 — \$9.95

MAGNESIUM SPEED PANS

	Top	Str.	Coil	Std	Wing
1/8A	2.40	1.95	3.50	3.50	3.50
A	2.55	2.55	2.50	3.00	3.50
B	2.45	2.45	2.75	3.00	4.00
C	3.15	2.95	3.00	3.15	4.50

OVER 5,000,000 MODELERS KNOW YOU BUY WITH CONFIDENCE AT AHC

Use Our Handy Order Blank Next Page

HOW TO ORDER

Send payment in full (sorry, no stamps or C.O.D.'s) to:

AMERICA'S HOBBY CENTER
146M West 22nd St., New York 11, N. Y.

Modelers! EVERY SINGLE THING YOU ORDER FROM AHC CARRIES OUR FAMOUS MONEY-BACK GUARANTEE! AND... GET FAST DELIVERY, TOO!

Radio AHC Control

EXCLUSIVE AHC BARGAINS! ORDER BY MAIL

... an unbeatable R/C Combination that Challenges ANY COMPARISON!

AMTRON "Vanguard" R/C OUTFIT PRINTED CIRCUIT
TWIN TUBE

Here's the Precision Equipment You Always Wanted ... at a Fraction of What You'd Expect to Pay!

We ask every R/C fan to order and compare this truly precision engineered R/C equipment. Examine it for 14 DAYS FREE! If you aren't convinced that it's equal to and superior to ANY SET selling up to twice the price, return it for full refund! No Questions Asked!

OPERATES ANY MODEL ... BOATS, CARS & PLANES
From 1/2A to the Very Largest • Up to 1 1/2 Miles

"VANGUARD" RECEIVER is a superior quality outfit—unmatched for reliability, accuracy and performance. It will fit into just about any model you can find, weighs a mere 1 1/2 ounces (including relay) and measures 1 1/2" x 2 1/2" x 3 1/2". Despite its light weight and compact design, it is one of the finest precision R/C instruments ever made. Other features include: One stage single tuning • All printed circuits • Twin diodes • Accurate & positive pin control at all ranges • Low 15 battery drain as compared with 2 or 4 on most receivers • Saves you countless \$\$\$ on battery costs • No pot required • 2 1/2 Volt battery operation • Transformer that eliminates sensitivity control • New improved 1A6G3 tubes • Super sensitive 5000 Ohm Jarno relay • Plastic case • All prefabricated & easy to assemble • Complete Instructions & Diagrams included.

GET BOTH THE RECEIVER AND TRANSMITTER KITS

Both for only **\$24.95**

A Guaranteed \$39.95 Plus Value

ASSEMBLED OUTFIT
Same as Above, But **Ready-To-Operate \$34.95**
ALL TESTED, TESTER AND ASSEMBLER READY FOR USE.

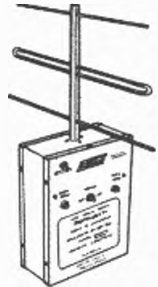
INDIVIDUAL PRICES

"Vanguard" RECEIVER KIT with ALL Components, test batteries **\$12.95**
ASSEMBLED RECEIVER, Ready-To-Use & Tested, test batteries **17.95**
"Vanguard" TRANSMITTER KIT, All Components, test batteries **12.95**
ASSEMBLED TRANSMITTER, Ready-To-Use & Tested, test batteries **17.95**

HALF PRICE BABCOCK Sale

AHC SAVES YOU 50% ON THESE TOP QUALITY, E-Z TO OPERATE

"BABCOCK" R/C INSTRUMENTS



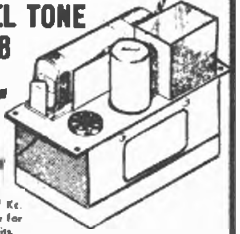
2 CHANNEL 465 mc.
Transmitter BCT-7
By far the finest, most reliable unit made.
REG. 69.95
34.95

R/C Fans! Here's your chance to own the "Cadillac" of R/C equipment at tremendous savings. The BABCOCK BCT-7 is the world's finest modular multi-channel UHF frequency transmitter. FCC type approval #CR425. Features include: High frequency 5 and 7 Kc modulation. 3 element antenna for super-radiation efficiency included as an extra cost. Built-in voltage indicator. Convenient hand-held case • Blue/Red. Both channels can be operated simultaneously or independently. Fully factory assembled and tested. This is the Brand New 1959 model, and quantity is limited! Order this AHC super bargain now ... while the supply lasts!

SINGLE CHANNEL TONE RECEIVER BCR-8 FOR USE WITH ABOVE TRANSMITTER See Below

REG. \$39.95
19.95 5 Kc. or 7 Kc.

*Your choice of either 5 Kc. or 7 Kc. operable with above Transmitter for operation of either or both units.



NO TUBES! COMPLETELY TRANSISTORIZED!
One of the finest, most reliable, most sensitive precision units you can buy. Features unique advanced circuitry that offers interference immunity. Uses the popular 5K super sensitive relay. Has rugged, metal case and built-in battery holder. Only 6% current. Simple to install. Simple to use. Wing antenna plus full installation instructions and diagram booklet included. Fully factory assembled and tested. **Order Your Receivers & Save An Extra \$8.00!**
Reg. \$79.00 For only **\$34.95**
Reg. \$79.00 Get Both (AMTRON or AMTRON!) For only **\$34.95**

RETURN IN 14 DAYS IF NOT 100% SATISFIED

We want you to prove to yourself the excellence and terrific value of these AMTRON "VANGUARD" R/C instruments by actually examining them FREE for 14 days if this isn't the best buy you ever saw, return UNUSED and you get every penny refunded.

R/C BARGAINS UP TO 60% OFF
Finest Quality • Fully Guaranteed • Order Now

1/2 PRICE \$1.98 R/C Deluxe Receiver INSTALLATION KIT 98c

CRYSTALS 27.255 mc. 2.89

MILLIMETERS 2.89

Reg. Sale

0-3 \$4.95 \$3.95
0-5 \$3.95 \$2.95
0-50 \$2.75 \$2.25

NEW R/C MC Bands
Sole \$2.99
\$2.045 or \$2.995
\$2.140 or \$2.195

R/C FANS!
AHC HAS EVERYTHING YOU WANT! EVERY BRAND! ALL PARTS and ACCESSORIES! SEND US YOUR ORDER and GET ALL the AHC EXTRAS!

Field Strength Meter 9.95
A real buy! Complete! Wood adjusted and Ready to Operate in plastic case "AMTRON"

4800 OHM SHINA RELAY...	\$2.95	R/C BATTERY TESTER...	\$14.95
NEW ALUMINUM HOUSING...	\$5.95	NEW ALUMES III...	\$4.95
5 Kc ESCAPAMENT...	3.95	1 Smb 15.45 & 6 Smb...	15.95
Special 1A6A R,C Tubes...	2.95	EXTING SWITCH...	45
XP51 R,C TUBE...	2.85	PLUS 1 JACK SET...	31
SALE R/C HOUSING...	1.25	COMPOUND ESCAPAMENT...	5.95

Receivers—Single Channel	Transmitters—Multi Channel
Arcadon BCT 1V Rev. Kit 15.99	B-100 645MC (Assembled) 69.95
Master Receiver - Assembled 34.95	CB-CR425A B1X (Assembled) 39.95
Robson BCR-8A or B (Assembled) 19.95	CG-75 6Kc. C-75 19.95
Multi Channel BCT 1V (Assembled) 24.95	CG-75 CB-75 19.95
Robson (Assembled) 24.95	CG-75 CB-75 19.95
Bonnie (Assembled) 20.95	CG-75 CB-75 19.95
CG-75 7Kc (Assembled) 31.95	CG-75 CB-75 19.95
CG-75 5Kc (Assembled) 31.95	CG-75 CB-75 19.95
CG-75 1V 19.95 (Assembled) 31.95	CG-75 CB-75 19.95
CG-75 1V 37.95 (Assembled) 31.95	CG-75 CB-75 19.95
CG-75 1V 37.95 (Assembled) 31.95	CG-75 CB-75 19.95
CG-75 1V 37.95 (Assembled) 31.95	CG-75 CB-75 19.95
CG-75 1V 37.95 (Assembled) 31.95	CG-75 CB-75 19.95

NEW, LOW-PRICED PRECISION RADIO CONTROL OUTFIT

Here it is! The Sensational, New AMTRON "SPACE CADET"

Get Both receiver and transmitter ... plus tubes, escapement, crystal, etc. All for the one low price!

\$25.00 Value
\$14.95 IS ALL YOU PAY

ABOVE OUTFIT ALL ASSEMBLED TESTED & GUARANTEED! **23.95**

Individual Prices:
Space Cadet Receiver Kit \$6.95
Receiver Assembled \$10.95
Space Cadet Transmitter Kit \$8.95
Transmitter Assembled \$12.95

FREE \$7.95 COMPOUND ESCAPMENT IF YOU ORDER BOTH Transmitter and Either Receiver

Limited Quantity! Rush your Order!

LOOK

Place Your Order FOR THE NEW, FABULOUS **FOX .099** only **4.95**

ON SALE "HI-PULSE" Jet Engine **\$32.95 VALUE 19.95**

Super bargain! Big 3 1/2 lb thrust. 5mm 21 1/2" long, 25 1/2" diam. Weighs 14 oz. Order this AHC special while the supply lasts!

USE HANDY AHC ORDER BLANK NEXT PAGE

America's Hobby Center, 146 W. 22nd St., N. Y., N. Y.



ORDER-BY-MAIL FROM "AHC" ... THE HOBBYIST'S SUPERMARKET FOR SUPER

SAVINGS



YOUR "ONE STOP" SHOPPING CENTER FOR ALL YOUR HOBBY NEEDS

COMPLETE FLYING OUTFITS

FREE BONUS OFFER

Free of extra cost with every plane and engine.

Buy your engine and plane from us at the same time and get all your accessories free!

STANDARD MODEL ONLY
Correct Size Finished Propeller — Engine Handbook — 18" Insulated Ignition Wire — Insignias — Giant Book on Construction — How to Build and Fly Them — Cement — Sandpaper — Metal Bellcrank with Bolt, Nut and Washer — Elevator Horn — Elevator Hinges — Lead-in Wire — Push-Rod Wire — U-C Handle — Control Lines — Ownership Decal

NOTE: You may substitute any plane or engine of equal value for any plane or engine included in these offers. Choose from the listings in the first AHC ad.

2 PLANE OUTFIT

Believe it or not! 2 COMPLETE PLANES

Make and fly BOTH these 18" profile models



BIG \$10 flying outfit FOR ONLY \$5.99

With Cub .049 \$1.39

SALE

	REG.	SALE
Scale Team Racer 2 1/2" Plastic Pilot	.75	.39
2" Race Car Wheels (4) 1/2" wide	1.50	.50
Electric Outbd. Motors 3-8V. powers model boats up to 24"	2.95	1.99
Spirit of St. Louis, 1/2A U-Control, 18"	2.95	1.95
Model Builder's Alan, Block Plane	.90	.29
Electric Motor, U.S. made, 1 1/2"	1.98	.69
Modeler's Knife Set (4 Pk.)	1.29	.98
Kellett Autogiro, 1/2A U-Control, 18"	1.95	1.29
Model Builder's Saw (for wood & metal)	.40	.39
Hobbyist's Screwdriver Set (4)	2.25	1.49
Rev-Up Lubricant (adds RPM's to Eng.)	.50	.29
U-Control Wire (200-100 Ft.)	3.39	1.95
For Glo Plug Wrench	.40	.39
"Sky Mate" - 1/2A U-Control model	2.95	1.95
"Apprentice" U-Control Trainer, 24"	3.25	1.98
U-Control Wire (200-100 Ft.)	.60	.39
Modeler's Carving Knives (12 astbd.)	1.98	1.49
"Firebird" Race Car (18") 1/2A Eng.	1.89	1.29
B&M 15 Diesel Engine	13.95	7.95
Set of 12 Hobbyist's Files in Case	2.50	2.50
Midget Elec. Motor 1 1/2-2V, Imported	.39	.39
Engine Muffler (A-B-C) cuts noise	2.95	1.49
Styral Tissue (24x36) 10 Sheets	1.00	.49
Ignition Spark Coils with hi tension wire clip	2.00	.98
IMPORTED MODELS		
SA-16 Albatross 53" (2) 19-35	25.95	19.95
Beach Bonanza 34" 19 to 35	10.00	7.95
F-8-F Bearcat 34" 29 to 35	10.00	7.95
B-29 Boeing 48 1/2" (4) 09 to 15	29.95	19.95
B-29 Boeing 48 1/2" (4) 19 to 29	39.50	27.95
F-4U Corsair 31" 29 to 35	10.00	7.95
C-47 Douglas 48" (2) 15-19	24.50	19.95
PW190 Focke Wolf 36" 29-35	10.00	7.95
ME109 Messerschmitt, 36" 29-35	10.00	7.95
F-51 Mustang 36" 29 to 35	10.00	7.95
L-17 Newton 33" 19 to 29	10.00	7.95



WEN MAC .049 ENGINE

SPECIAL OFFER \$2.49 LIMITED QUANTITY VALUE \$3.95



21" Chris-Craft Cobra Speedboat

With Free Elec. Motor 1.49 REG. 2.98



FOX .29 or .35

Reg. 15.95 **11.95**

Flying Accessory OUTFIT

For .19, .29, .35 Eng. REG. \$3.75 **2.75**

Includes (1) Speed .015 or .018/.017" Ignition Box Cable, (1) Plastic Cable Storage Pad and (1) Plastic St. Construction Needle.



Glo Plugs Reg. 65c **39c**

3 for \$1.00

As AHC Super Value! Specify Long or Short Threads



DECAL BARGAIN

Worth twice the price easy! You get 1 (36") AMA No. 3 Alpha; 4 U.S. Army; 4 Picture; 3 Sheets Solid Color; 1 Sheet Checkerboard; 12 Ass'd. Nos. & Alpha; Plus Many Many More Decals & Tips & Hints on Use of Decals.

\$2.95 "BEL-AIR"



18" U-CONTROL

Deluxe, all prefab model 18" Wingspan. For .019 to .029 Engines. **1.50**



15 DECAL PICTURES

Assorted. Perfect for dressing up your models. \$1.50 Value **FOR ONLY 98c**



SALE 14.95 IMPORTED Sale

F-86 SABRE REG. \$24.50 **14.95**

24" Wingspan for Tiger Jet Engine

34" For Dyna Jet \$15.95 32" Starfire or MIG-15 for Tiger Jet \$14.95



MODEL BUILDER'S BARGAIN TOOL KIT

REG. \$1.79 **98c**

A real bargain effort! Lenses of Exact Size. Modeler's Saw, Knife, Strips, Needle File, Sandpaper, Screwdriver. This is a must for every modeler.



12 OZ. "FACTRA" AEROGLOSS

Special buy! 12 oz. Spray cans in choice of Red, Cream, Blue or Green. Perfect for finishing models. Limited!

Reg. \$1.79 **98c**



AHC PARTS BOXES

Transparent plastic with hinged tops. 1 1/4 x 2 1/4 x 1 1/4" high. Ideal for small parts storage. Reg. 15c each. **6 for 50c**



SILK or NYLON

Finest quality. Silk colors: Yellow, Blue, Red or White. Nylon Yellow or White. Reg. \$1.50 yd. **79c yd.** Checkerboard Silk Reg. \$1.98 yd. — **1.49**



GLUE TUBE NOZZLE

REG. 55c **19c**

As AHC Super Buy! 11 System works to top of System needs to top of System! Special! In stock of these are checked for leaks. Not disapproved. Answer to every modeler!



SOLDERING IRON

Ideal for all model work. Reg. \$2.25. A Real buy at only **\$1.29**



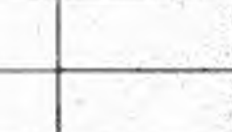
FULL SIZE Scale Plans

Solid models like: P-51, B-24, Focke Wulf 190, B-17E, Spitfire, B-26, Kingfisher, P-38, etc. Scale Plans w/3 view drawings, etc. We'll send you an assortment for only **15 for 49c**



645

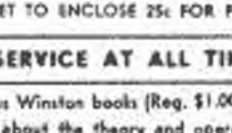
Extra Motors 3 for \$1.50



ALPHA-1 MISSILE LAUNCHER

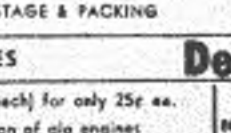
2.98

ADDITIONAL FUEL — 35c



INTERCEPTOR Mark III

2.49



645

Extra Motors 3 for \$1.50



ALPHA-1 MISSILE LAUNCHER

2.98

ADDITIONAL FUEL — 35c

BIG \$10. VALUE

NOW ONLY \$7.50 with Aftwood .049 Engine

Take your choice of one of these deluxe U-Control prefabricated — easy to assemble and fly!

PLUS ENGINE With O.K. Cub .049 Engine \$9.50 **OR** .049 ENGINE \$9.50 **PLUS ACCESSORIES AND BONUS EXTRAS**

DELUXE BASIC TRAINER

X-15 RACER, SUPER STUNTMASTER, BRITISH S.E. 5, F-51 MUSTANG, CHIPMUNK

FREE FLIGHT OUTFIT

FAMOUS CONTEST MODEL

AMAZON "400" 62" SPAN

MEETS F.A.I. and A.M.A. RULES

DELUXE \$15.00 OUTFIT \$8.95

FOX .15 ENG. & COMPLETE AHC BONUS EXTRAS, F.F. ACCESSORIES, ETC. ... WORTH MANY \$5

NEW & POWERFUL

COMPLETE JET OUTFIT

DELUXE OUTFIT ONLY \$2.95

The hottest Jet Flying Outfit you can find! Scale models have realistic shaped fuselages, etc. — NOT flat prebuilt L-T to assemble. Anyone Can Fly!

CHOOSE ONE PLANE

13" SPAN BOULDER SKYROCKET **PLUS** 13" SPAN L-800 SABRE JET

PLUS Catapult Launcher, All Accessories & Finishing Items. 100% Complete Outfit.

SPACE AGE MODELS & MISSILES

Aerobec-Hi

645 Extra Motors 3 for \$1.50

ALPHA-1 MISSILE LAUNCHER 2.98

INTERCEPTOR Mark III 2.49

Plastic Model—with all auxiliary equip. Ready for many flights. Safe. Travels over 150 ft.

Aerobec's popular Interceptor missile. Absolutely safe. Ready to operate. You get rocket, motor & fuel pellets for about 60 flights.



10 & R PROPS Reg. 35c or 45c Ea. **\$1.10 FOR 1**

40 for \$5.00 7/7; 8/7; 8/8; 8/9; 9/10; 9/6; 9/6; 9/10; 10/4; 11/4; 12/9; 12/9; 13/8; 14/5; 14/6



Bill Winer's Model Aircraft "Plan Book"

132 pag. of plans 10x8, 8 1/2 x 11, Rubber, etc. By famous designers. **50c** Reg. \$1.00



SILK or NYLON

Finest quality. Silk colors: Yellow, Blue, Red or White. Nylon Yellow or White. Reg. \$1.50 yd. **79c yd.** Checkerboard Silk Reg. \$1.98 yd. — **1.49**

USE THIS HANDY ORDER BLANK

SAVE TIME! ALL ORDERS PROCESSED IN 24 HOURS

HOW TO ORDER

Please Print Your Order! Send payment in full. Sorry. No C.O.D.'s. Include 25c extra if order is under \$2.00. Foreign Modelers—See instructions on left.

AMERICA'S HOBBY CENTER

146 West 22nd St., New York 11, N. Y.

PLEASE PRINT

Name _____

Street Address _____

City _____ Zone _____ State _____

Amount Enclosed _____

AMERICA'S HOBBY CENTER

146 West 22nd St., New York 11, N. Y.

PLEASE PRINT

Name _____

Street Address _____

City _____ Zone _____ State _____

Amount Enclosed _____

BRAND NEW! 80 PAGE CATALOG

All New 1959 Edition! BIGGER AND BETTER THAN EVER

Complete new from cover to cover! Send for your copy of the most complete model & hobby catalog in the world. Over 10,000 items! Everything pictured! 80 pages jammed full of all the Airplanes, Spaceboats, Cars, Motors, Engines, Accessories, Parts etc., etc. This is our big "Silver Jubilee" edition easily worth 50c to \$1.00.

ONLY 25c

America's Hobby Center, 148 W. 22nd St., N. Y. 11, N. Y.

CALLING ALL N.Y. CITY and Metropolitan Area MODELERS

Why Our Famous "Hobby City" 148 West 22nd St., in New York City

Choose from World's largest stock! Plenty of unadvertised specials too. Experts on hand to help you.

FREE Send for the famous AHC "BARGAIN BOOK"

Take hundreds of fabulous bargains in hobby supplies & models — volume at AHC. Send a 4c stamp (unpaid) to cover postage. Please specify "BIB" "RRB".

Canadians & Foreign Modelers!

You save greatly by ordering from us. We accept your currency at market value. Canadian \$1.00, Sterling \$2.76, NZ \$2.38, Australian \$2.00, Philippine Peso \$36.46. Add 10% for postage and packing (maximum \$60)

ONLY 25c EACH

IF ORDER IS UNDER \$2.00, DON'T FORGET TO ENCLOSE 25c FOR POSTAGE & PACKING

24 HOUR SERVICE AT ALL TIMES

Dept. M-59 CATALOGS

80 Pg. Airplane Catalog 25c
Std. Models Catalog 10c
80 Pg. Railroad Catalog 25c

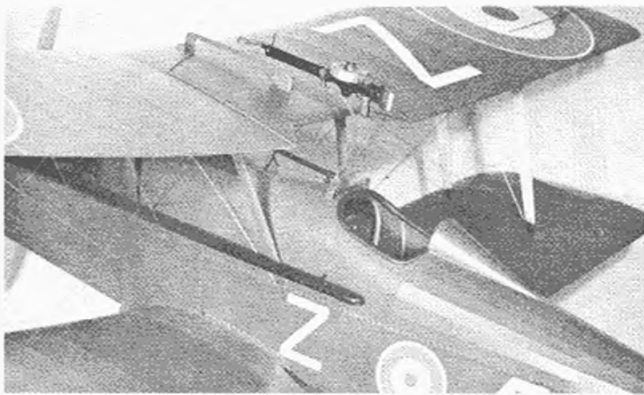
WORKBENCH EDITIONS of the famous Winston books (Reg. \$1.00 each) for only 25c ea.
GLO ENGINE HANDBOOK. Tells all about the theory and operation of glo engines
CONTROL LINES. How to build and fly them. Covers subject from A to Z
GAS MODEL PLANE CONSTRUCTION. The answers to every problem you will ever meet

the SE-5

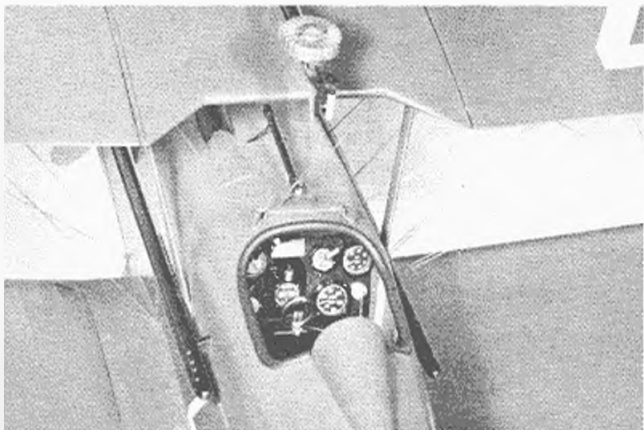
by NORMAN DEITCHMAN



Admirable model, fier. Proportions of real ship including scads of dihedral, make for ample stability in miniature.



Fabric stitching on fuselage, flexible Lewis gun, among true-to-life details visible here. Rugged SE-5 could dive with Albatros.



Cockpit details include scale instruments. Author's model weighs 30 ounces, raises tail after 10-foot run, takes off in 30 on .09.

Historic WW 1 pursuit lives again in a sparkling, incredibly accurate flying model for .09 to .15. Just fan our brow!

► The SE-5 made its appearance in 1916 but did not become fully operational until March 1917 when the first batch was delivered to No. 56 Sqdn., on the western front. At first the SE-5 was not too well accepted since most of the experienced combat pilots preferred the maneuverability of the rotary-engined machine (Camel) whose excessive torque could always be relied upon to quick spin or roll and get out of a tight spot. However, this same characteristic caused many inexperienced pilots to crash to their death.

The SE-5 soon gained much respect, forgiving many pilot errors, due to her great inherent stability. And she could dive at high speeds keeping up with the deadly Albatros and not break up on recovery.

The model is easy to trim and very realistic in its flight pattern. Careful attention is paid to scale shapes and details. Your model can be built without full scale details if desired, but building materials should be carefully selected in any case.

CONSTRUCTION

Fuselage: Cut two sides out of $\frac{1}{8}$ " sheet balsa. Cut out the three slots to admit lower wing roots and former #6. Mark off position where the $\frac{1}{8}$ " I.D. (inside-diameter) aluminum tubing goes and use a small rattail file to make holes. Make a shallow cut along outside of fuselage sides along where former #7 goes to allow for creasing. Cut out all formers.

Bend 1/16" wire struts and landing gear to shape. The landing gear should be (Continued on next page)

the SE-5 continued

formed in one piece. Start at the center of your wire length and work toward both ends. Note the true length on front view. Carefully measure and mark the wire before you bend, leaving the back end of the wire long and finishing bending after fuselage is assembled.

Mount all the wire parts on to their respective formers, binding with thin copper wire twisting together in back. Check against side view on plan and bend strut wires to shape shown. Be accurate here as the angles will help determine your wing alignment. Assemble fuselage by cementing the formers in place. Check to see that there is no twist developing. Cement balsa block to tail-end of fuselage against F-12 and sand to shape.

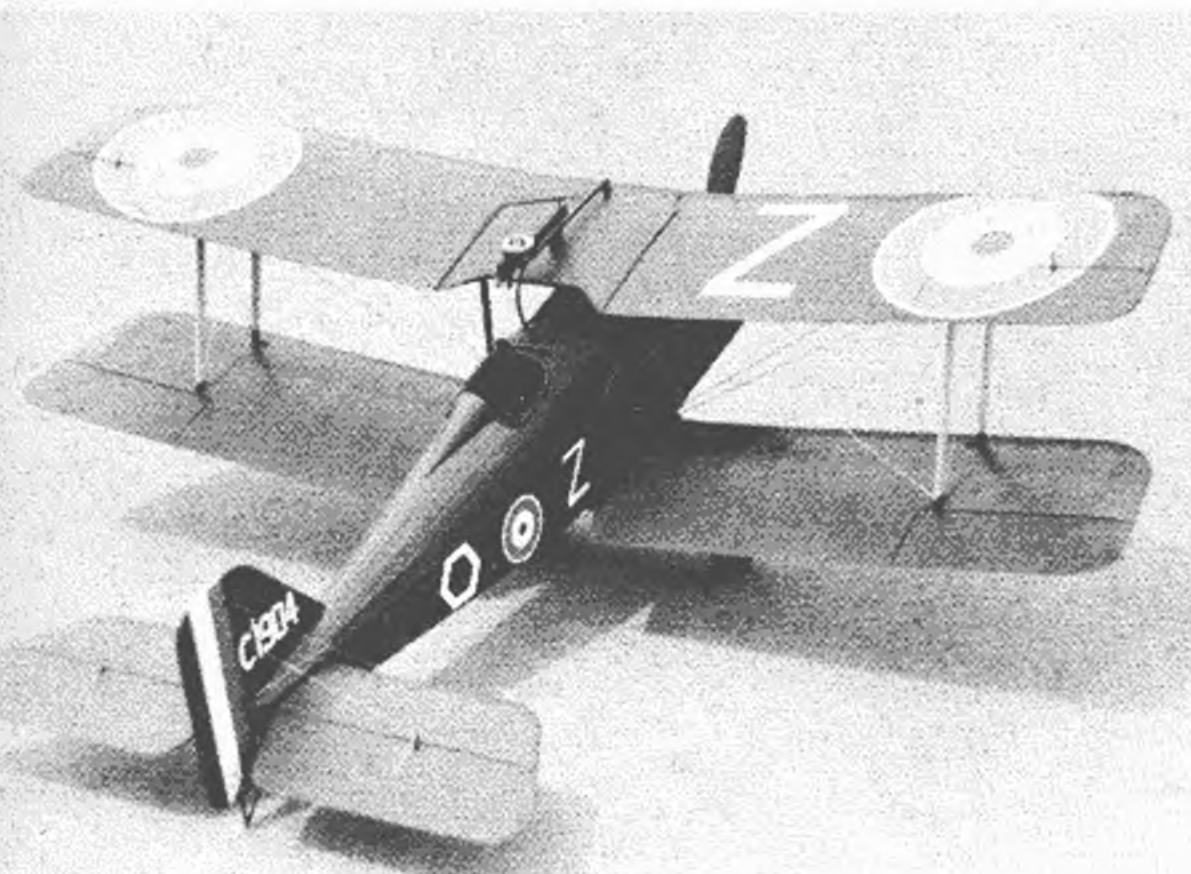
Slip hardwood engine mounts into place and cement well. The mounts were designed to accommodate larger than an .09 engine if desired. If a .15 is to be used, simply

shave away the inside of the mounts until the engine fits. Set engine in place, mark off and drill holes for engine bolts. Don't forget the three degrees right-thrust off set. Decide on the size fuel tank you will require and install it on the mounts behind the engine.

Cement 1/16" sheet to bottom rear of fuselage. Make up skid assembly as shown, add 1/32" wire skid and install as unit. A strip of silk along the sides should be used to reinforce to bottom sheeting. The landing gear wire can now be bent to finished length.

Cement a 1" wide strip of 3/4" ply across bottom of fuselage below F-5, drill out and bind landing gear. Wire to it. Cover remainder of flooring with 1/8" balsa. Cut out the bottom section between F-1 and F-2 and mount on a cloth hinge making a hatch to get at the engine. This can be secured with a rubber band or pin.

If you intend to furnish the cockpit, now is the time

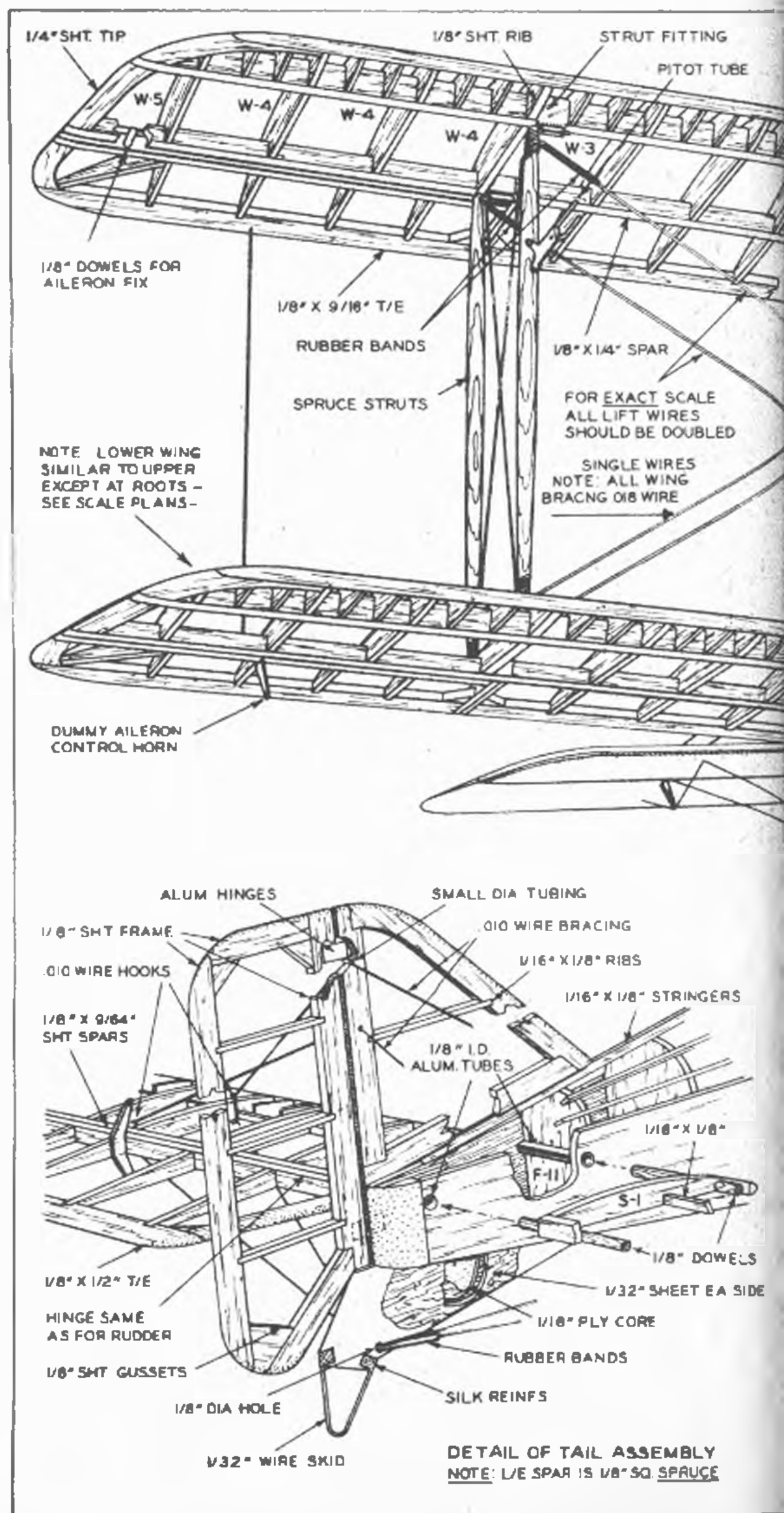
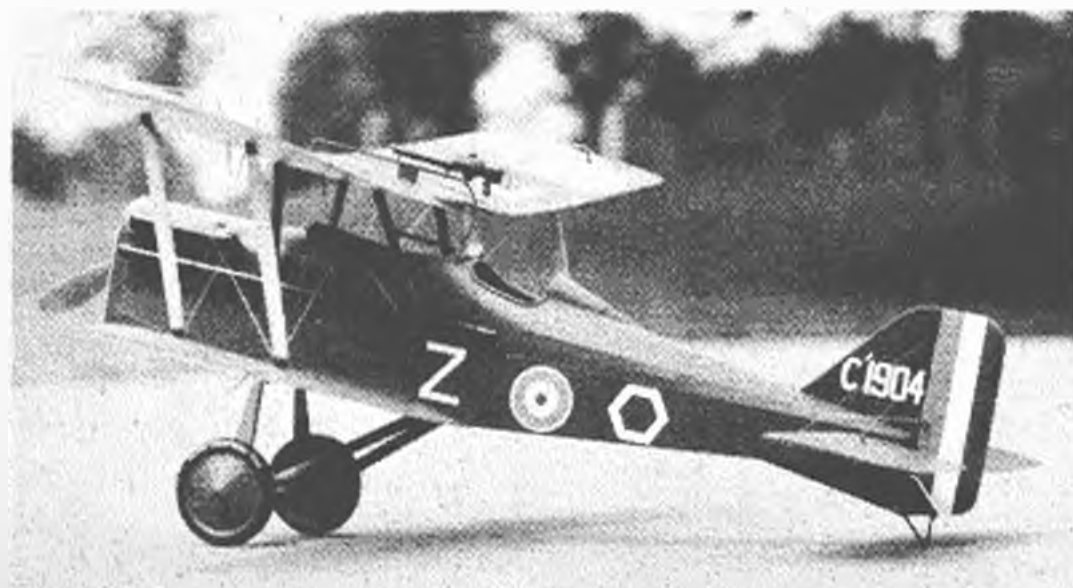


Four coats of clear dope, and two of colored, gives a lifelike finish. Wings made in four panels, and wiring shown is to scale.



Little touches add to the picture. Radiator shutters are painted aluminum, wire wheel spokes show through fabric covered wheels.

Markings are those of No. 85 Squadron, RFC and, on the tires, it says Palmer Card Aero Tyre. Suppose that wires sing in the wind?



to do it. The instrument panel is drawn full size on the plan. Note the forward slant. This was done to clear the Vickers gun breech. Postwar machines were modified and the panel was set vertical, the gun being removed and some of the instruments rearranged. Add the stick and seat.

Cover the top of fuselage back to F-7 with 1/16" sheet. This can be done in sections or strips, whichever is easier. Note that, between F-1 and F-2, the sheeting runs up only so far to allow for the removable top hatch. Cement 3/8" sq. along the sides of the 1/16" sheet at front for support and to accept 1/16" dia. dowel keys.

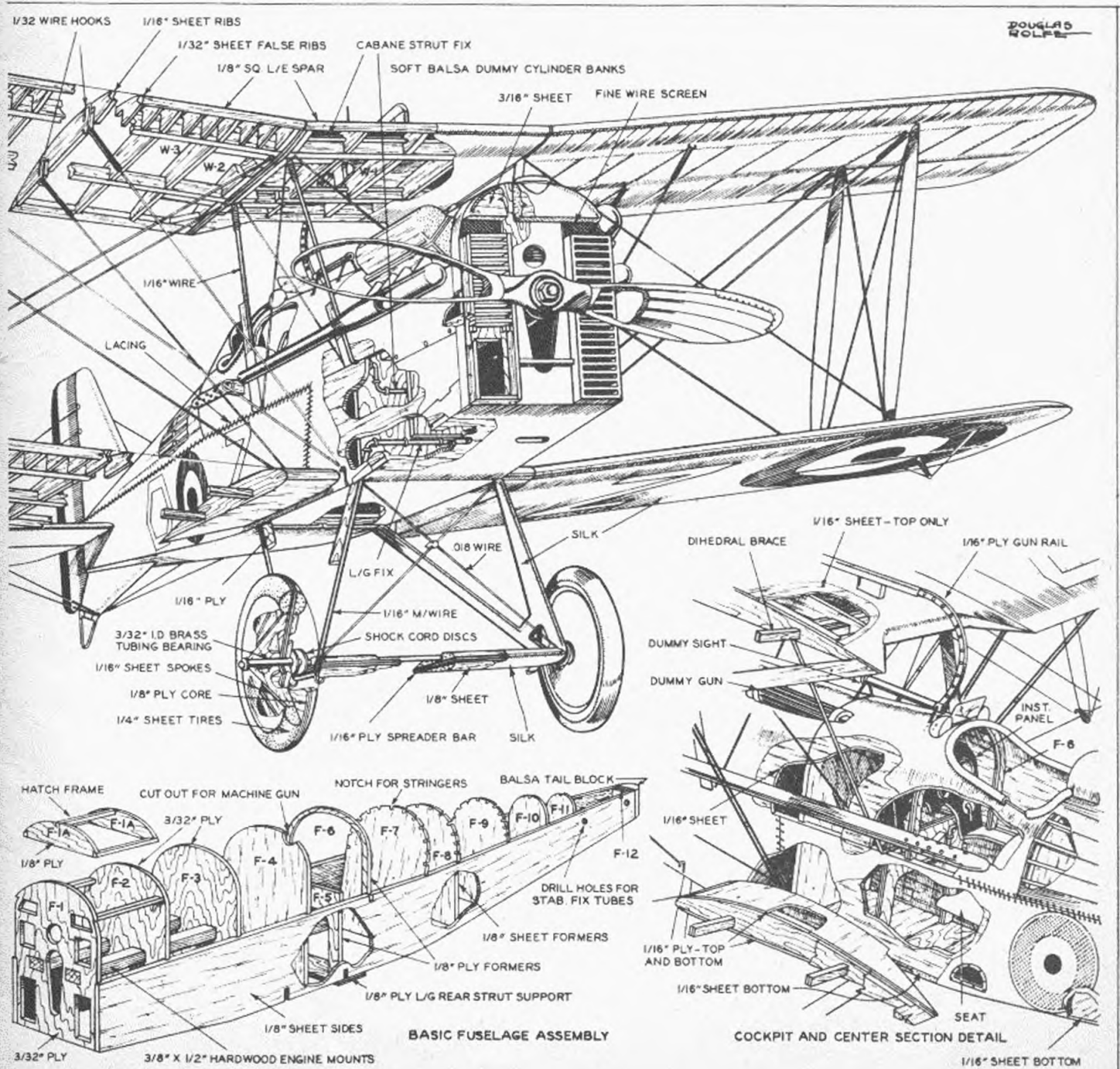
Pin the F-1A formers in place and build hatch in place, using 3/8" x 3/8" strips on sides and 3/8" sq. on top; then 1/16" sheet cover and 1/16" dia. dowel keys. Add 1/8" I.D. aluminum tubing to rear of fuselage for stab. Cement 1/16" x 1/8" hard balsa stringers on turtle back from F-7. The headrest may be added if desired or left off. Either

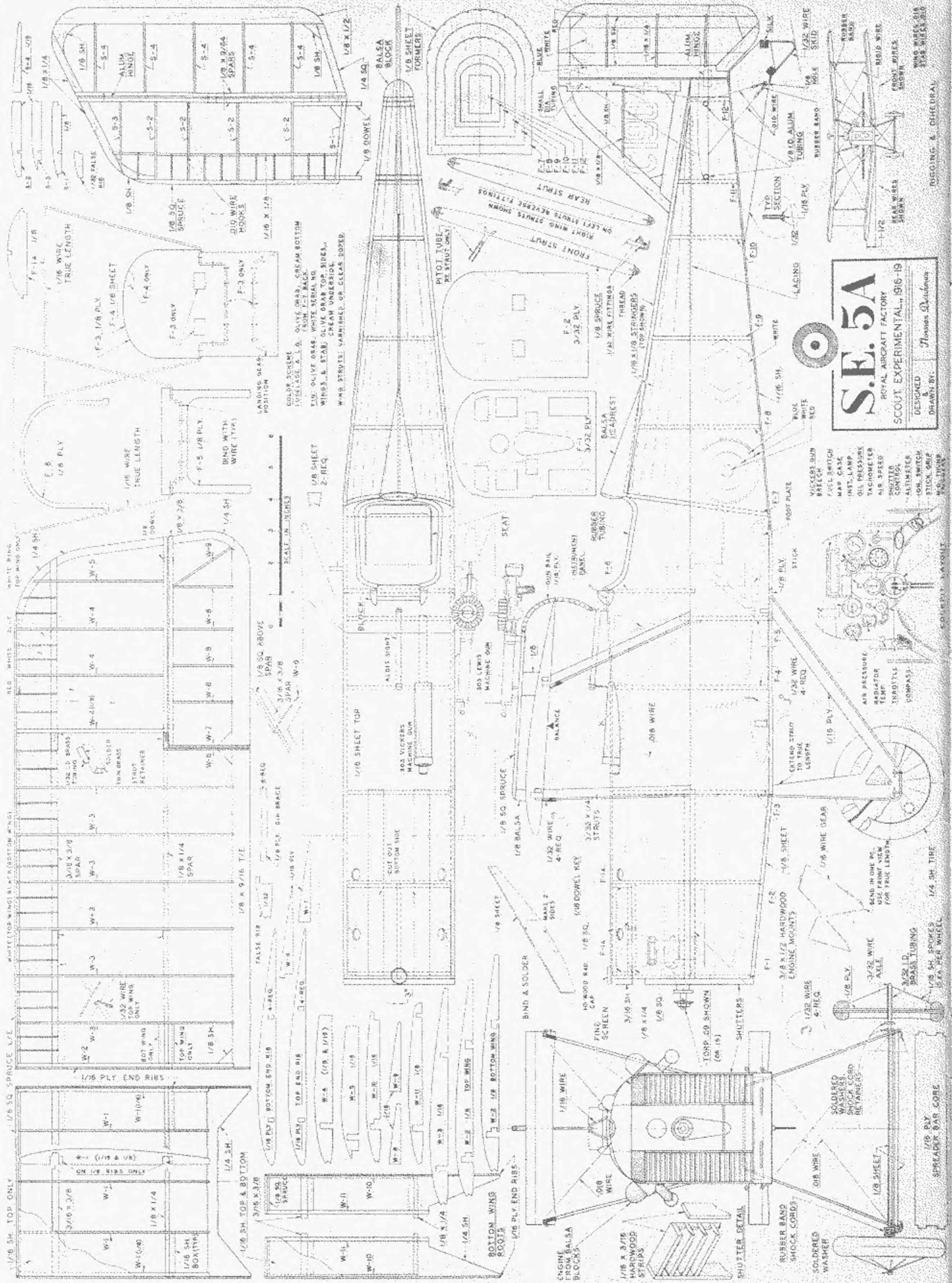
way is correct since some machines had them and some did not.

Make cut out for engine exhaust stack. Make an exhaust extension out of tin-can stock or aluminum; this will keep inside from getting oil soaked. Cement 3/16" sheet radiator top into place. Fine window screen can be used to simulate the radiator core. Cover entire fuselage with silk.

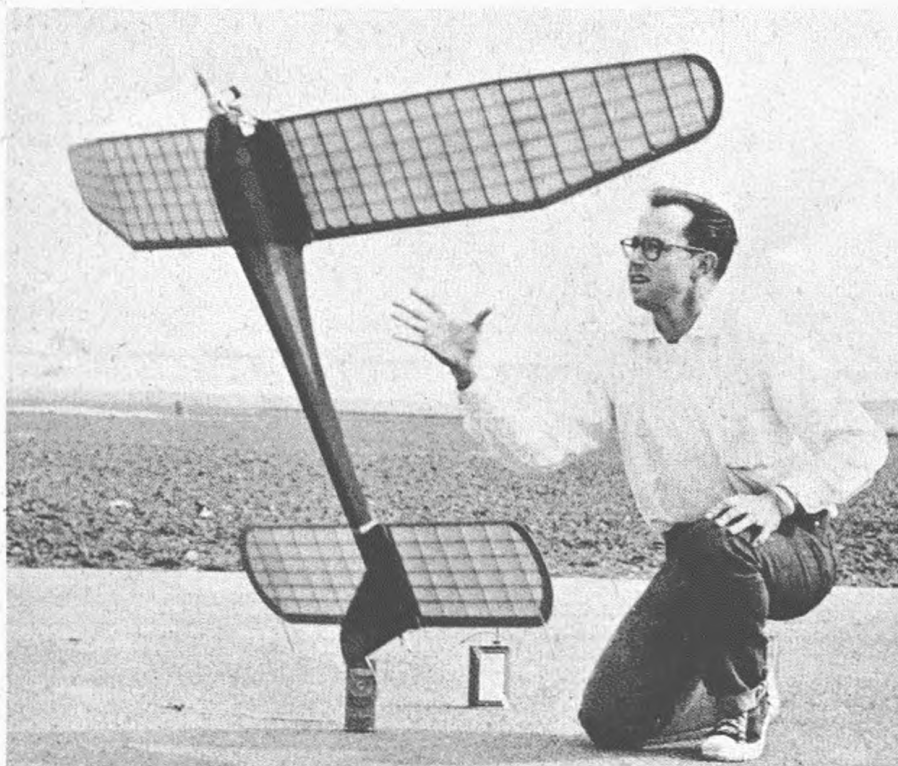
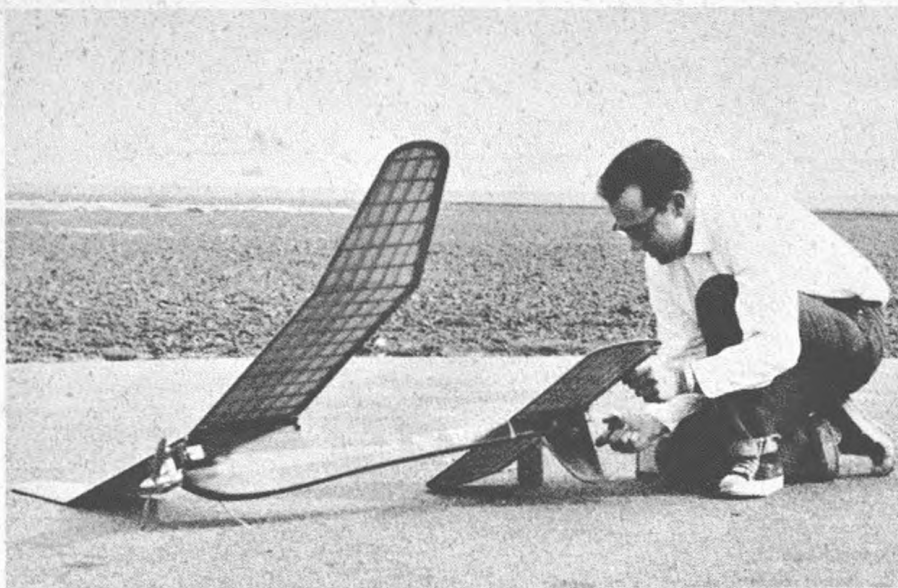
Make L.G. struts one piece out of 1/16" plywood and fit between wire, cement, and wrap with silk. Bend 1/32" fuselage rigging hooks and cement firmly in place. Cement 1/16" ply spreader bar core into slots on struts. Make the four wire hooks and cement them and the 3/8" sheet pcs. in place. Sand to shape. (Continued on page 54)

Full Size Plan on Next Page





S.E. 5A
ROYAL AIRCRAFT FACTORY
SCOUT EXPERIMENTAL, 1916-19
DESIGNED & DRAWN BY
Thomas D. Johnson



Phil Kraft lights fuse on his famous Upstart before he starts the engine, top; and, bottom, releases ship for a VTO take-off. Fuse-type dethermalizers should always use a "snuffer" tube.

Pop It!

by GERALD R. ZEIGENFUSE

Modelers have a "re-entry" problem, too! It is to get down or "dethermalize" the high flying free flight. "Pop up" tail is most effective dethermalizer. Here's the dope.

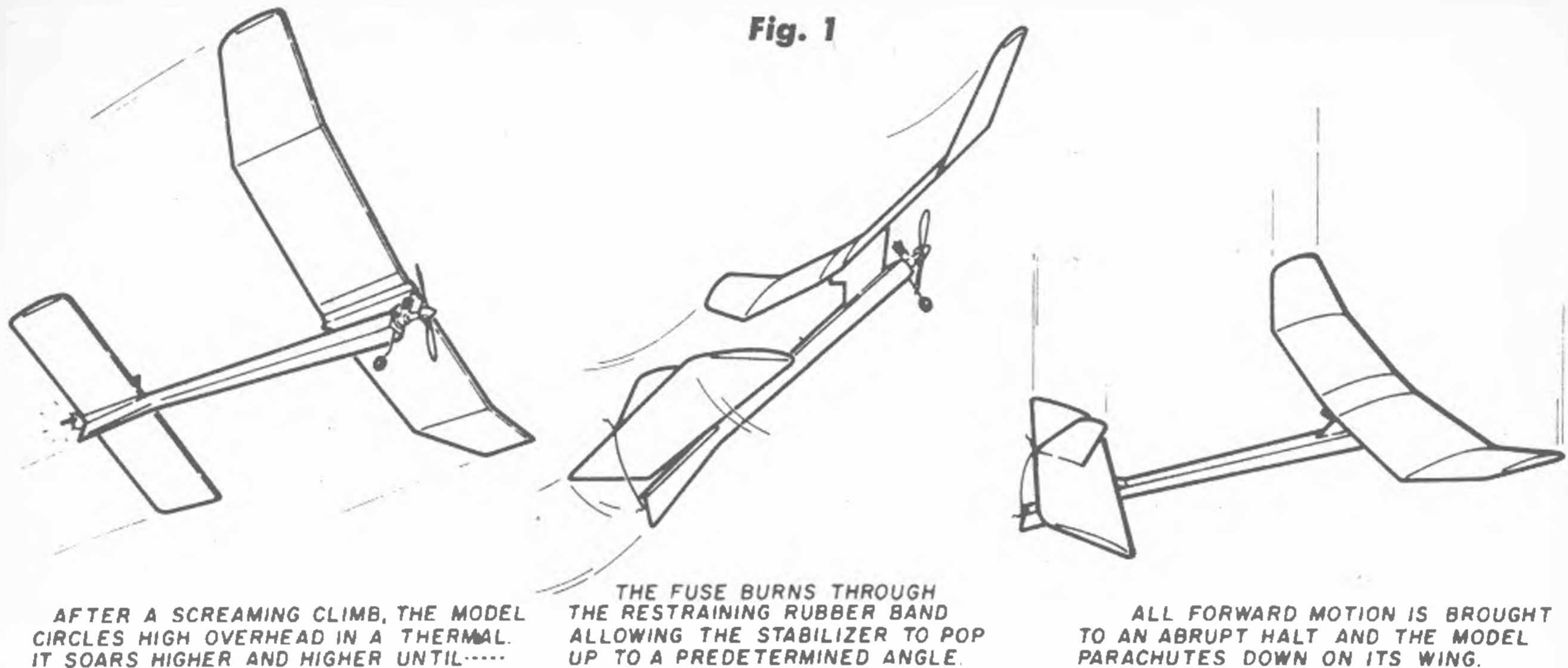
► The exact date isn't recorded in model history, but ever since the first dethermalizer was invented ingenious modelers have been trying all sorts of gadgets with but one purpose in mind. And that is to bring that wandering free flight down out of a thermal so that it may fly again. Also, in these days of higher flying models and shrinking flying fields and flight time limits, it is imperative that the contest modeler use a dethermalizer to insure that he can make the required number of flights without losing his plane in the process.

In the past, devices have been employed to spin the plane out of a thermal. A sure fire dethermalizer but the speed at which the model strikes the ground sort of prohibits its use. Other devices employed were parachutes, pop-up tails, pop-up wings, pop-apart fuselages, split rudders, and spoilers in the wing. We once read where Jim Walker dethermalized an A J Hornet with a firecracker. It does work. But we don't recommend it as we feel that there are some problems yet to be worked out.

In this article, we will attempt to answer the requests of all those modelers who have written this magazine for information on dethermalizers. We will discuss how you may install and use the one type of dethermalizer which has emerged as the most popular and most widely used, the pop-up stabilizer dethermalizer. There are many versions of this dethermalizer and we have shown here the ones most used by contest modelers. You can combine the features of any one of them to suit your individual needs.

The action of a pop-up stabilizer dethermalizer is explained by the sketches in Fig. 1. It is a pretty sight to see your model follow the action of these sketches and break out of a thermal, which would surely carry it many miles away, and descend quickly to the ground almost at your feet. The model descends rapidly, but not too rapidly so that it would be damaged on landing. The rate of descent is controlled by the angle of the stabilizer in the dethermalized position and also the wing loading of the plane. The fellows that added weight to their old FAI gassies to make them meet the new rules will attest to this fact. Some of these ships with the stabs popped to the same angle as when they were lighter, descended so fast that the wings broke in the center on touchdown. On the other hand, a light weight $\frac{1}{2}$ A gassie will descend so slowly that it will still be carried away by a thermal if the stab isn't popped up to a very high angle. The proper angle for your particular ship (Continued on next page)

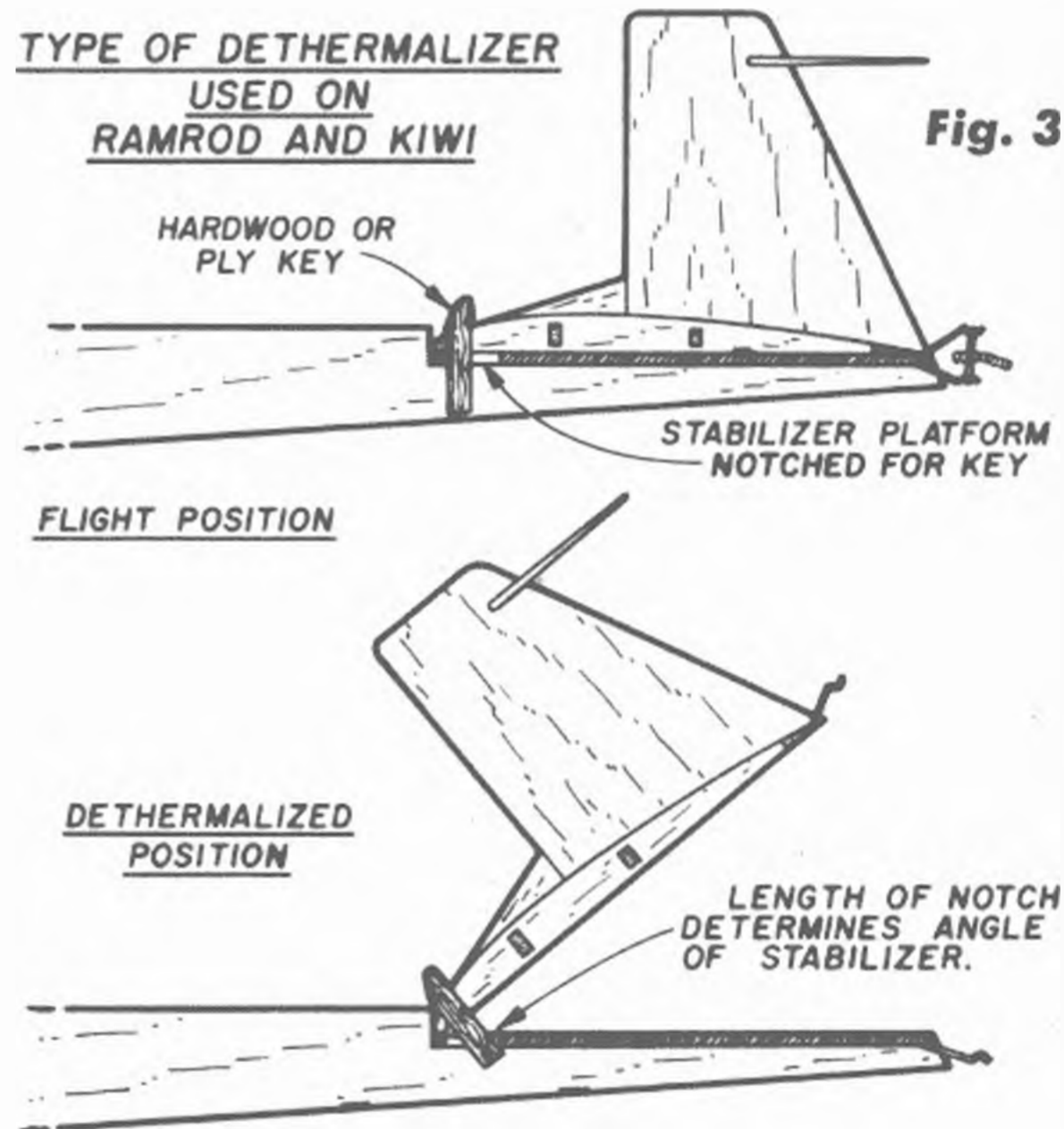
Pop It! continued



Typical "pop up" tail, this case a stabilizer, with fixed rudder. Proper action brings ship down steeply but with nose up, steady. No turns.

can only be found by experimentation, but here are some figures to use as a guide. For most models flown in competition today an angle of 40° – 45° is best. For that 5 oz. gassie that has a 300 sq. inch wing the angle must be 50° – 55° . And that heavy FAI gassie should be limited to about a 35° angle.

The most common pop-up stabilizer dethermalizer used today is illustrated in Fig. 2. It is nothing more than the standard method of holding down the tail assembly with an extra hook added to the stabilizer and a limit string or wire. Sometimes a pivot block must also be added. To hold the trailing edge of the stabilizer down, a small rubber band is wrapped several times around the hook on the stabilizer and the hook on the fuselage. A slow burning fuse is employed to sever the rubber band allowing the tail to pop-up. The length of the limit string or wire determines how far the tail will pop up. On any



free-flight model the tail assembly must be fastened in such a manner so that it won't shift in flight, and once removed it must be able to be put back in place in exactly the same position as before. We use small keys cemented to the stabilizer to prevent the tail from shifting as shown in Fig. 2. Keys should not be added just because a pop-up tail is being used; they should have been cemented to the stab in the first place. Many free-flight maladies can be traced to the lack of keys or poorly fitting keys. We usually cut small triangular pieces from a hard balsa strip and cement them to the stab.

One reason for failure of the above mentioned dethermalizer is the fuse snuffing out and not burning through the rubber band. Care in handling the fuse will prevent most of the failures. Allowing the fuse to become oil soaked from handling with oily hands is one cause of failure and poor protection (Continued on page 58)

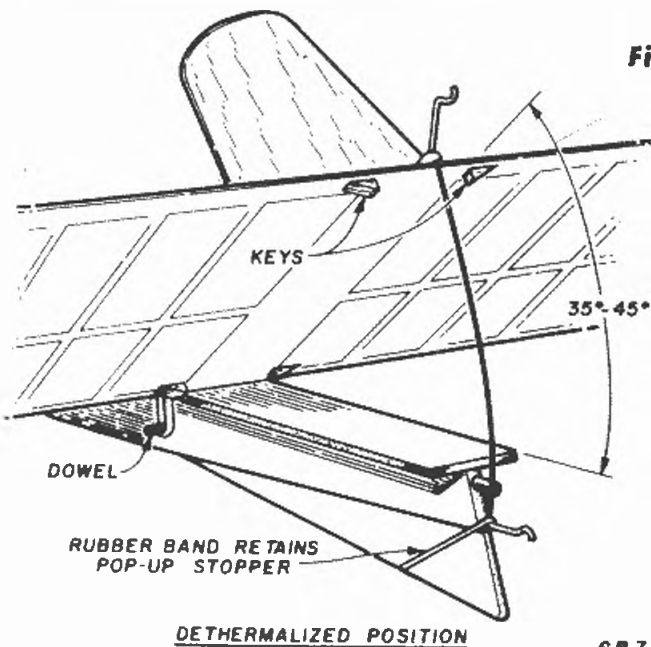
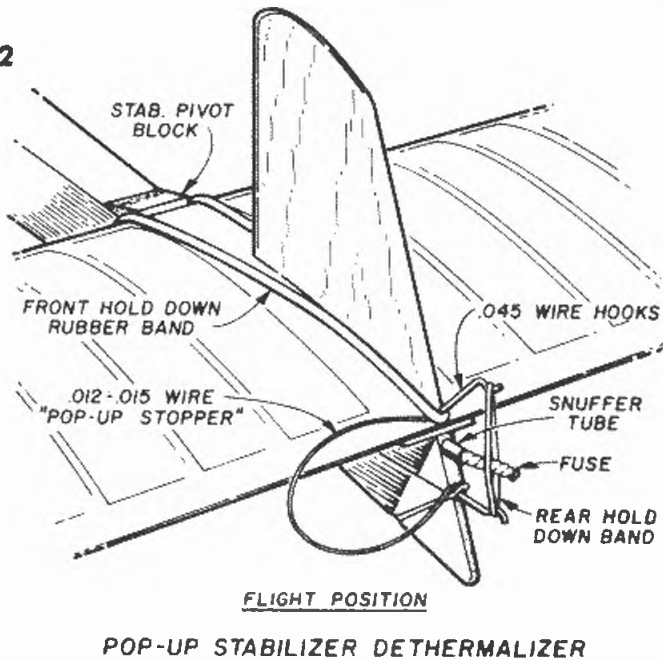
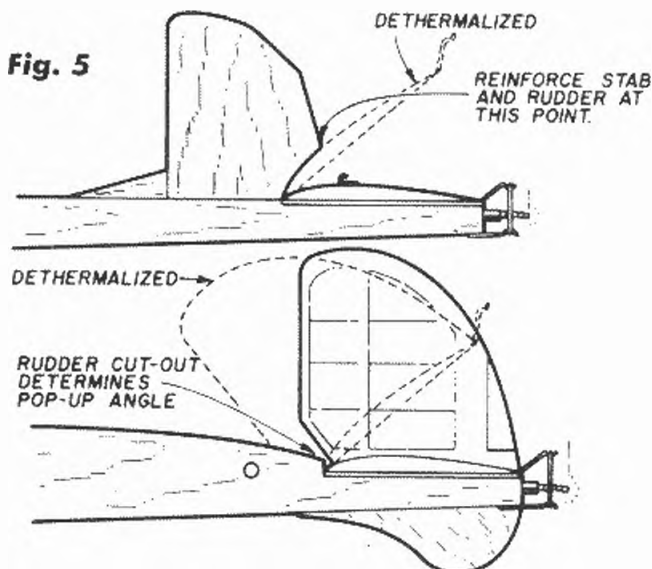
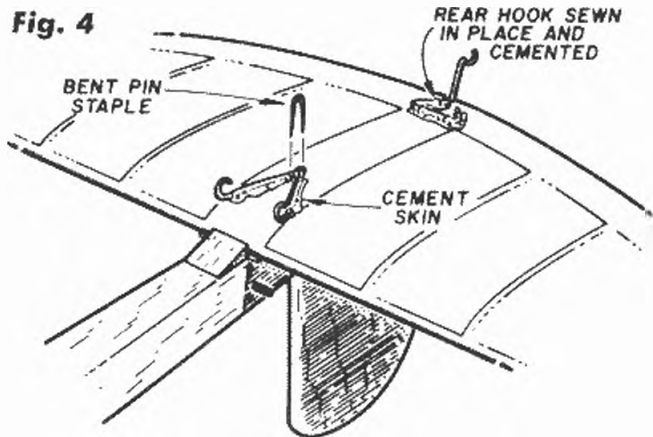


Fig. 2



G.R.Z.



DETHERMALIZER ARRANGEMENT USED ON INVERTED RUDDER TAIL ASSEMBLY
(ALSO USED ON FORWARD RUDDER TAIL ASSEMBLY)

TWO DETHERMALIZER ARRANGEMENTS USING RUDDER TO LIMIT STABILIZER ANGLE

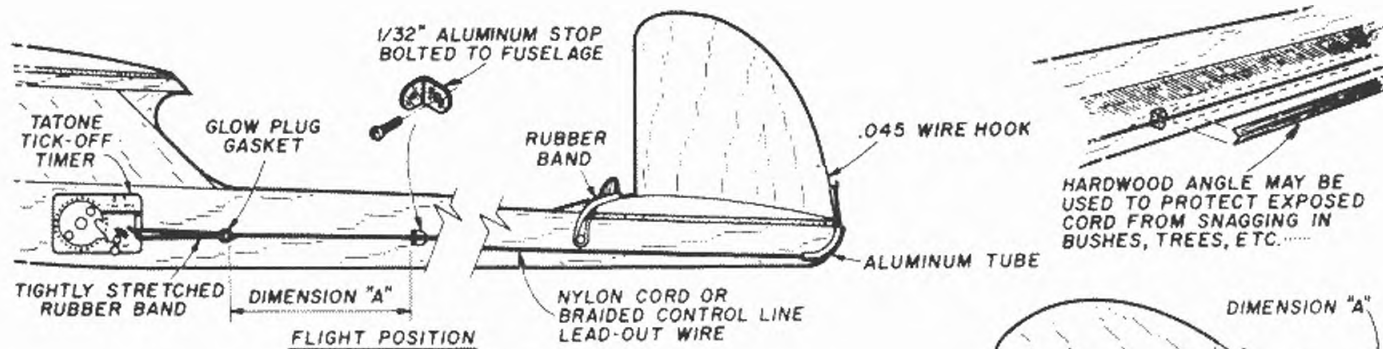
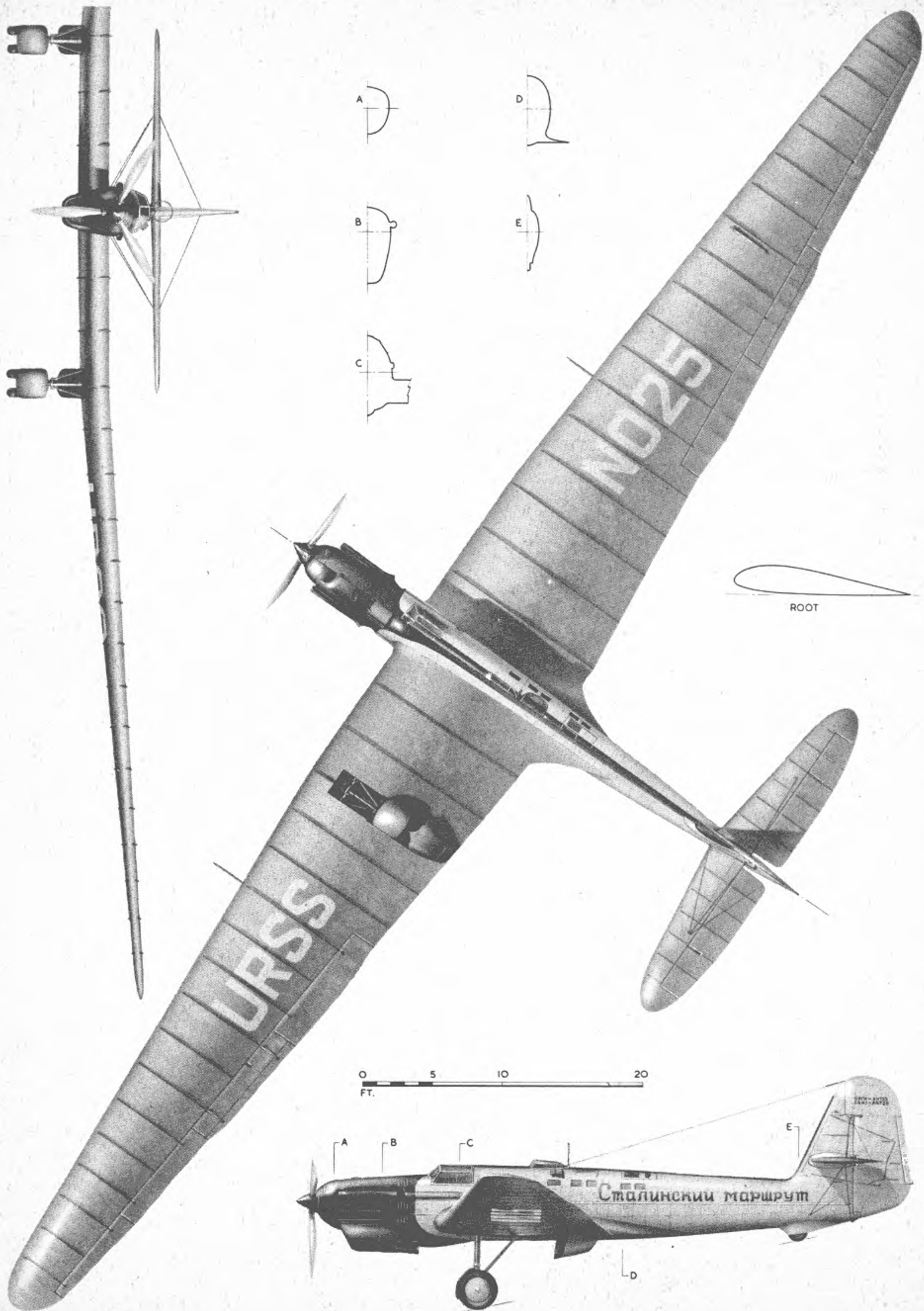


Fig. 6

DETHERMALIZER OPERATED BY TATONE TICK-OFF TIMER

DETHEMALIZED POSITION





Hero of the Soviet Union, Valeri Chkalov, the commander of the ANT-25 flight from Moscow to Vancouver, Washington.

men and



ships

In 1937 Russian aviators Gromov and Chkalov commanded ANT-25 flights from Moscow to the U.S.

by **ROY CROSS**

► Biggest-spanded and heaviest of several special long-range record monoplanes built by various countries in the late twenties and the thirties, was the Russian ANT-25.

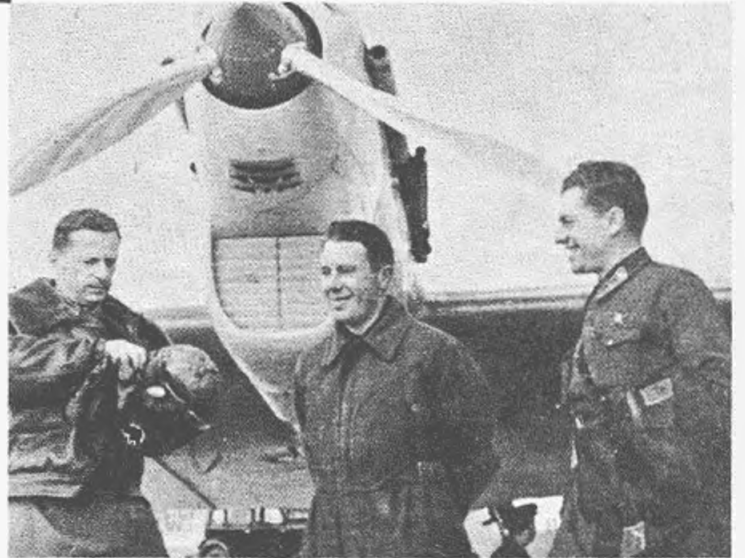
Conceived in 1932, when Russell Boardman and John Polando held the 5011.8-mile New York-Constantinople record in their Bellanca "Cape Cod", the ANT-25 did not finally achieve success until 1937, but in the meantime several interesting flights were undertaken.

In September 1934 as an initial test of the plane, the famous Russian flier Gromov with crew members Filin and Spirin made a closed-circuit flight reported at 5700 miles, but failed to beat the existing record.

Levanovsky, in a 1935 Moscow-San Francisco attempt, had to land in Siberia with an oil leak after a 3730-mile flight.

Then, in July 1936, Valeri Chkalov, Alexander Beliakov, and George Biadukov made a long distance flight over the unexplored regions of the Soviet Arctic along what was termed the Stalin Route. Stalin took a great interest in the development of the ANT-25. He saw in it a symbol of prestige for the growing Soviet aircraft industry, and as a propaganda weapon—should it be successful—of the "peaceful" Communist expansionist doctrine.

The 1936 flight was non-stop from Moscow to the mouth of the Amur River, near Nikolayevsk—via Franz Josef Land, (Continued on page 42)



Hero of the Soviet Union, M. N. Gromov, S. A. Daniline, and A. B. Youmachev, Moscow, San Jacinto, Calif. Flight photo.



On display in the Paris Salon 1936, the huge-winged ANT was a center of interest. Plane held world's distance record.



Having flown the Channel to Catalina, and set a world duration record, Ken—with Warpy and Slo'poke, now flies within four walls

Indoor R.C.

by KEN WILLARD

Split-levels on the old flying field? Always a gym or a hall—if you build 'em light, fly 'em slow!

► With flying sites becoming more and more scarce in metropolitan areas, the idea of an indoor radio-controlled model has a lot of appeal. There are plenty of auditoriums and arenas, with basketball courts or other flat surfaces, in all cities, and by making the proper arrangements, these would be excellent places to fly small radio-controlled models—that is, if you could make an R/C job which could fly safely within the space available.

Up until recently, the idea was pretty far fetched; then along came the transistor, with its light weight and low-drain features, and suddenly the light-weight radio was an actuality. Sure, there are still some kinks to be worked out, but the sets which are already available are reliable enough and light enough to do some experimenting.

Actually, the indoor R/C job is nothing but a refinement of the small-field R/C model. I have been designing them for quite some time, starting with the little "Breezy" biplane which appeared in MAN a few years back

(not to be confused with the commercially produced "Breezy" monoplane which came out a little later). The biplane has the basic characteristics of high maneuverability combined with the chance to get a low wing loading and a fairly small model. Therefore, it was logical that my first attempt at an indoor job would be a biplane.

Since the small field "Breezy" was designed, several new light-weight radios have appeared. So far, the lightest of the lot is CG's all transistorized receiver which even uses a power transistor in lieu of a relay. Also, it operates on three volts, and the small wafer cells which CG puts out are ample power. The limiting factor on this receiver is that it is designed with the Bonner SN escapement in the circuit, and if you use another escapement, your chances of success are marginal, because the magnetic efficiency and operating characteristics of the Bonner are different. However, this limitation is not serious, since the Bonner SN is very reliable; the trouble that I have with it is not

the escapement—it's my own inability to remember what's coming up. I finally had to give up and go to the Bonner compound—which uses the same coil, but is bigger and heavier. I saved some weight by cutting it down to a minimum size, and it has proven very successful in the indoor biplane. Another thing you have to do—and maybe CG wishes you wouldn't—is to void the guarantee on CG's receiver by taking it out of the case and using only the chassis. But light weight is paramount, and you can't afford to carry a case around.

So much for the radio. CG's is the lightest commercially available one as of this writing, so that's the one that I am using. Maybe you can build one lighter; if so, good.

As for the engine, I tried several ideas. First was a rubber band motor. I gave it up because the motor run is too short. Next I tried an old Campus "B" CO₂ motor, but it didn't have enough poop. I finally settled on Cox's Pee-Wee .020. It is far too powerful,

but you can convert the power into just the right amount of thrust by making a small metal prop to fit behind the regular prop, but bend it into reverse thrust—just enough to cut the total forward thrust into just what you want. But watch out for your fingers!

Now we've settled on a radio and an engine. What about the airplane? It should not only be light and maneuverable, it should also fly very slowly, both for ease of control in a limited space, and to keep damage down when you goof on the controls, which you will.

Two factors in wing design help to keep flying speed at a minimum; one is high aspect ratio, the other is high camber. The former has the drawback of reducing maneuverability so a compromise is necessary. But high undercamber has no drawbacks except perhaps a bad stall characteristic—and we can live with that. Generous dihedral is required so you can rock the model around in tight turns.

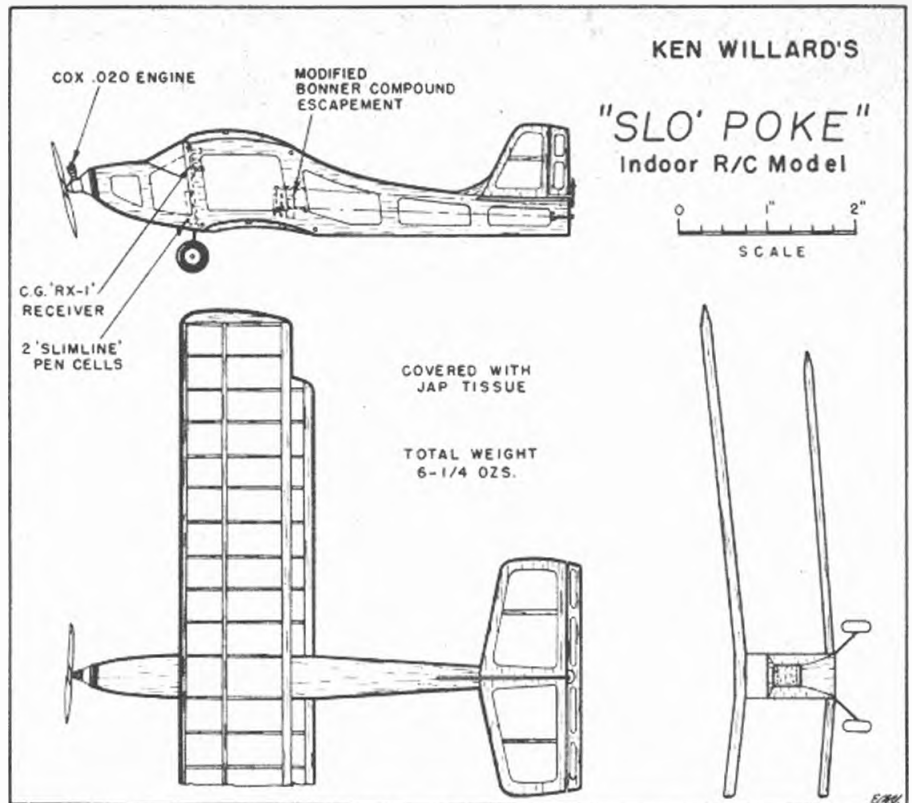
To fly at the minimum speed, a high angle of attack is required. This is achieved by using lots of downthrust on the motor together with a pretty high angular difference between the wing and the tail. With this arrangement, the engine drags the plane through the air at a speed just above the stall speed associated with the high angle of attack. In fact, when the engine cuts, the plane picks up a little speed! This is because the glide is achieved at a slightly lower angle of attack.

From all the foregoing considerations, a variation of the "Breezy" biplane was designed. To keep weight down, a long narrow fuselage seemed logical, with the top wing up on cabane struts. The aspect ratio of the wings was increased, and the result was a long, thin biplane. This model flew fine—but it was too fast!

The next design went back to the cabin type fuselage, because of the higher frontal area and bigger drag. I used the same wings and tail, and found a definite improvement. This design, with a 33" wing span, weighed in at six ounces, and is still flying. However, it requires an area about 100 feet by 125 feet for safe maneuvering, and this is still a little large.

While flying the little biplane, which Bob Bowen, editor of the Lark newsletter, christened the Slo'poke, I had another idea for a design which held promise. In the first place the Slo'poke had the prop out in front, which is a bit of a hazard to people who might be watching. It also had a landing gear, which added weight. How about a new concept—from an old one, of course—with the prop in back and a skid to land on? I had also discovered that the Bipe is

(Continued on page 51)

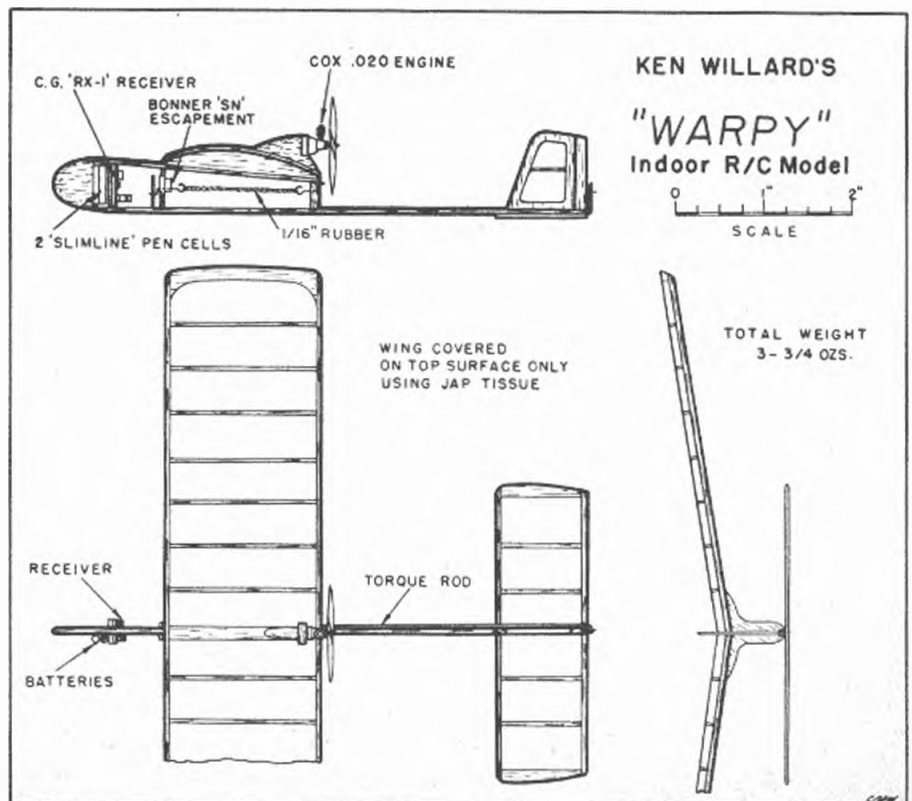


SLO' POKE: With a 33 in. span, 6-oz. biplane requires an area of 125 x 100 feet for maneuvering. Large dihedral allows rocking turns; a

large angular difference between wing, tail, in conjunction with large downthrust, gives a slow flight trim. High undercamber required.

WARPY: Single-surface wing, rudimentary fuselage, for weight of only 3 3/4 oz. Flies in 30-foot circles and pusher prop more friendly

to spectators! Flight is so slow you can run alongside model. But be sure you plasticize well the dope used on that tissue covering.





Annual Banquet and trophy presentation of the Baltimore Radio Models Club, true family affair

with the wives and "juniors" enjoying the fun. Photog Phillip McShane got a unanimous smile.

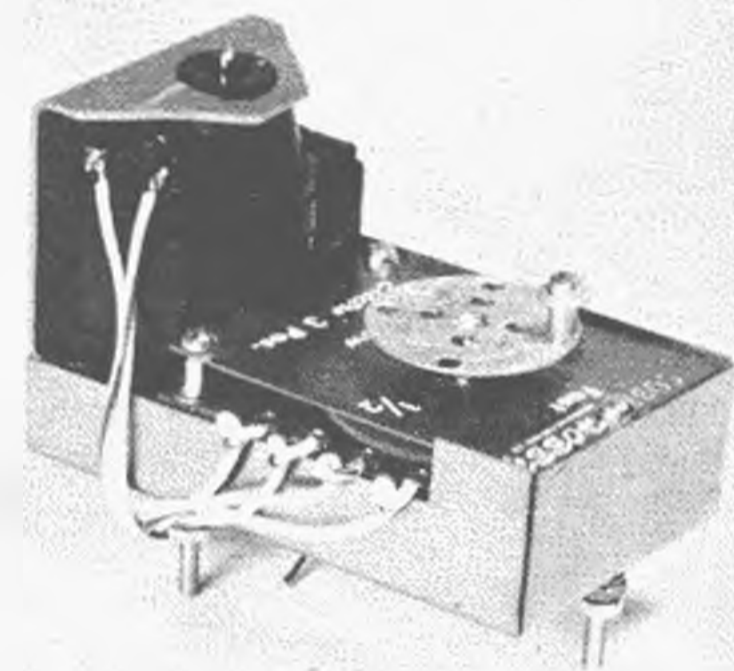


Citizen-ship x-mitter "for all 27mc frequencies" has switch selection, left, for tone or carrier.

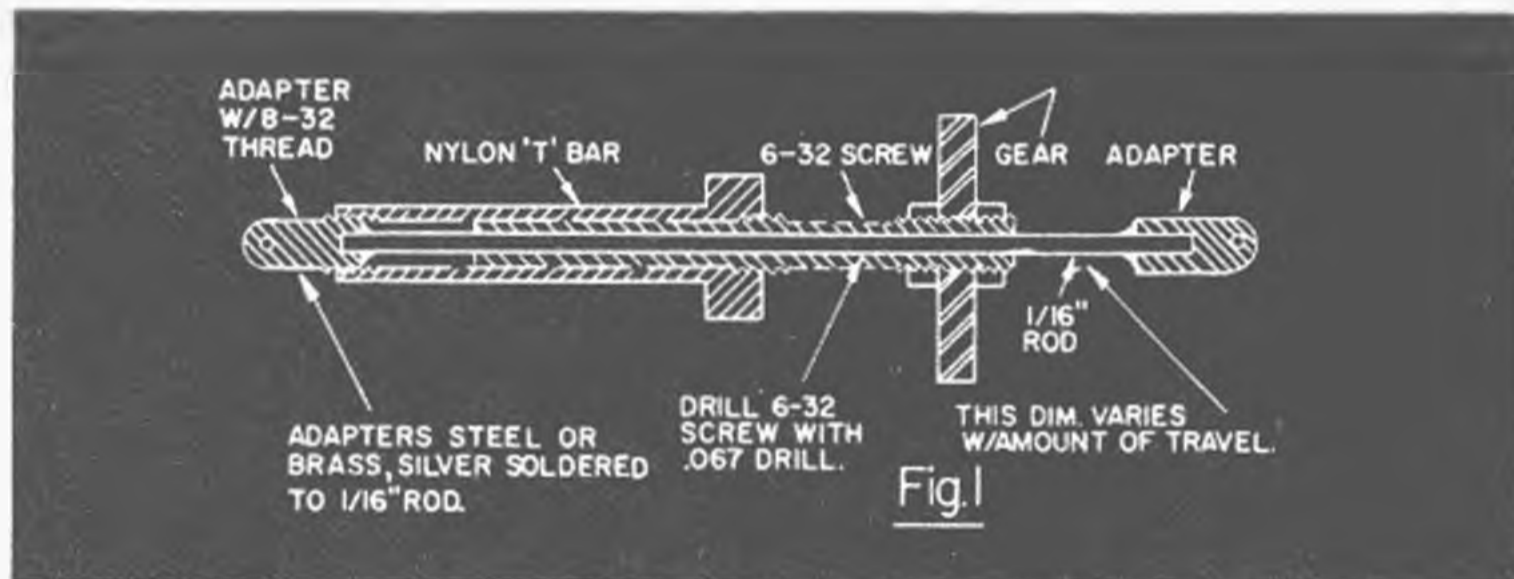
radio control news

by EDWARD J. LORENZ

Interference Insurance—the "Superhets!" • Carded cues and electronic brains • Weather flights • Duration • Club News and new crates • Trade items and products.



Dept. tests Cabb Hobby motorized escapement—over 14,000 ops, no failure, on two Silvercels.



Semi-scale P-51, Clarence Buergmann, Norfolk, Neb., modified PT-19 wing. Citizen-ship 8, Bon-

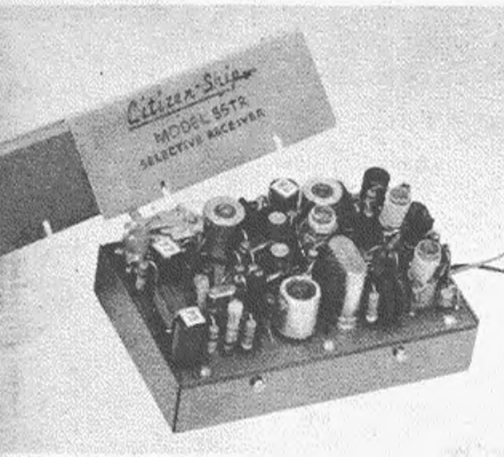
nar servos flight controls, Babcock servo for motor control. Gross weight is about seven lbs.



► To say that MAN is not widely read is an understatement. This regards the statement in the February issue about the toxic effects of Teflon. As stated, the information came from the DCRC Newsletter who in turn quoted a statement from the BuAer (Navy). Our mention came to the attention of the E. I. duPont de Nemours and Company, developers of Teflon. We now attempt to clear up what is apparently an unfounded rumor.

Hdq. of the Air Material Command, USAF, made a statement that this rumor is completely without factual basis. Du Pont states there have been *no permanent injuries or deaths* in the use of Teflon during the past 20 years by Du Pont personnel, hundreds of processors, and thousands of end-users.

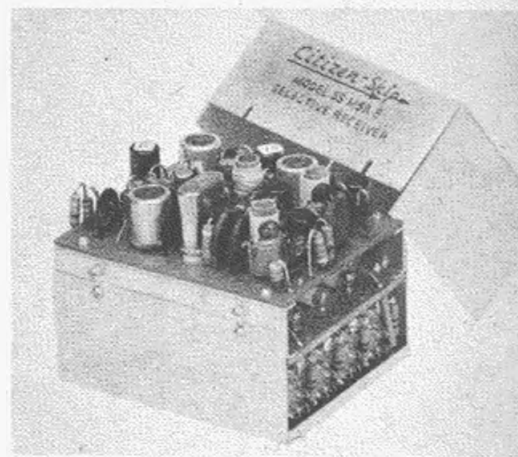
When Teflon is heated in the 400-600 degree F range, *minute* quantities of decomposition products are evolved. If these are inhaled, you may get temporary symptoms similar to grippe or influenza. Symptoms appear about two to six hours after exposure and pass off within 36-48 hours. However, the main point is, they are not cumulative. In other words your body completely throws off any temporary toxic effect, which is more than can be said



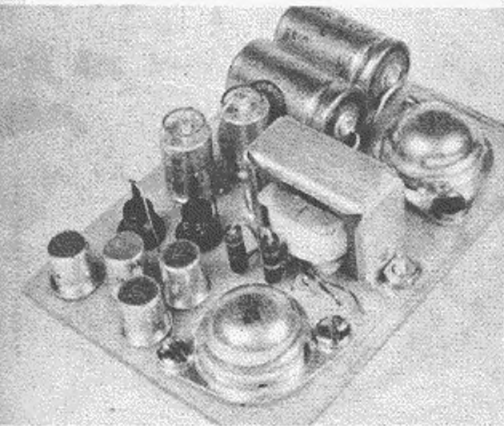
King Kong, the LA traffic light monster, and relatives elsewhere, won't bother the "superhets."



Relay, Citizen-ship 3VTR, can be removed, if so desired because of high current change possible.



Additions to top of Citizen-ship 8 show what is involved in achieving "superhet." Fly formation?



Transmitter power converter by Al Diam, under 4 in., 4 ozs. WAG, Orbit, CG, etc. It is tops.



Cutaway view of new Babcock Aeranca plastic job showing installation of the Magic Carpet Mk

2 receiver. No time to build is no longer a valid excuse not to fly! Note knock-off landing gear.

of the lead contained in solder. Various other insulations and resins can be considered far more toxic and some household materials which are used everyday can be far more harmful. Teflon can be taken internally or worn in close contact to the skin with no ill effects. It is one of the most stable materials known. The statement given in the February issue was made as a matter of information and has had wide circulation in industry. We felt it was better to play safe. Sincere thanks is given to the Du Pont Company and to the Air Material Command, USAF in clearing up this matter. We still say that Teflon spaghetti is unsurpassed for RC work.

About a year or so ago we predicted that radio-controlled model aircraft, as designed and built by the average RC builder, might be used for meteorological purposes, especially with regard to determining upper level radiation, temperature, etc. Henry Stuck has done just that, having designed a Fox 59 powered, five-channel RC job with a span of about nine feet. Well designed, but rather conventional in appearance, this model is said to have a "homing device" for bringing it in from high altitudes and from a distance.



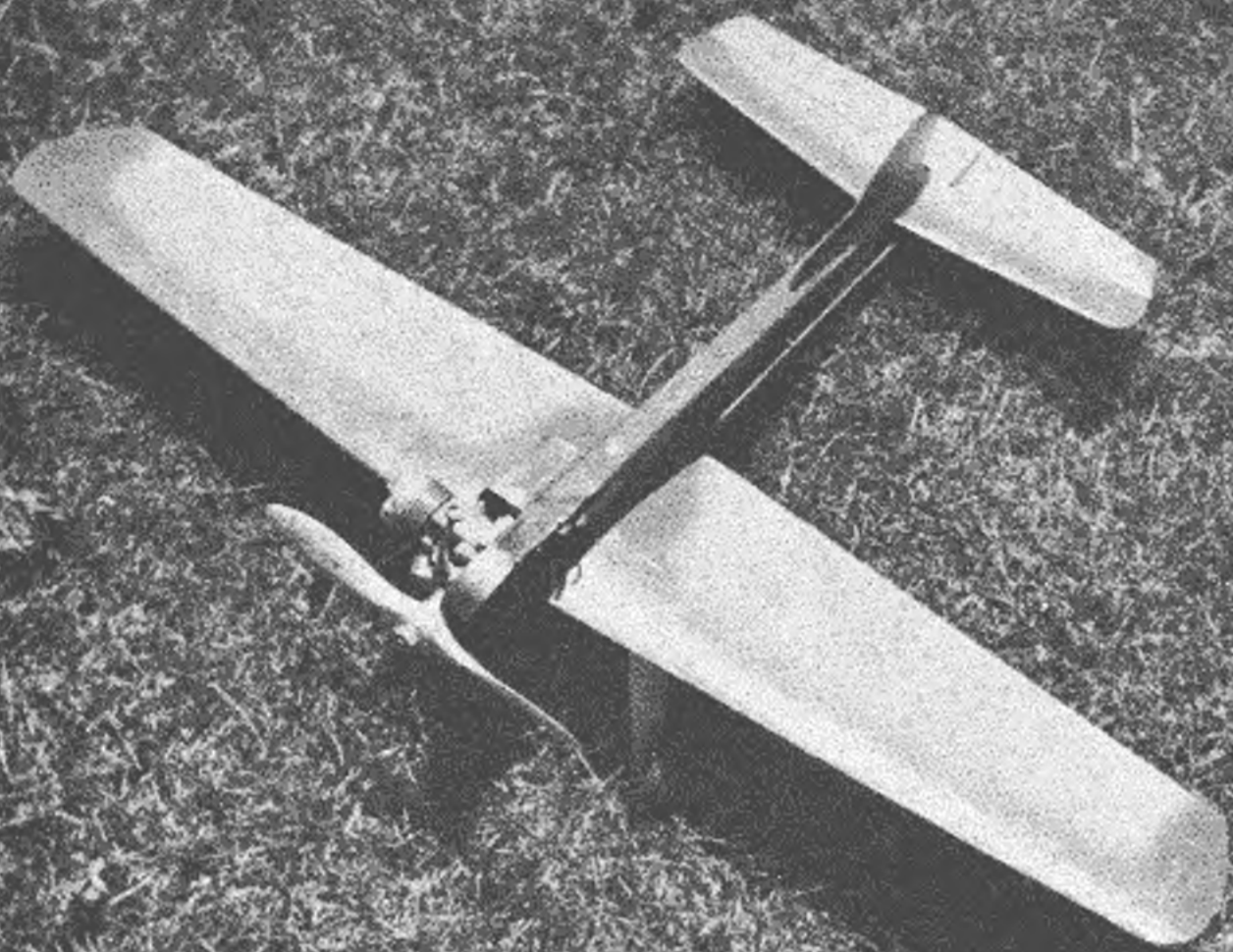
Maj. Tom Mahon, Alexandria, Va., built 70 in., Fox .59 job for dual proportional, using double-

geared Mighty Midgets. Flew right off bench, no trim was required. Photograph by Jos. Barnes.

Although we have described some of the new Citizen-ship equipment under New Items, here is a bit more of the technical side. As you know, there is a separation of 50kc between the spot frequencies. This may seem fairly safe; however, there are other frequencies assigned for communications which dictate that a receiver for

our use must have a selectivity far greater than 20 to 25 kc. Citizen-ship's equipment is designed for about 5kc selectivity which appears to be adequate and at the same time keeps circuitry to a minimum. Under Club News we mentioned a set being developed having 1 kc selectivity. This is very possible and (Continued on page 62)

the pied piper



Functional is the word, bub. Beauty does not go with combat and rat racers. So who cares? These gallaping profiles take the .29's - .35's.

by **BILL JUDGE**

After a direct hit in his "Woody" combat, your old Wyoming fire-breather has another hot airplane, this time a proved rat racer.



Finish? Four coats clear and sanding filler, three coats of base color, one spray-can trim.

High average speed imperative and this means easy service, a good acceleration, stability.

► When Rat Racing was approved by AMA, most of us were agreeably surprised that the rules turned out so well. Chief accomplishment was standardization of the length of heats, and the number of pit stops per heat. Of course, the usual hue and cry went up almost before the rules were given a fair chance. After the smoke had blown away, it was found that with the heats so clearly defined, Rat Racing in medium and small sized contests was one of the few events that paid its own way. As far as the Nationals is concerned, Rat Racing has been the shirt tail relative of its more blue blooded cousin, Team Racing.

(The one place where it would seem that the AMA, had passed up a bet, was that they should have required all sanctioned meets holding Rat Race events, to report on the type of race held and on the method of procedure.)

The rules permit the contest director to stage the type

of race best suited to his locality and field of entrants, subject to the race being composed of heats as defined.

Three types of races can be scheduled. If there are many contestants and a minimum of time, a race can be made an elimination contest by holding a series of the shorter dash heats. If there is a small number of contestants, the single final 140-lap heat may be held. Probably the most popular type is to have the qualifiers, or winners of the dash events, go into the 140-lap final.

Rat Racing has been responsible for an infusion of new blood in clubs and a rekindling of interest among older members. On club contest days, Rat Racing can absorb the entire personnel of small clubs as fliers, crew members and officials.

In larger clubs, because of space and time problems, interest may be centered in the shorter dash heats. Other

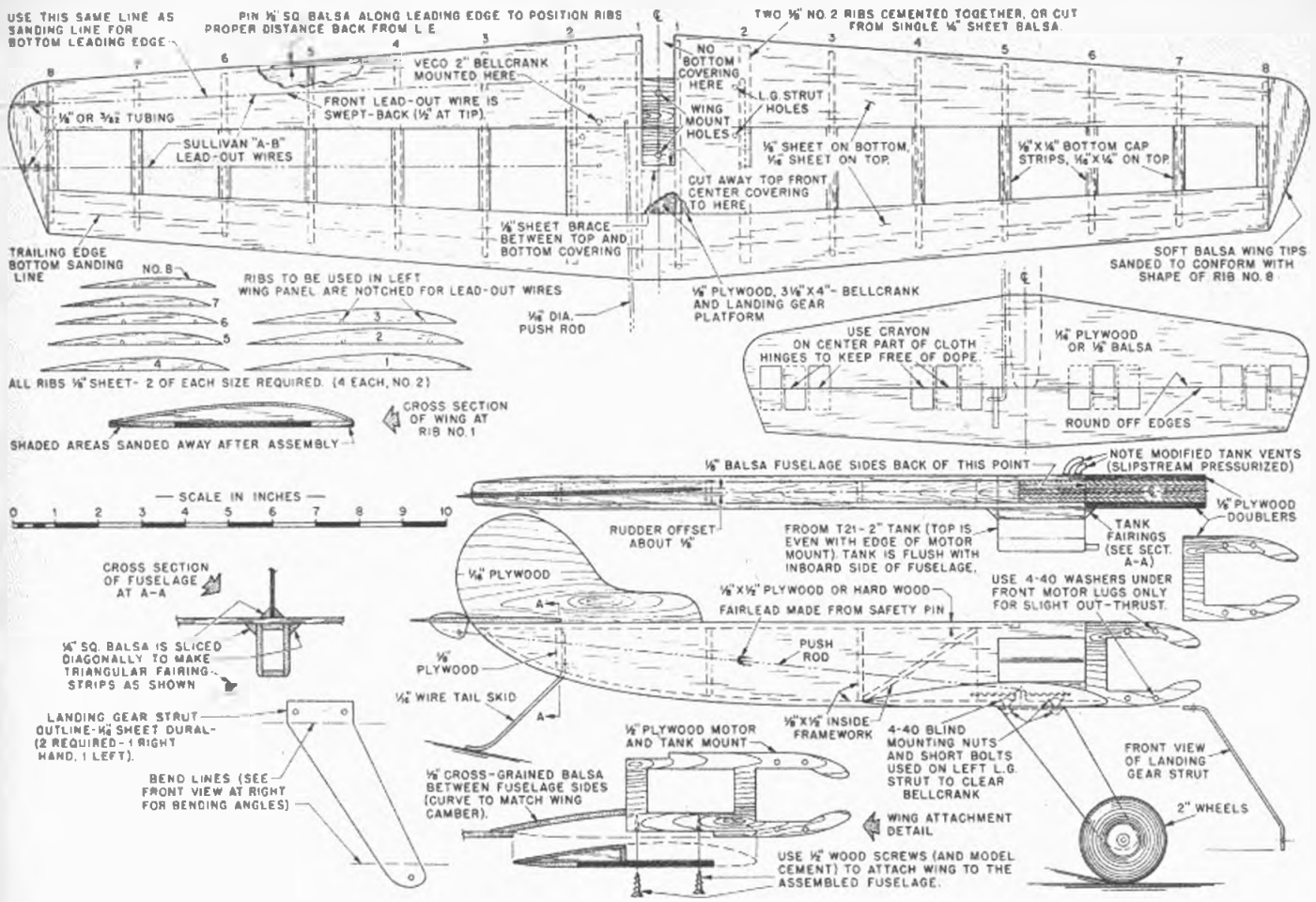


Two-foot take-off, by the yardstick! Just one of the many Wyoming-style bullets shows style!

Fifteen-ounce weight means lower impact—well, now, as well as, jack-rabbit take-off ability.



The hands are connected to Bill but, anyway, a Pylon Brand squeeze bulb good for fast fill.



factors, such as smooth or surfaced flight areas, may lead to concentration on the small speed types of models, with fast motors, hot fuels, racing props, etc. Winners in this type of club contest generally are those few that are well acquainted with speed stuff and take the trouble to build models for this type of race.

If the majority of club members prefer this type of race, there is nothing more to be said. However, the intent of Rat Racing is to give every type of model an equal chance. If the majority of club members prefer to see the laurels passed around, matters can be adjusted within the club. There is no need for special legislation, classification, or discrimination against any type of model.

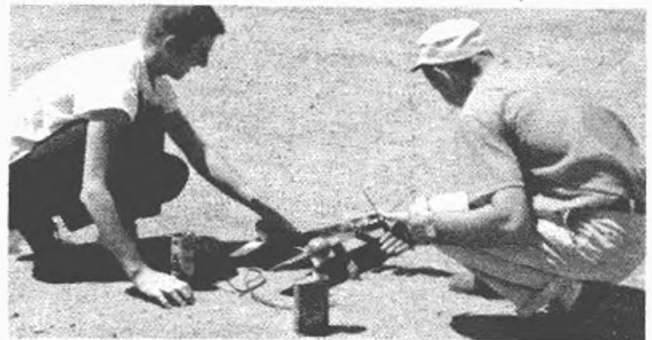
First, there is a popular type of start that is different from the one outlined in the rule book. All models and crew members are located outside the flying circle. With the starting signal, the crew members start motors. Models are then carried in turn to the flying circle and released in the order of the starting of the motors. Lap counts start with the release of the first model.

This type of start gives a handicap to the slower but easier to start motor over the hot but cranky motor. It also prevents giving a crew-cut to green crew members who always seem to run in every direction but the right one.

Second, take-off and landings should be changed from the smooth surfaced area to a rougher one that favors good take-off and landing characteristics of a model plane.

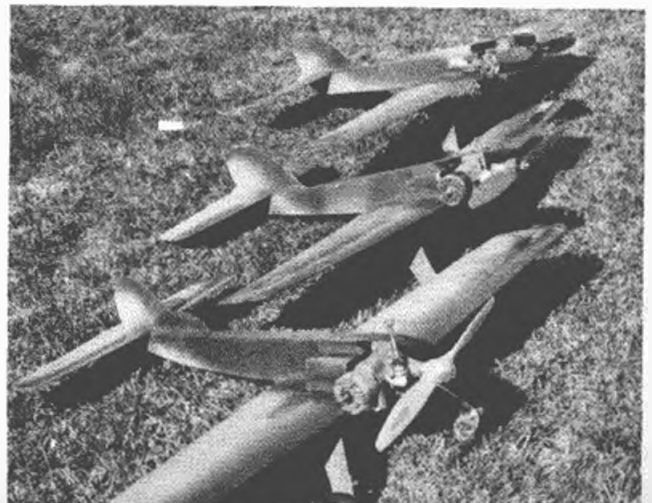
Third, concentration should be made on the longer races with their greater number of required pit stops, take-offs and landings on this rougher terrain.

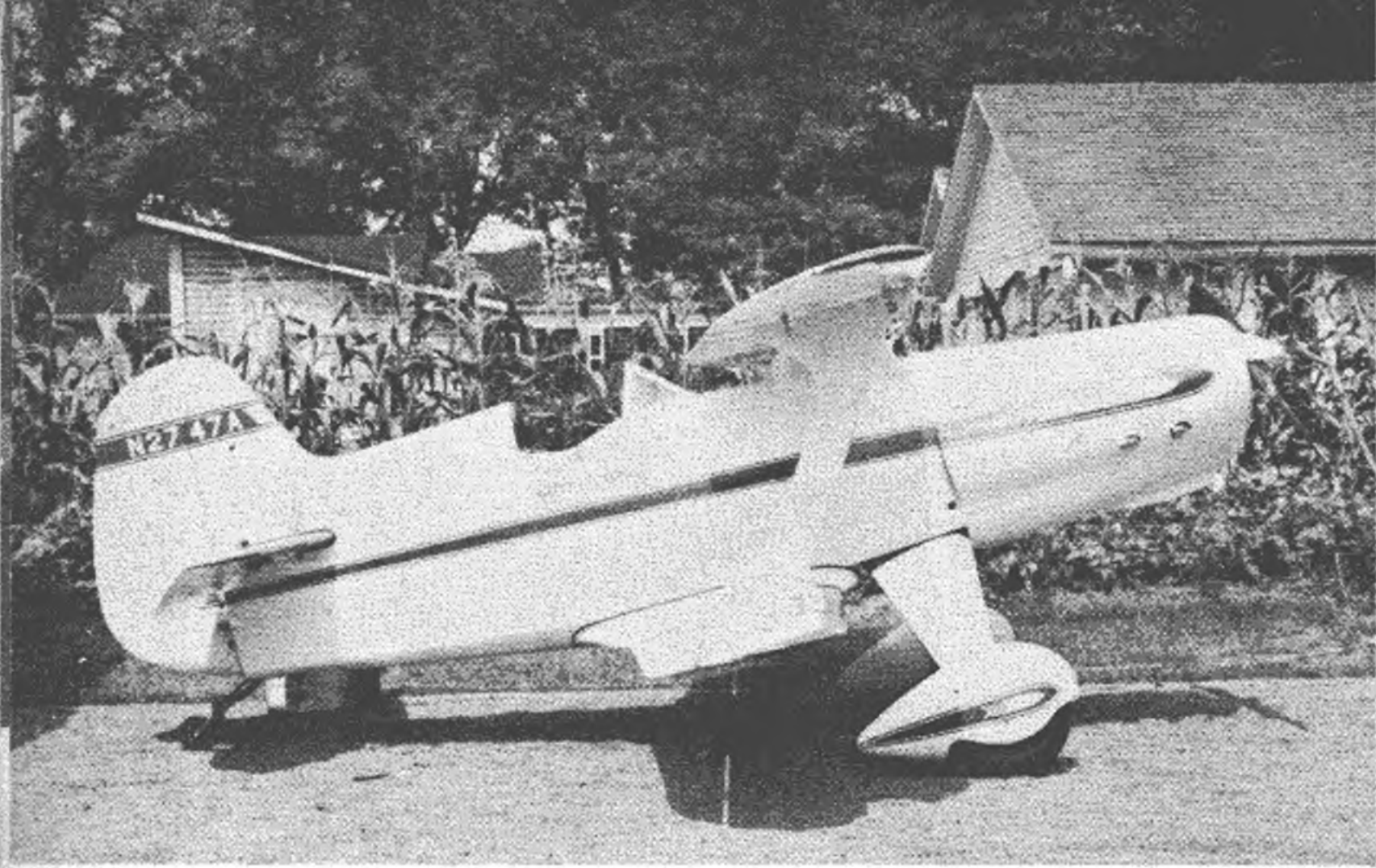
This type of start, rougher terrain, and increased number of pit stops, are great equalizers. (Continued on page 38)



Ground surface, smooth or rough, can be basis of interesting local rules variations, shifting emphasis from speed to dependability.

Make these things one, two, three—that's how simplicity pays off. Team racer type landing gears avoid bouncy landings and take-offs.





Home Built Parade

SABLAR SPECIAL

Tony Sablar's dream ship, modified Knight Twister, won EAA Fly-In Award for workmanship.

"SABLAR SPECIAL"

TOP WINGSPAN.....	15'
LOWER WINGSPAN.....	13'
OVERALL LENGTH.....	14'
TOP SPEED.....	150 M.P.H.
STALLING SPEED.....	80-85 M.P.H.

ENGINE
CONT. C-85 FJ

WEIGHT
EMPTY - 540 LBS.
GROSS - 810 LBS.

P.D.G.

► The S-Special is nothing more than a big scale model, says its builder Tony Sablar, "except that you are in it instead of flying it on the end of 60-foot lines—and this is something you think of each time you glue or weld something."

Barely old enough to fly models in the thirties, Tony fell

in love with the Knight Twister, designed by Vernon Payne, vowed some day to make one. A long time later, and after five years of work, and money, and pep talks from brother Mike, Tony finished his dream ship, but with Continental power instead of the Twister's in-line.

"Since I love a scale model, (Continued on page 70)

Home-built projects usually prove family affairs. Gals can make one!



Tony, Workmanship Firsts, Bloomington, Ill., ('58); Milwaukee, ('59).



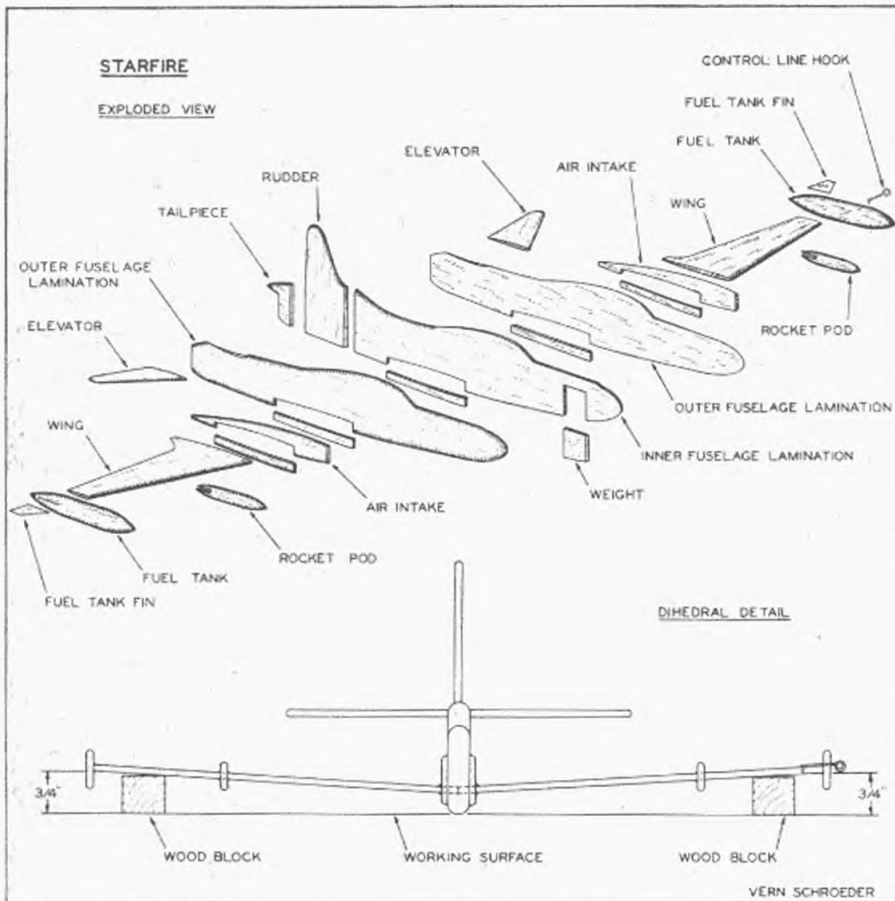


Ready for launching, the author shows how the Starfire hangs on its line at the end of a pole.

Though the elevator is not movable, ship can be maneuvered by lifting or lowering the pole.

whip-control STARFIRE

by VERN SCHROEDER

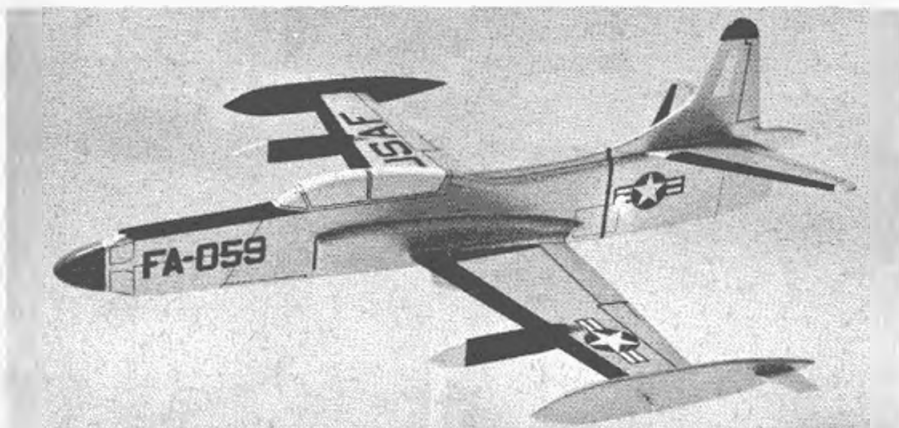


Real looking, it whistles as it flies. Besides the fun, it makes a wonderful preparation for U-control flying.

► Have you ever dreamed of flying one of those super-sleek scale jet jobs? Too much work, too much money, too noisy, you say. Here's one that can be built in a couple of evenings with a minimum of expense and effort. It looks amazingly realistic and sounds just like its big sister as it whistles past the spectators.

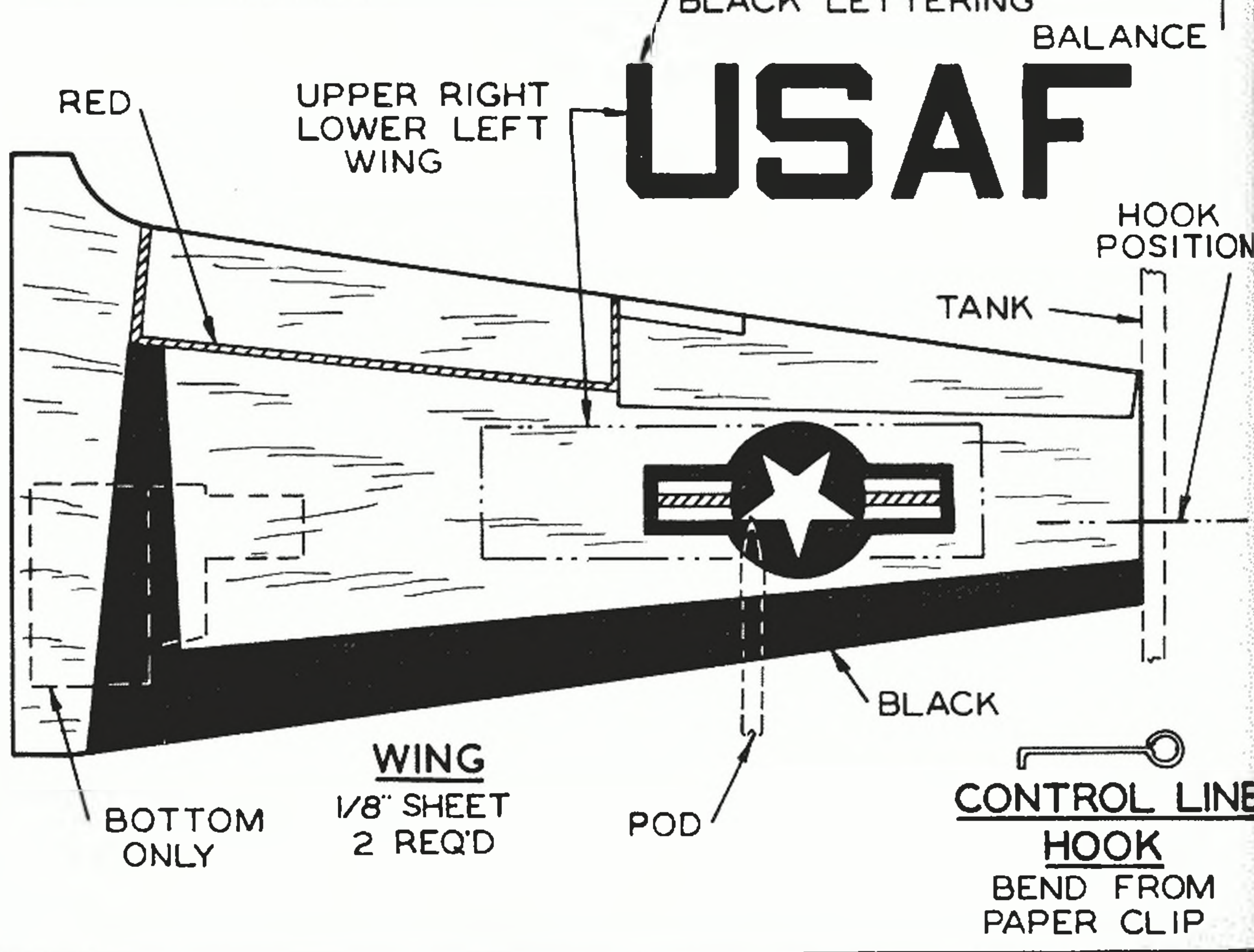
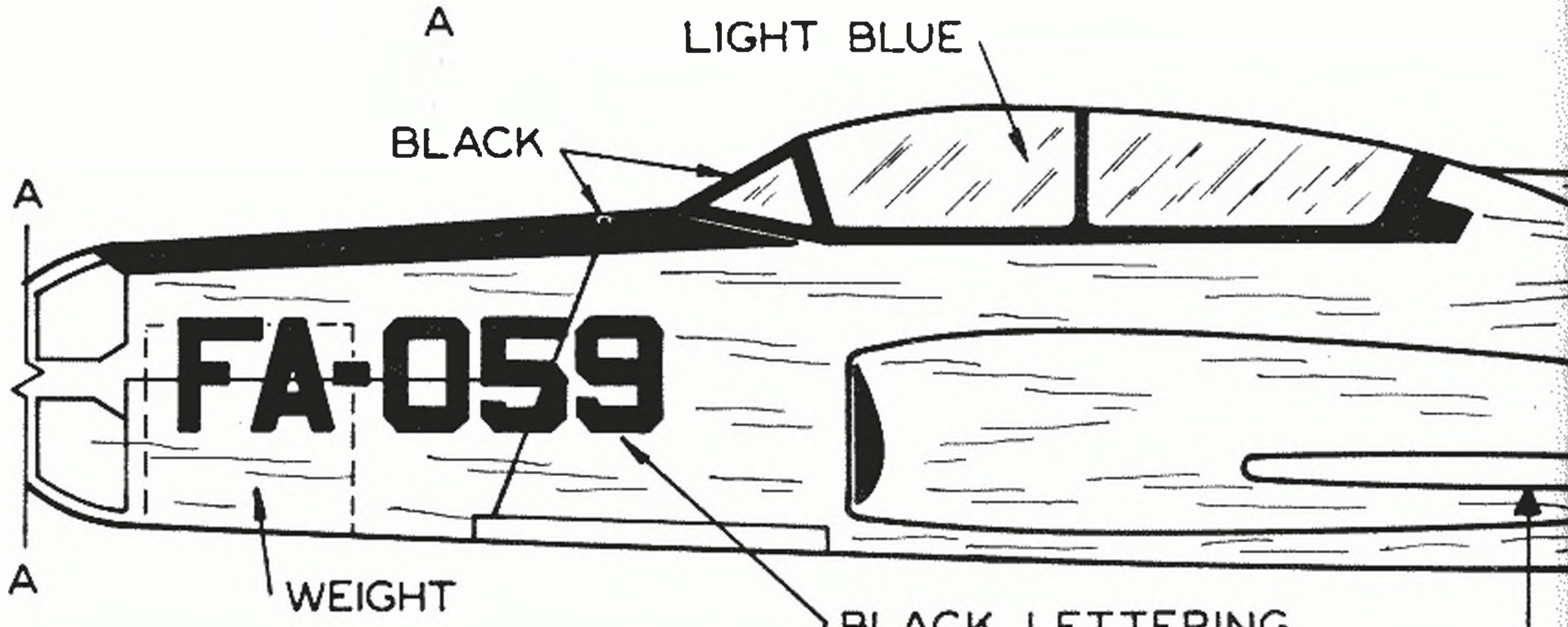
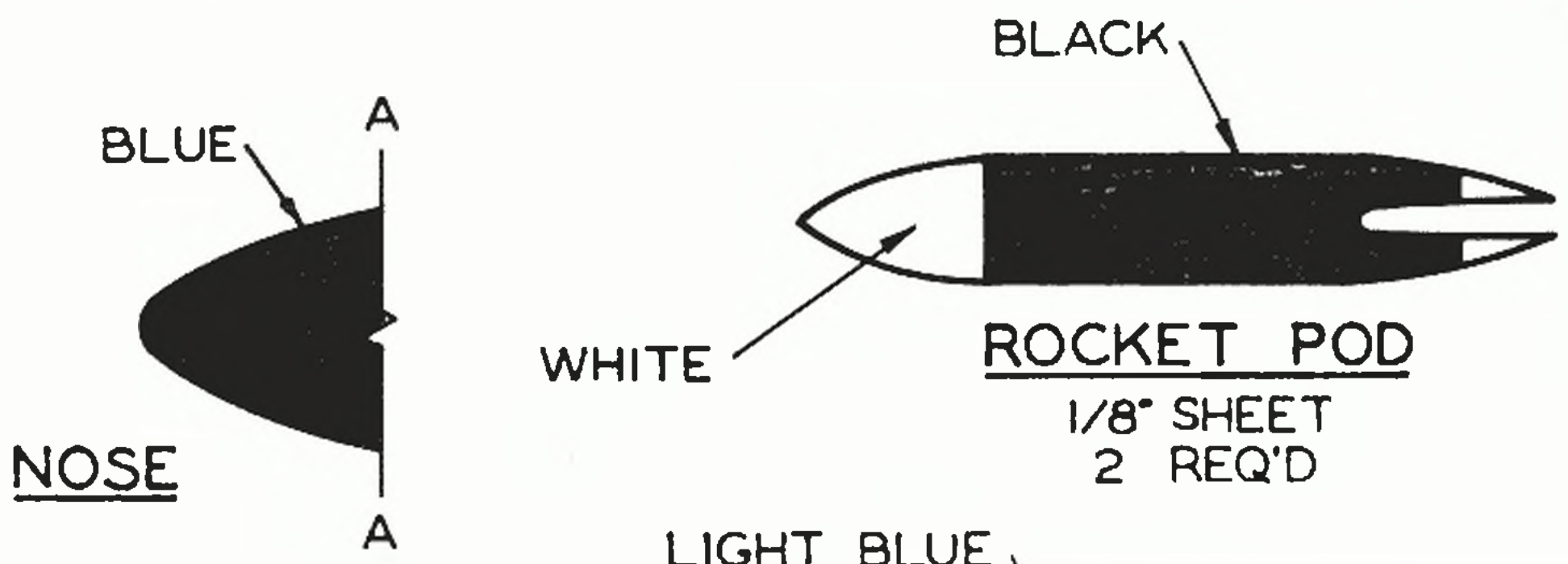
The secret of its simplicity is the fact that it is a "whip control" model. The idea is not new, being originated during the war (by Jim Walker) when no motors or rubber were to be had for powering of conventional models. Our model has a fixed elevator, rather than movable, as many whip models have. Though not as maneuverable, it is easier to build and to fly and makes an excellent model for a beginner who is just getting started in the control-line field.

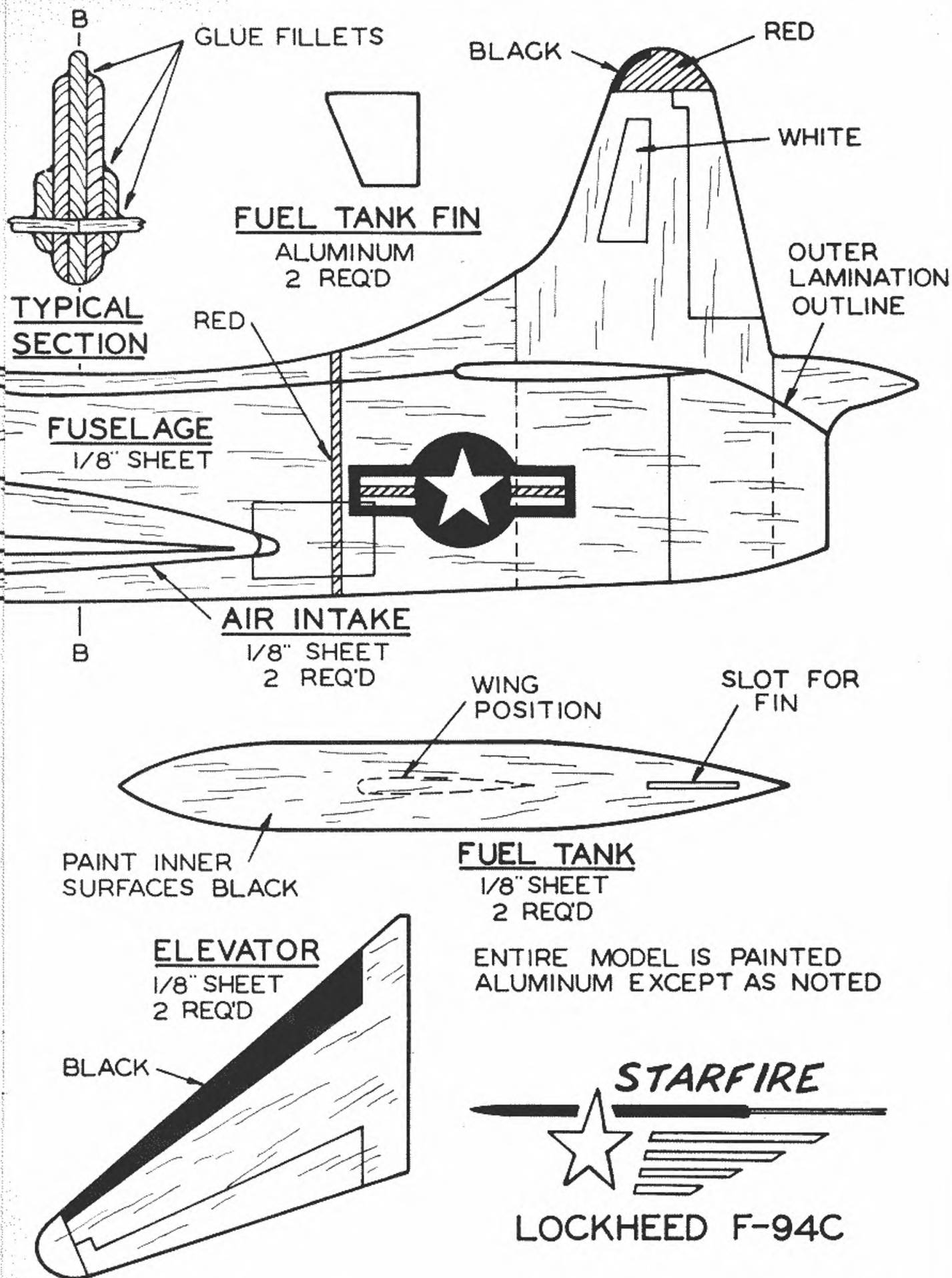
The model presented here is the Lockheed F-94C Starfire, which I am sure needs no introduction, so let's get right down to the construction. The entire ship is built from one 1/8 x 6 x 36" sheet of medium or hard balsa. Trace all the parts onto the 1/8" sheet and cut them out with a sharp knife or razor blade. Note that the grain on the rudder runs opposite to that of the fuselage and there is a slot left in the center fuselage lamination for the addition of ballast. Cement the three fuselage laminations, engine air inlets, and rudder together and when dry, sand them to shape as shown in the fuselage cross section. Sand the wing and tail surfaces to airfoil shape and round off the edges of the fuel tanks and rocket pads. After giving all the (Continued on page 50)



With the help of the exploded drawing above, don't get impatient. Be sure to balance model as directed, do read directions before starting.

FULL SIZE PLANS NEXT TWO PAGES





by WILLIAM DUNWOODY

To make a really good glider you have to be as fussy as a French chef. The wood must be just so and workmanship, she must be on the ball. Notes from a champ.

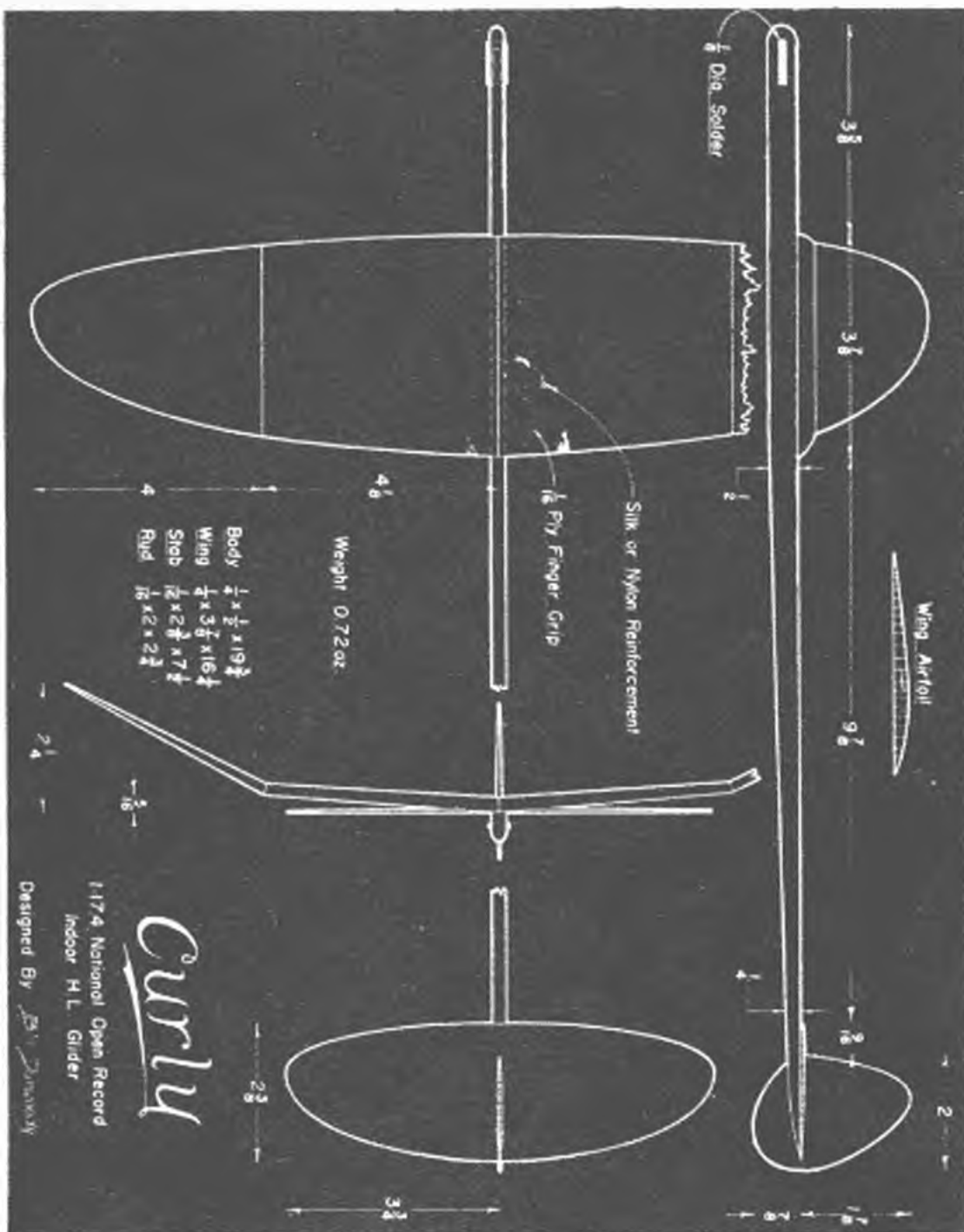
► No doubt those readers who followed the data in Part I and designed their hand-launched glider went on to build one or two and are, therefore, aware of many of the problems of construction involved in these models. This article will present the methods employed by the author in constructing his gliders. Other modelers use different methods, some of which will also be presented. In most cases these differences are merely a matter of personal preference.

Construction of a hand-launched glider is usually begun by laying out the wing and stabilizer planforms on the wood. If the builder desires a shape other than square or tapered, the parabola is probably the easiest to lay out (figure 2.1a). The ellipse is reputedly the ideal planform shape but is more difficult to plot (figure 2.1b). Other methods of plotting elliptical planforms can be found in any drafting text book. A free-hand curve will be quite satisfactory if care is taken to match the left and right halves and if the curve is drawn without any bumps or sharp corners.

Many modelers make up aluminum, cardboard or plastic templates for their wing and tail surface outlines when they finally arrive at a suitable design. These allow the wing to be cut out accurately without having to match halves and also help to rule out variations from one model to the next, allowing more accurate evaluation of a design over a series of models. Such templates can be seen in figure 2.2.

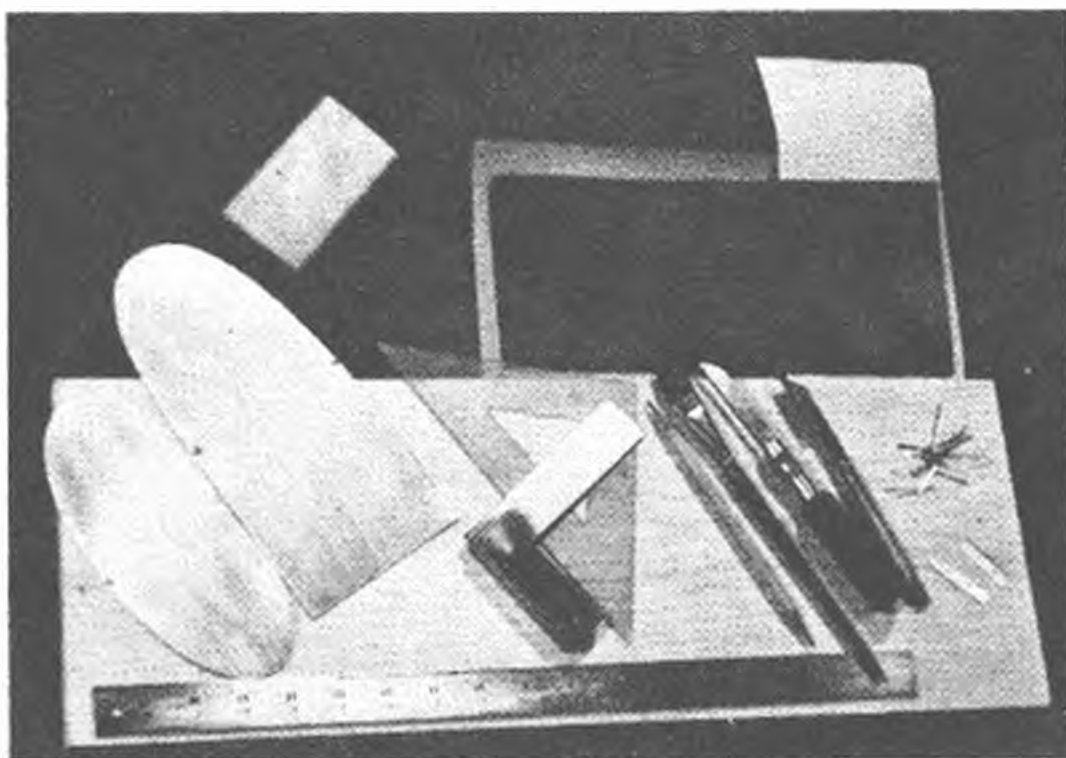
It is not necessary to have all the tools shown in figure 2.2 in order to build good gliders, but all of them are very helpful if available. Most builders use a plane to rough shape the wing airfoil, although I prefer to carve it with a knife. The razor, sandpaper block, square and straight edge are very necessary. Another helpful tool is a piece of $\frac{3}{8}$ " plywood about 12" x 18" with a metal straight edge set along one side for use as a building board. One modeler I know uses a sheet of plate glass for this purpose. It is important that the board be smooth and flat. Several grades of sandpaper are needed: 2/0 for rough shaping after carving, 6/0 or 8/0 for final shaping and 320 or 400 finishing paper for final finishing and polishing. I prefer to use garnet paper, sand-screen or production paper instead of common sandpaper; these papers are slightly more expensive but last much longer, clog less and give generally better finishes.

The plank of wood selected for use in the wing should be cut about $\frac{1}{8}$ " longer than the wing, the leading edge determined (it should be the harder edge if there is one), and the planform traced onto it leaving $\frac{1}{8}$ " at each tip. Before cutting the wing blank to outline shape, mark the dihedral break lines on the underside of the wing, using the square and the leading edge as a reference edge. Score the lines about $\frac{1}{32}$ " deep with the razor blade so that the surface may be sandpapered without erasing the lines. The blank is then cut to shape and tapered from root to tip; a straight taper to about one-half the root thickness at the tip is usually about right (see figure 2.3a). Rough sandpaper is best for this job. A line is then drawn on the upper surface of the wing about 1" back from the leading edge on 4" chord wings ($\frac{1}{8}$ " on 3 $\frac{1}{2}$ " chord wings and $\frac{1}{4}$ " on 3" chord wings). (Continued on page 34)



The Hand Launched Glider

Part Two



Tools required in building: work board, knife, razor, a square, straight-edge, sandpaper and block, pencil, brushes, templates.

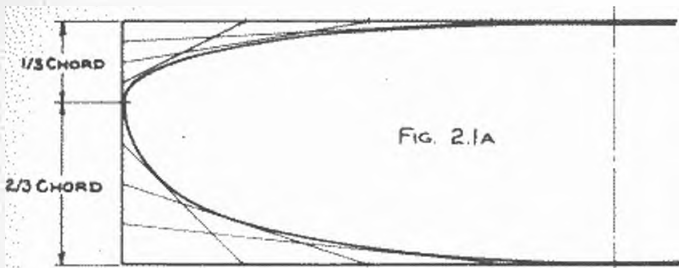


FIG. 2.1A

PARABOLA: DIVIDE HALF SPAN INTO 4 EQUAL SPACES AT BOTH EDGES. DIVIDE CHORD INTO 1/3 & 2/3 AS SHOWN & SUBDIVIDE THESE SPACES INTO 4 EQUAL SPACES. CONNECT THE POINTS AS SHOWN & DRAW CURVE TANGENT TO INSIDE LINES

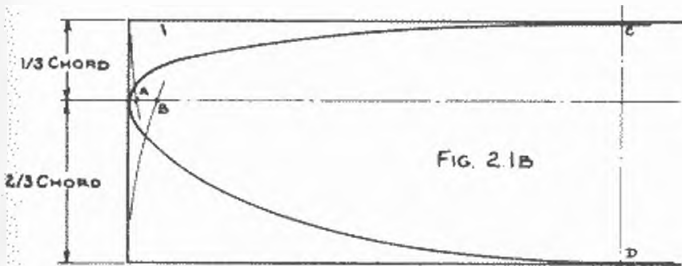


FIG. 2.1B

ELLIPSE: DRAW MAJOR AXIS USING C & D AS CENTERS. SWING ARCS OF 1/2 SPAN MARKING POINTS A & B ON BOTH WING HALVES. PUSH PINS INTO BOTH POINTS A & POINT C. TIE A LOOP OF STRING TIGHTLY AROUND ALL 3 PINS. REMOVE PIN C, PLACE PENCIL INSIDE LOOP AT C AND TRACE CURVE KEEPING STRING TAUT. REPEAT USING POINTS B & D.

FIG. 2.4

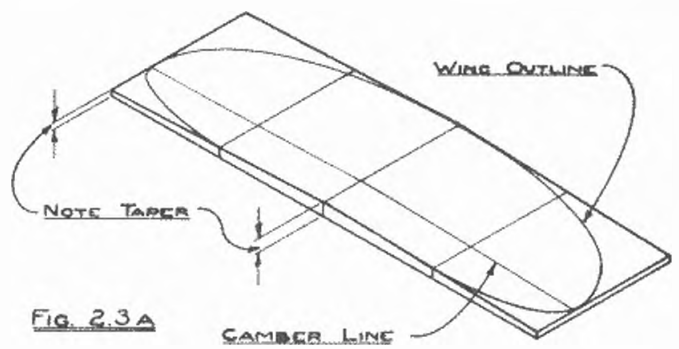
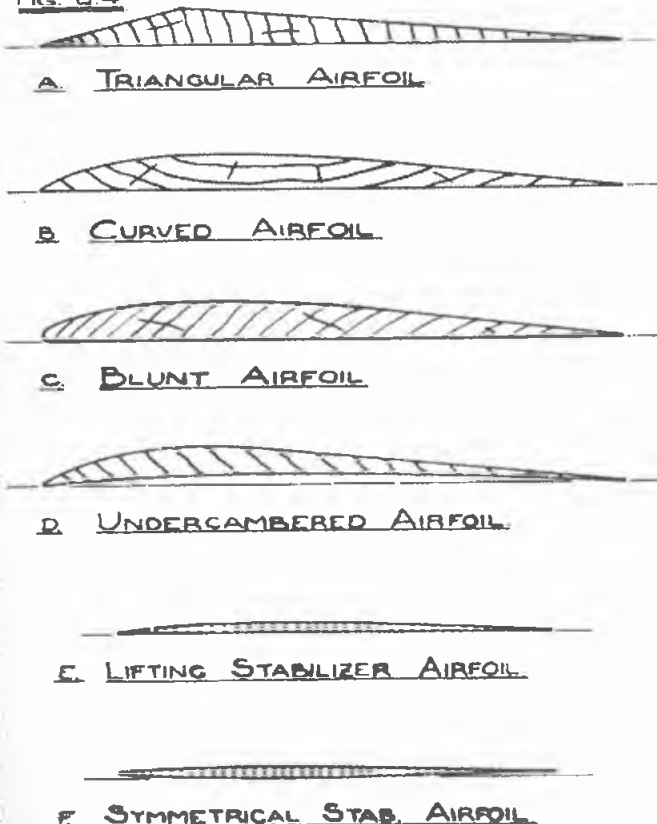


FIG. 2.3A

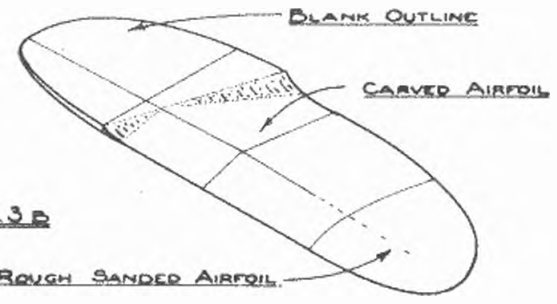


FIG. 2.3B

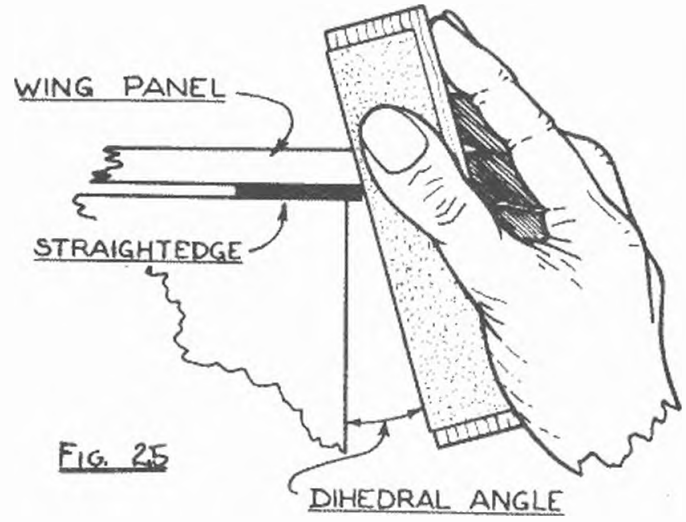


FIG. 2.5

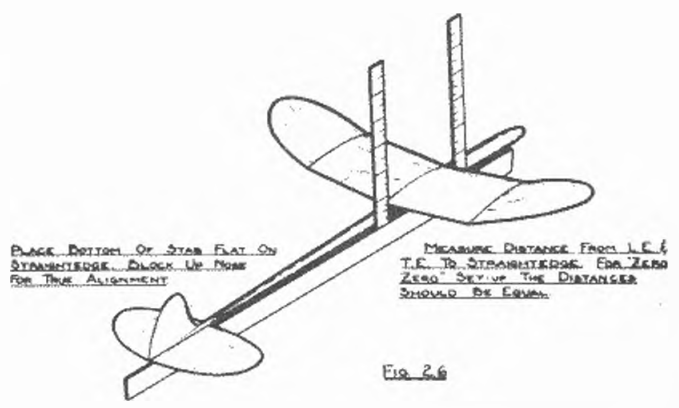


FIG. 2.6

International Airfoils



After years of flying at European contests, meeting the local experts, the author reports on the better sections.

by **JOHN STEWART**

► For years the American modeler has depended on a narrow range of airfoils, such as the Clark Y, the NACA 6409, numerous "zip" sections related to convenient French curves, and has been content to knock off his "maxes" without resort to "theory." He has been troubled, though, by grapevine reporting of Benedek, Isaacson, Gottingen and other strange-sounding sections long used in Europe. How good are these foreign sections?

Thanks to John Stewart, MAN is able to present this rundown of worthwhile sections. While on duty with the Air Force in Germany, Stewart entered many contests, met and flew with the famous modelers in Europe. Into a well filled notebook went comments, ordinates, direct observations. The comments below are keyed to the airfoils shown, beginning at the top left, and working down the three vertical columns.

For space reasons, abbreviations sometimes are used. Gottingen is shortened in some references. DAN. stands for Danish, FIN. for Finnish and M.P. for Modellprofil (same as airfoil in English). (The publishers of MAN have no objection to individuals arranging locally for photostatic enlargements for their own model building purposes).

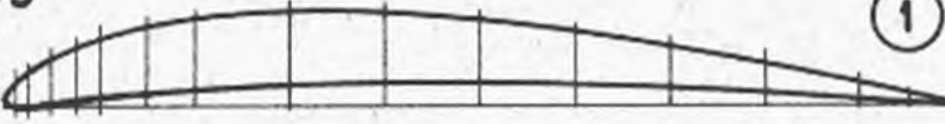
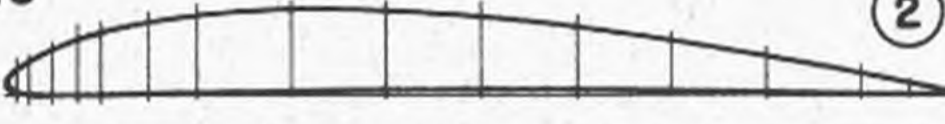
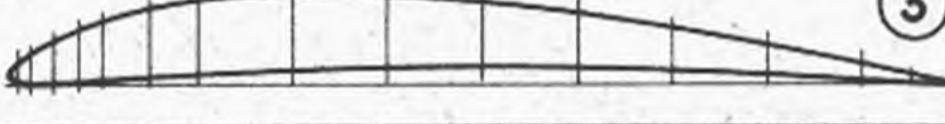
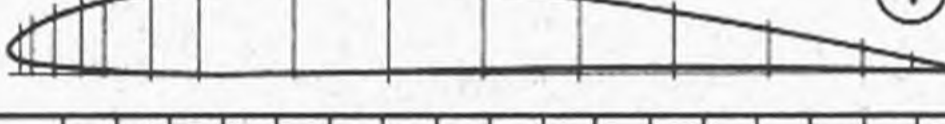
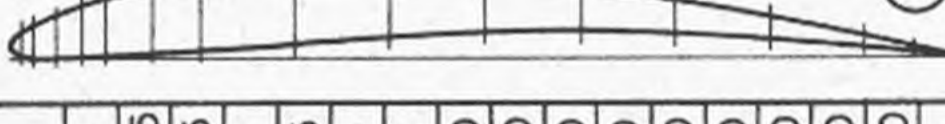
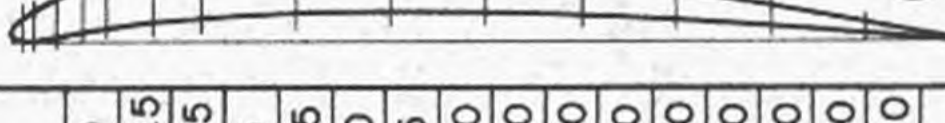
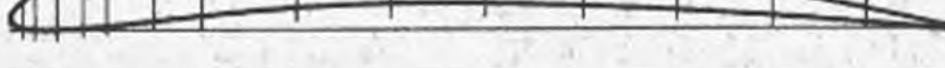
G-359: Good glider (A/2) airfoil. For rough air and strong thermal conditions. Best still-air time about 2:30. Used on Gruner's "SIGI 1." Denzin says a turbulator at about 60% of chord might help. Use similar section in stabilizer. Source: Vladimir Prochazka.

G-428: For FAI power. Should give good climb and rate of sink. Quite stable. Best to plank upper surface to 40% chord to avoid laminar separation. Use 8% thick Clark stabilizer. Source: Vladimir Prochazka.

G-439: A/2 or A/1 airfoil. Should have similar characteristics to the G-359. Somewhat better sink rate but may be difficult to trim in strong winds and/or rough air. Use similar section in stabilizer or NACA 6409. Source: Prochazka.

G-602. For FAI power. Use 8% thick Clark Y in stabilizer. Klaus Hertsch says this section should be good for Wakefield. Source: Prochazka.

(Continued on page 42)

%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	0.8	2.5	3.6	5.3	6.6	7.5	8.8	9.6	10.3	10.0	9.2	7.9	6.3	4.4	2.5	1.5	0.2
LOWER	0.8	0	0	0.2	0.5	0.8	1.3	1.8	2.5	2.7	2.6	2.4	1.9	1.3	0.6	0.3	0.2
G-359 																	
%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	1.3	2.8	3.5	4.8	6.1	6.5	7.6	8.2	8.6	8.4	7.8	6.8	5.5	4.2	2.2	1.2	0
LOWER	1.3	0.3	0.2	0.1	0	0	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0	0
G-428 																	
%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	0.8	2.5	3.4	4.9	5.9	6.8	8.1	9.0	9.6	9.4	8.7	7.5	6.0	4.2	2.3	1.2	0
LOWER	0.8	0.2	0.1	0.1	0.2	0.4	0.9	1.2	1.7	2.0	2.1	2.0	1.6	1.1	0.6	0.4	0
G-439 																	
%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	2.5	4.1	4.9	6.2	7.1	7.8	8.8	9.5	10.0	9.8	9.1	8.0	6.6	4.8	2.6	1.4	0
LOWER	2.5	1.5	1.2	0.8	0.5	0.4	0.2	0.1	0.1	0.2	0.3	0.4	0.5	0.4	0.3	0.2	0
G-602 																	
%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	1.2	2.8	3.5	4.6	5.4	6.0	7.0	7.7	8.6	8.8	8.4	7.5	6.2	4.5	2.5	1.3	0
LOWER	1.2	0.4	0.2	0	0	0.1	0.5	0.9	1.7	2.4	2.8	3.0	2.8	2.2	1.2	0.7	0
GOTTINGEN 495 																	
%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	0.7	2.2	3.2	4.8	6.0	6.9	8.1	8.8	9.2	8.8	7.9	6.6	5.1	3.6	1.9	0.3	0
LOWER	0.7	0	0.2	0.6	1.0	1.4	2.2	2.8	3.3	3.5	3.3	2.9	2.3	1.7	0.9	0	0
B-6306B 																	
%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	1.2	3.0	4.1	5.8	7.1	8.0	9.2	10.0	10.4	9.9	8.9	7.5	5.9	4.2	2.3	0.3	0
LOWER	1.2	0.2	0	0.1	0.3	0.5	1.2	1.9	2.7	3.1	3.0	2.7	2.2	1.6	0.9	0	0
B-8306B 																	

%	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	100
UPPER	0.6	0.1	0.3	0.8	1.4	2.1	3.2	4.1	4.8	5.2	5.5	5.3	4.7	3.8	2.8	0.4
LOWER	0.6	0.1	0.3	0.8	1.4	2.1	3.2	4.1	4.8	5.2	5.5	5.3	4.7	3.8	2.8	0.4

GOTTINGEN 362



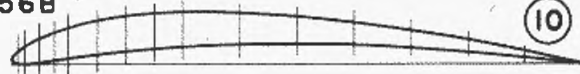
%	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	0.7	0.1	0.3	0.8	1.4	2.1	3.2	4.1	4.8	5.2	5.5	5.3	4.7	3.8	2.8	0.4	0
LOWER	0.7	0.1	0.3	0.8	1.4	2.1	3.2	4.1	4.8	5.2	5.5	5.3	4.7	3.8	2.8	0.4	0

B-6358B



%	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	0.7	0.2	0.3	0.4	0.8	1.1	1.9	1.5	2.9	3.3	3.6	3.7	3.5	3.0	2.2	1.2	0
LOWER	0.7	0.2	0.3	0.4	0.8	1.1	1.9	1.5	2.9	3.3	3.6	3.7	3.5	3.0	2.2	1.2	0

B-6356B



%	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	1.0	0.2	0.3	0.4	0.6	0.7	1.1	1.5	1.7	1.9	2.0	1.9	1.6	1.2	0.7	0.1	0
LOWER	1.0	0.2	0.3	0.4	0.6	0.7	1.1	1.5	1.7	1.9	2.0	1.9	1.6	1.2	0.7	0.1	0

G-610B



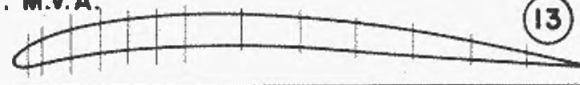
%	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	2.0	0.8	0.3	0	0	0.1	0.3	0.5	0.5	0.6	0.6	0.7	0.8	0.7	0.6	0.5	0.2
LOWER	2.0	0.8	0.3	0	0	0.1	0.3	0.5	0.5	0.6	0.6	0.7	0.8	0.7	0.6	0.5	0.2

B-8353B



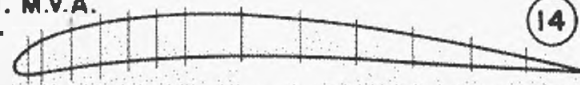
%	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	4.5	3.7	4.1	5.1	5.9	6.3	6.7	7.1	7.1	7.1	6.7	6.1	5.5	4.8	4.2	3.5	3.7
LOWER	4.5	3.7	4.1	5.1	5.9	6.3	6.7	7.1	7.1	7.1	6.7	6.1	5.5	4.8	4.2	3.5	3.7

GOTT. M.V.A. 123



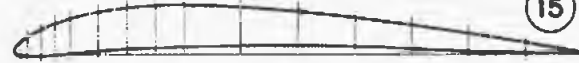
%	0	2.5	5	10	15	20	25	30	40	50	60	70	80	90	100		
UPPER	4.4	3.4	3.7	4.4	5.1	5.5	5.8	6.2	6.3	6.0	5.7	5.2	4.6	4.0	3.4	3.6	3.6
LOWER	4.4	3.4	3.7	4.4	5.1	5.5	5.8	6.2	6.3	6.0	5.7	5.2	4.6	4.0	3.4	3.6	3.6

GOTT. M.V.A. 123 + 301



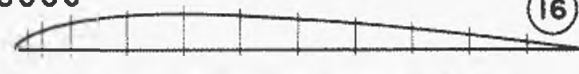
%	0	1.2	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	0	0.5	0.4	0	0	1.2	1.2	1.6	1.8	1.8	1.5	1.2	0.6	0.1	0	0	0
LOWER	0	0.5	0.4	0	0	1.2	1.2	1.6	1.8	1.8	1.5	1.2	0.6	0.1	0	0	0

S.I.53507



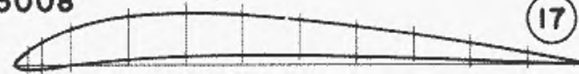
%	0	2.5	5	10	20	30	40	50	60	70	80	90	100
UPPER	0	0.2	0.3	0.4	0.5	0.6	0.7	0.5	0.3	0.2	0.1	0	0
LOWER	0	0.2	0.3	0.4	0.5	0.6	0.7	0.5	0.3	0.2	0.1	0	0

S.I.33006



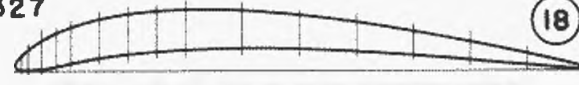
%	0	2.5	5	10	20	30	40	50	60	70	80	90	100
UPPER	0	0.2	0.3	0.4	0.5	0.6	0.7	0.5	0.3	0.2	0.1	0	0
LOWER	0	0.2	0.3	0.4	0.5	0.6	0.7	0.5	0.3	0.2	0.1	0	0

S.I.63008



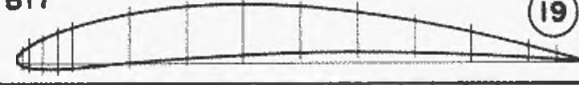
%	0	1.2	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	1.0	0.2	0.3	0.4	0.6	0.7	1.1	1.5	1.7	1.9	2.0	1.9	1.6	1.2	0.7	0.1	0
LOWER	1.0	0.2	0.3	0.4	0.6	0.7	1.1	1.5	1.7	1.9	2.0	1.9	1.6	1.2	0.7	0.1	0

H-7327



%	0	1.2	2.5	5	7.5	10	20	30	40	50	60	70	80	90	100		
UPPER	0	-0.7	-0.8	-0.9	-0.9	-0.8	0	0.8	1.4	1.8	2.0	1.9	1.5	0.9	0.5	0	0
LOWER	0	-0.7	-0.8	-0.9	-0.9	-0.8	0	0.8	1.4	1.8	2.0	1.9	1.5	0.9	0.5	0	0

A-93817



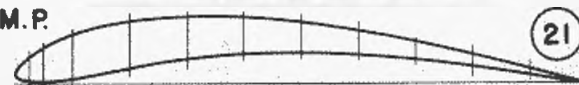
%	0	2.5	5	10	20	30	40	50	60	70	80	90	100
UPPER	0.7	0.3	0.3	1.2	2.7	3.7	4.0	3.8	3.3	2.8	2.2	1.0	0
LOWER	0.7	0.3	0.3	1.2	2.7	3.7	4.0	3.8	3.3	2.8	2.2	1.0	0

DAN. M.P.



%	0	2.5	5	10	20	30	40	50	60	70	80	90	100
UPPER	1.6	0.5	0.4	0.9	2.6	4.3	5.3	5.7	5.5	4.5	3.2	1.6	0
LOWER	1.6	0.5	0.4	0.9	2.6	4.3	5.3	5.7	5.5	4.5	3.2	1.6	0

FIN. M.P.



Citizen-Ship

SELECTIVE EQUIPMENT ON FIVE NEW FCC FREQUENCY ASSIGNMENTS

27.195 mc 27.145 mc 27.095 mc
27.045 mc 26.995 mc.

NEW! MODEL CTX



Custom Deluxe
Tone or CW
Single Channel
Transmitter

\$39.95

For the Discriminating Modeler. Can be used with on-off carrier or on-off tone on all new frequencies as well as 27.255 mc by simply changing crystal.

NEW! MODEL SSTR

Superheterodyne
Selective
Transistorized
Receiver



\$69.95

Features: Crystal Controlled Superheterodyne selective tone receiver. For use on any of 5 new FCC frequency assignments. No tuning required. May be changed from one channel to another by simply changing crystals. 8 Transistors—Uses single miniature 9 Volt transistor battery.

NEW! MODEL SS-MSR-8



Superheterodyne
Selective
Multi-Simultaneous
8-Channel
Receiver

\$149.95

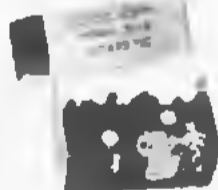
Crystal Controlled. Completely Transistorized. Retains all the features of our proven 8-channel receiver with addition of selective Superheterodyne. Front end to permit interference free operation on the 5 new FCC frequency assignments. No Tuning Required. Simply Change Crystals to Operate On Different Frequency.

NEW! MODEL 3VTR

Tone Receiver 3 Volt For 27 mc Band

Companion Piece
to CTX
Tone Transmitter

\$34.95



Completely transistorized. For general purpose flying. Total Battery requirement 2 penacells. Lowest battery complement and consumption of any set made. Idle current so low that battery life will equal shelf life. So small and light that it is especially suited to .022 planes. May also be used with Citizen-Ship REX or MST-8 Transmitter

Free Catalog Sheets on Request



RADIO CORPORATION

820 East 44th Street Indianapolis, Ind.

bulletin board

A "go-to-press" round-up of news and developments.

► Three very good booklets on rocketry: "Rocket Amateur's Guidebook," by Space Products Corp., 38 East 57th Street, New York 22, N.Y., is a compilation of source material of interest to amateur rocketeers. It tells where to get information on every phase of rocketeering—books, pamphlets, rules and regulations, plans and plenty of "how-to" sources. Also lists rocket clubs, professional societies, universities offering courses, military agencies and missile manufacturers. Includes information on where you can get kits and supplies. Price is \$1.50 for a single copy, with lower prices for ten copies or more.

Second booklet is "Space Primer, An Introduction to Astronautics." This 72-pager is published by Convair and explains in relatively simple terms how rockets work, what problems must be overcome in leaving the earth and how man will manage to navigate in space. Main appeal is for people who want to know how these things are done but aren't too interested in putting a bird in orbit themselves.

For those who are interested in actually building and flying rockets, "A Guide to Amateur Rocketry" has been prepared by the U.S. Army Artillery and Missile School at Fort Sill, Okla. This one is for serious-minded teen agers (or older) who don't mind some theory and who have had some high school intermediate algebra. The Army specialists tell about propellants, rocket engine design, ignition systems, launchers, testing, performance analysis and SAFETY. It's a book for serious rocket groups who have the tools and equipment necessary for metal work-

ing and who have trained adult supervisors.

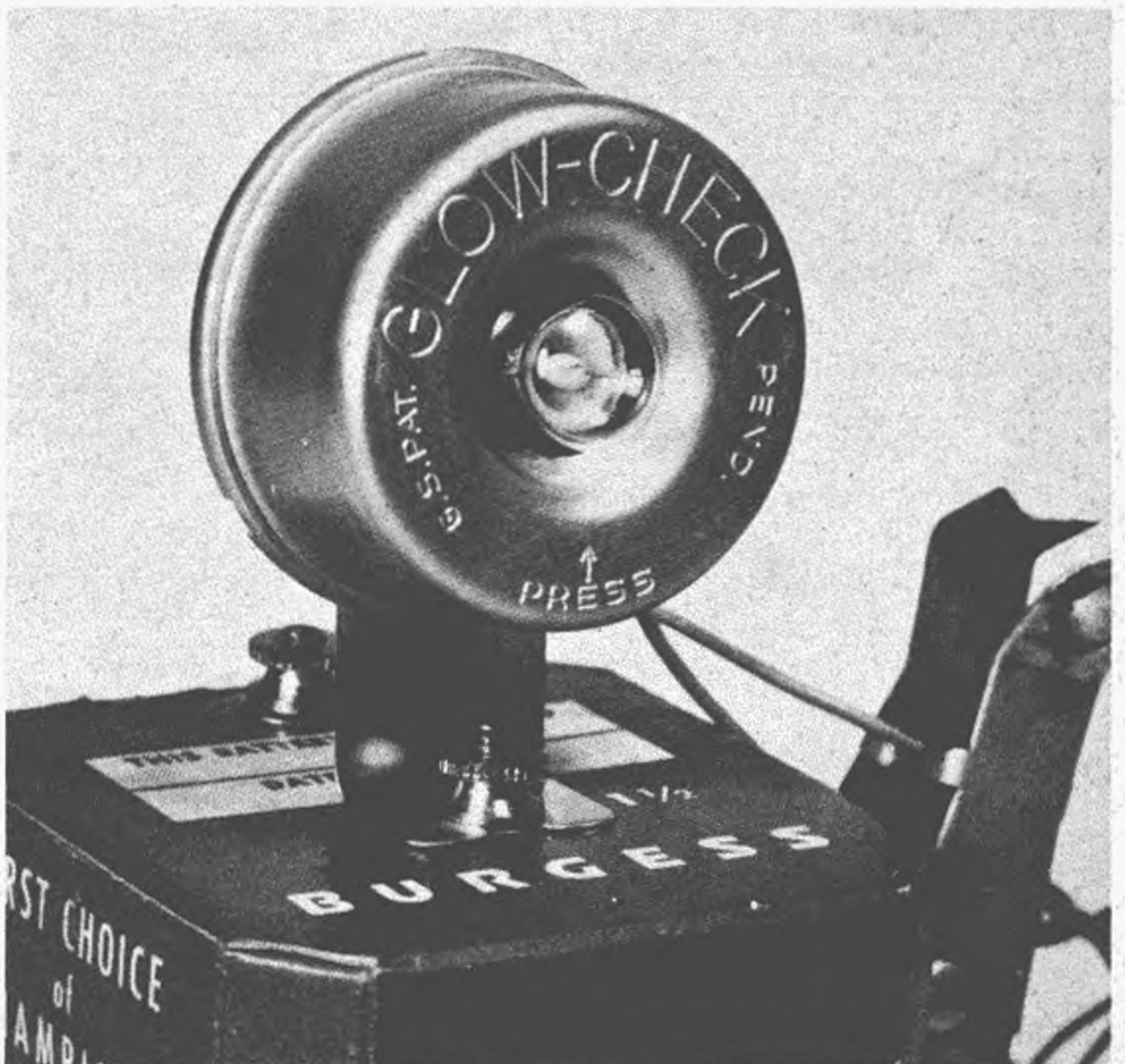
One very interesting paragraph discusses the legal aspects of building and flying rockets—and even the transportation of fuels to launching sites.

We quote the last two sentences in the book—which are applicable to any amateur rocket group: "It is only with extreme caution and great care that you can expect to have a successful and safe firing. Make your rocket project a gratifying experience, not a tragedy." . . .

► Latest copy of the CCAMA News (that translates to "Connecticut Chapters of the AMA," and you translate AMA) indicates that the group is trying to get itself incorporated but seems to be stumped by legal fees. We know of one model club that incorporated—they did it cheap because one of their members is a lawyer—but had some difficulty convincing the authorities they weren't a bunch of delinquents. Reason for the problem was the club's name—Screamin' Demons of Long Island, which didn't sound dignified. They made it, though.

Coming back to the CCAMA problem, if anyone knows a lawyer "who is sympathetic to model fliers" please contact the editor of the News. John W. Affeldt Jr., Box 142, Gales Ferry, Conn.

► More and more clubs these days are building up this hobby by taking on beginners and teaching them all. For instance: Mesilla Valley Model Airplane Club is a newly formed group whose first project is



Unique idea, the Irwin Ohlsson glow-plug tester. Don't remove plug, just press, and that's it.

instructing less experienced members in "the fine art of ukie flying." Anybody interested contact Frank V. Hansen, 1940 Missouri Ave., Las Cruces, N. Mex.

Ravin Cajuns (New Orleans, La.) do the same sort of job. Their latest bulletin gives a progress report on classes in building and flying of both free flight and control line models.

The Tacoma (Wash.) Aeromodlers have come up with a new twist on attracting youngsters. Feeling that there were plenty of frustrated beginners after Christmas with plastic yoyos. They couldn't start engines in, etc. The Aeromodlers printed up several hundred brightly colored cards saying "Model Aviation Builds Better Boys." These were then displayed in store windows, autos and so forth—with the Aeromodlers insignia to tell the boys where to come for instruction and help.

Lots of other clubs teach beginners—and it's a good idea. Everybody benefits—the kids, obviously, and the teachers, too, because they are model builders interested in having more modeling activity. And the more beginners that learn how, the more experts in the future and the more general modeling activity. Go to it!

► Other club bulletins received included the "Lookout" of the Hamilton Aero Modeling Association with plans for Hugh Tuck's T-Bomb ½A and an RC transmitter; the "Bulletin" of the Montreal Model Flying Club with plans for a good looking Nordic A-2 by Dick Foster; the "Hot Head" of the Vancouver Gas Model Club with plans for Hans Skadshiem's FAI job, the "O.C."; plus communiques from the Flying Groundhogs Model Club, the Mississippi Gulf Coast Model Club and the 6200th Air Base Wing at Clark Air Base, Philippine Islands.

► Heading up the list of trade items this month is a notice from the Hobby Industry Association of America that Rich Palmer has been named Retailer of the Year by the industry group. Rich Palmer is the Rich of Rich's Hobby Towne, Inc., Parsippany, N.J.—with seven acres of ground devoted to modeling activity, five control-line circles, two midget race car tracks and a boat pond. At the edges are parking facilities for 1000 cars and bleacher seats give a good view to our favorite activities for 1500 spectators. Rich sponsors three clubs, too, one each for model airplanes, cars and boats. Sure, Rich is doing himself some good—but he's doing the hobby still more good!

Ambroid Co., which recently brought out a fast-drying colorless model airplane cement, now announces a new plastic cement for polystyrene models. Most of the old timers we know hope that no matter how many new-fangled stickums Ambroid brings out, they never quit making the old amber-colored stuff that gives the company its name!

Super-Flite Aircraft Spray is a new butyrate dope for model work announced by Cooner Industries, Inc., makers of full scale aviation finishing materials. We haven't space to list all the colors, but they're keyed to full scale colors. As: Fairchild Blue, Stinson Green and Piper Cub Yellow. Claimed to be 100% fuel proof.

Leland Morton and Les Grogan have won the \$100 prize put up by Harter's Hobby Products for the first flier who set an official AMA Proto Speed record using the Regal Raider kit. Clocking was 121.45 mph with a modified Fox 29R. Harter is now offering \$100 to the first one to beat 125 mph with a Regal Raider—and he'll add \$50 for each additional mph!

\$1.20 BUYS MORE VALUE IN A FULL PINT OF LEE'S CLEAR DOPE

A BRUSH FULL OF LEE'S DOPE MAKES AN EXPERT FROM A BEGINNER!



- STREAK FREE
- QUICK DRYING
- BLUSH RESISTANT
- HIGH GLOSS FINISH
- ECONOMICALLY PRICED
- STRONG "COVER-POWER"
- HOT AND RAW FUEL PROOF

IT'S AS CLEAR AS "WHITE-ON-BLACK" LEE'S HAS "COVER-POWER"



EVEN ONE COAT OF WHITE WILL COVER OVER BLACK WITH LEE'S FABULOUS FORMULA!
 COLORS: INSIGNIA WHITE, SILVER, BRIGHT ORANGE, INSIGNIA RED, GREY, INSIGNIA BLUE, GREEN, LIGHT BLUE, BLACK, CUB YELLOW, POLYKIL, ETC.

OTHER FINE LEE'S PRODUCTS

	4 Oz.	Pint	Qt.	Gal.
• LEE'S GLOW FUEL		.79	1.40	4.95
• LEE'S CLEAR DOPE	.40	1.20	2.19	8.50
• LEE'S COLORED DOPE	.45	1.50	2.89	10.95
• LEE'S CEMENT	.50	1.79	3.19	10.98
• LEE'S GRAIN FILLER	.40	1.20	2.19	8.50
• LEE'S BALSAL PUTTY	.79	2.98		
• LEE'S KWIK KLEEN		.59		
• LEE'S THINNER	.35	.90	1.65	5.25

Dealers That Carry Lee's — Inquiries Invited

POWER CONVERTER

RATING: IMPACT 4.5 V — 45 V OUTPUT IMPACT 3 V — 30 V OUTPUT



WT. ¾ OZ.

AIR MAILED UPON REQUEST AT NO EXTRA CHARGE

\$11.95

WE CAN FILL ANY ORDER FOR RADIO CONTROL

SERVO GREASE



ONLY **79¢**

CLINGS TO EXPOSED GEARS

5 COLOR WIRE

25 FT. LONG

ONLY **60¢**

MULTI-STRANDED

Sensational GLUE GUN



NON-CLOGGING ONLY **98¢**

WITH STORAGE UNIT

TERRIFIC COMBINATION OFFER!

Here's What You Get
 FULL PINT OF CEMENT \$1.79
 GLUE GUN & DISPENSER .98
 THREE EXTRA NOZZLES .25
TOTAL \$3.02

YOU PAY ONLY! **TWO DOLLARS**

FOAM RUBBER

- ½" THICK
- 36 SQ. IN.
- SMOOTH ONE SIDE

35¢

BRUSHES

SET OF THREE



ONLY **\$1.25**

AT LAST! 1-INCH SHED-RESISTANT BRUSH

ONLY **\$1.25**

WE STOCK TO MAIL KITS BY: AERO, A. J. WALKER, AMERICAN, TELASCO, ARISTO-CRAFT, BARBOCK, BERKELEY, CARL GOLDBERG, CONSOLIDATED, DARWIN, DERBOLT, ENTERPRISE, GUILLOW, JETCO, MIDWEST, MONOGRAM, P. D. Q., SCIENTIFIC, STERLING, TOP FLITE, VECO, VICTOR, STANZER

COME IN OR MAIL IN to LONG ISLAND'S LARGEST HOBBY CENTER



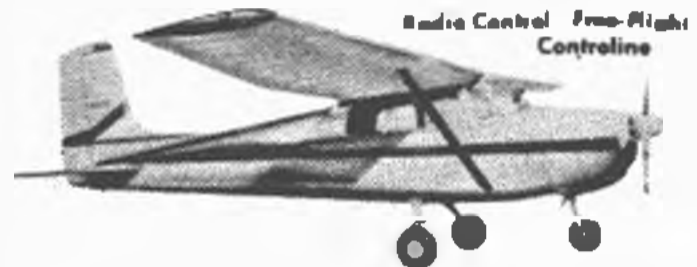
ORDERS FILLED SAME DAY RECEIVED FROM THE WORLD'S MOST COMPLETE STOCK! TRY US - PLACE AN ORDER TODAY NO ADDED CHARGES FOR HANDLING AND POSTAGE

2072 FRONT ST., EAST MEADOW, L. I., N. Y.

Berkeley's **R.C. SCALE**



"BUSTER" \$9.95
For .15 to .35 Engines
3" Scale - 48" Wingspan



CESSNA "172" \$8.95

BIG 1 1/2" SCALE - 54" WINGSPAN
08 to .10 ENGINES



"PIPER CUB J-3"
For .15 to .35 Engines - 71" Span - 2" Scale

The "Piper Cub J-3" needs no introduction. Most famous of all light aircraft, it's a natural for R.C. or Free Flight flying. The six foot span permits the extra R.C. installation that you desire.



NAVION "Super 260"

The beautiful scale replica of the famous "Navion" is a fast, rugged and truly different R.C. or Free Flight design, easily adapted to Controlled Flying. Thrill in its flashing performance and smooth response.



CESSNA "170"

Controlling your "Cessna 170" by Radio is a thrill you will not forget! Perfect in scale, rugged stable in all attitudes, yet responsive in control, with good wind penetration qualities. The gear location is ideal for extended take off runs. The larger-than-average size makes it easier to control in windy weather.



"BEAVER"



Piper "TRI-PACER"

buy **BERKELEY** at your local dealer!
If no local dealer is convenient, mail orders will be filled by Berkeley Model Supplies, Dept. M.A. West Hempstead, N.Y. Please include 25¢ packing & postage.

The Hand Launched Glider

(Continued from page 28)

If a wire leading edge is to be used, it should be cemented in place at this time. Music wire of .008 or .010 diameter is cemented in place at the lower surface leading edge corner using plenty of cement and allowing about 1/16" gaps at the dihedral breaks.

The leading edge shape is carved to the line on the top surface as in figure 2.3b, leaving the edge about 1/32" thick. The trailing edge shape is also carved to this line leaving the edge and the tip about 1/32" thick. Nowhere should the edge thickness be carved to less than 1/32"; the remaining shaping should be done with sandpaper. Some typical airfoil sections are shown in figure 2.4; all have their own peculiar characteristics, and experimentation is the best way to determine which one suits you best. In most cases either the triangular (figure 2.4a) or the curved (figure 2.4b) airfoils will prove excellent. These airfoils are the most popular with present day glider fliers. The blunt airfoil (figure 2.4c) seems to have lost popularity in the last five years and the undercambered section (figure 2.4d) is most often employed on low ceiling indoor gliders.

The wing now should be sanded lightly using the 2/0 paper to remove the high spots left by the carving. At all times the sanding should be done using the sanding block behind the sandpaper to ensure a smooth and even surface, free from scratches and hollows. Care should be taken to prevent the edges of the sandpaper from scratching the surface and dust should be prevented from accumulating beneath the sandpaper. Use the 6/0 paper to thoroughly sand both the top and bottom surfaces, and then follow with the 320 to obtain a smooth, silky feeling finish. Where the wing tapers toward the tip, the sanding should be done in one direction only, toward the tip, to avoid raising the grain. The trailing edge should taper to almost paper thinness.

Cut the wing panels apart along the dihedral break lines, taking care to follow the lines laid out with the square. It is very necessary that all the dihedral break lines be parallel and at right angles to the chord line of the wing. Any offset here would result in a built-in warp in the wing. Dihedral joint angles can be accurately set by placing the wing panel along the steel edge of the work board and sanding the end of the panel at a bevel corresponding to the dihedral desired, as in figure 2.5. Joining the panels is done in three steps. First, all the surfaces of the joints are given two coats of cement to assure the cement penetrating into the wood, allow it to dry thoroughly before applying the next coat. Next, a heavy coat of cement is placed on the joint and the panels joined together and blocked up at the correct angle. By far the best way to make sure that the outer panels of a polyhedral wing have equal dihedral is to join the tips to the center panels and then block them up tip to tip. The center joint is joined in the same fashion when the tips have dried. When all the joints have thoroughly dried, they are again coated with a film of cement.

The tail surfaces are cut to shape and the airfoil sanded in the 6/0 and then 320 paper. Skip the carving and 2/0 sanding on these surfaces—the wood is too thin for such heavy work. As on the wing, the trailing edge is tapered to almost paper thinness. The center line of the stabilizer should be carefully marked to assure accurate alignment in joining it to the fuselage. The lower edge of the rudder must

be accurately shaped to fit the body or the stabilizer airfoil as the need requires.

The design of the fuselage, its shape and cross-section, is largely determined by the grain and density of the wood to be used. The body should taper uniformly between the wing and tail, the corners should be rounded and the fuselage behind the stabilizer leading edge should taper to a point. Lumpy carving and sanding causes weak spots where the bending and impact loads imposed on the body during launching and landing will concentrate, causing the body to break. In most cases circular or round ended rectangular cross-sections are best with flat or shallow V areas left for mounting the wing and stabilizer. The wing and stabilizer mounting areas should be carefully checked with a straight edge (figure 2.6 to make sure the incidence set-up is zero-zero—checking back to Part I at this time might be helpful; see figure 1.8). A couple of careful swipes of the 6/0 sandpaper in the right places will cure any misalignment present. The wing and stabilizer mounting surfaces and adjacent areas of the fuselage should be coated at least twice with cement before assembly, as were the wing dihedral joints.

When assembling the wing and tail surfaces to the body, use plenty of cement; squeeze the joints tightly and wipe off any excess glue. Assembly should be made in the following order: stabilizer to body, checking with the square to make sure the body is perpendicular to the stabilizer; wing to fuselage (after stabilizer has dried completely) using blocks to hold wing tips so that no tilt is present in wing (check dihedral at each tip with a ruler to make sure); rudder to body, using the square to get rudder perpendicular to stabilizer. When all the joints have completely dried, coat them and the wing dihedral joints as well with an additional coat of cement.

After assembly, several hours should be allowed to permit the joints to set thoroughly before tackling the finishing job. Check the assembled glider for warps or any misalignment and re-cement the affected joints to remove the faults. Two popular ways of finishing the glider will be discussed. The first method employs sanding sealer and requires more time, more careful sanding, and will result in an excessively heavy model if improperly done. The resulting finish is usually better than that of the second method, which is quick, easy and light and is recommended for the beginner. Before using either method, sand the entire model with 320 finishing paper to remove any fuzz or excess cement.

In the first method, nitrate base sanding (Continued on page 38)

Willy Ley
Space Models

Four NEW kits. Designed by one of World's greatest space experts.
At Dealers Now

Monogram
Four Star Plastik

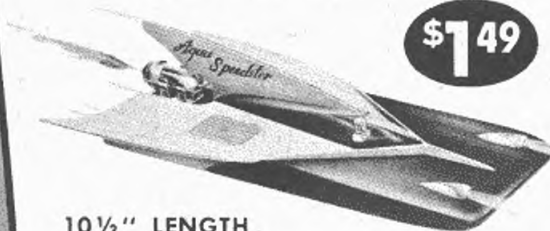
ALL EYES ARE ON ENTERPRISE

NEW-SPECTACULAR

Aqua SPEEDSTER

FOR JETEX "50B" OR CO₂

\$149



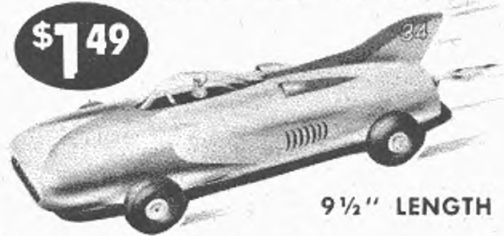
10½" LENGTH

Excitingly new and different too, this little speedboat will amaze you with its performance. It is easily assembled in less than an hour! All parts are pre-cut and shaped, included also are colorful decals, plastic accessories, plus loads of other Enterprise extras.

SIZZLER

FOR JETEX "50B" OR CO₂

\$149



9½" LENGTH

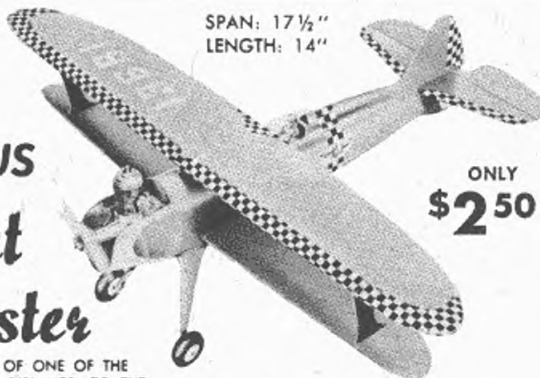
Patterned after the hottest real racing cars ever developed, the Enterprise "SIZZLER" sets the pace for super speeds in models. FREE RUNNING OR TETHERED. Ready to run in less than two hours! All parts are pre-cut and shaped. Colorful decals, plastic driver, wheels and accessories are a few of the many Enterprise extras.

THRILLS GALORE!

FABULOUS

Knight Twister

AN AUTHENTIC REPLICA OF ONE OF THE MOST POPULAR SPORT BIPLANES OF THE EARLY THIRTIES. IT'S PERFORMANCE AND MANEUVERABILITY HAS YET TO BE EQUALLED BY MANY SPORT AIRCRAFT BEING FLOWN TODAY... ABOUT 25 YEARS LATER!



SPAN: 17½"
LENGTH: 14"

ONLY
\$250

½ A CONTROLINE
FOR .049 to .074 ENGINES

FREE-FLIGHT

PERFECT FOR THE NEW .020 PAA-LOAD RULES

Complete with new PAA-Load decals and instructions.

\$250 each



PEE WEE SPORTSTER — Great new ½ A Free Flight. Designed for .020 to .049 engines. Can operate in limited area. 32" wingspan



SKY-LINER—Dual purpose ½ A free flight and rubber powered for sport, precision and PAA load flying. Pre-fabricated parts, formed landing gear wheels, extras. .020 to .049 engines. Wingspan 32".

enterprise for 59

SUPER-WHIPSAW

FOR .19 TO .35 ENGINES

SPAN: 41"



ONLY
\$295

DESIGNED EXPRESSLY FOR COMBAT AND STUNT FLYING, THIS HIGHLY PREFABRICATED MODEL CAN BE ASSEMBLED IN A MATTER OF HOURS! IN FLIGHT YOU'LL FIND IT'S FAST AND HIGHLY MANEUVERABLE, YET PLENTY EASY TO HANDLE AND BUILT RUGGEDLY. A NATURAL FOR THE 1959 CONTEST FLYING SEASON!

"COMBAT-STUNT"

WHIPSAW



31" SPAN

ONLY
\$195

WHIPSAW—Combat-Stunt Controline. Pre-fabricated, Shaped leading and trailing edges, die cut ribs, plywood doublers, hardwood engine mounts, extra sturdy. For .09 .15 .19 engines.

HAWKER TYPHOON



31" SPAN

ONLY
\$295

HAWKER TYPHOON — A lavish kit featuring pre-fab parts, full size detailed plans, large four color decals. For .09, .15, .19 engines.

FIRST IN QUALITY • FIRST IN VALUE • FIRST IN DESIGN

NEW! 1959 CATALOG—SEND 10c
FOR POSTAGE AND HANDLING

ENTERPRISE MODELS, INC.
MINEOLA, NEW YORK

NOW...12 COLORS IN

PINTS

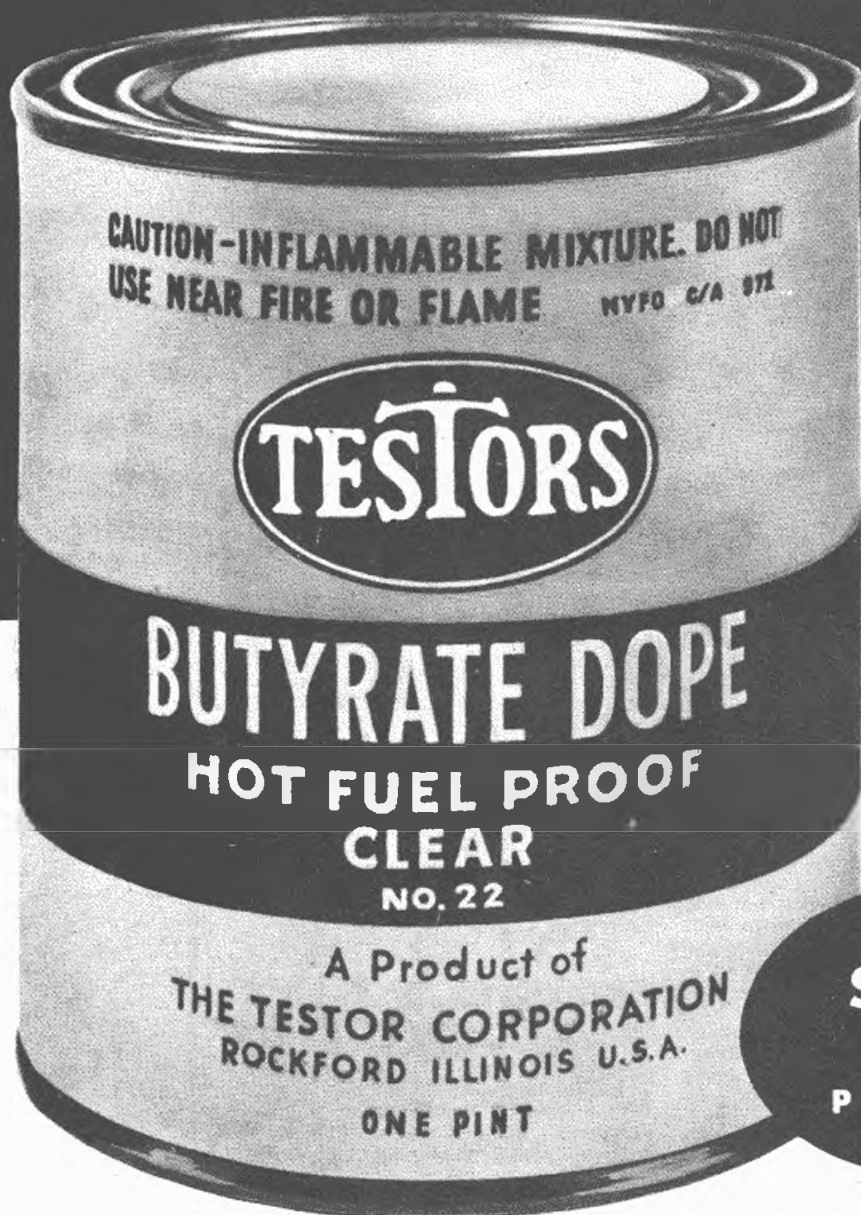
MEDIUM GREEN • INSIGNIA RED • ORANGE YELLOW • TRUE BLUE • INSIGNIA BLUE • AIRCRAFT GRAY • GLOSS BLACK • SILVER • CLEAR • THINNER • INSIGNIA



BUTYRATE DOPE

**Get this economy-size value
in the finest new formulation
ever available to modelers...**

WHITE - SANDING SEALER



\$1.50
PER PINT

Testor's Butyrate Dope is the finest formulation ever developed for giving a *genuinely hot fuel proof finish* to engine-powered models. Completely withstands destructive elements in today's high-solvency glo fuels. Applies easily by brush or spray; has good hiding power and build-up; dries to a tough, durable film. Available — as illustrated — in pint cans (12 colors at \$1.50); square quarter-pint jars (12 colors at 60c); and 1-ounce size bottles (24 colors at 15c).



15¢



60¢

THE TESTOR CORPORATION • ROCKFORD, ILLINOIS

sealer (butyrate is not as good) is cut about 50-50 with thinner and one coat is applied to the whole model except the trailing edges of the tail surfaces. When this coat has thoroughly dried, it is sanded off using the 320 paper. By "off", I mean exactly that; sand right down to the bare wood leaving the same silky feeling surface as before. Stop sanding as soon as the sealer is removed from the surface; too much sanding will open up pores and grain in the wood which the sealer hasn't filled. Another coat is applied and it, too, is sanded off when dry. This should leave the surfaces with a slick feeling finish with no fuzziness and no grain showing when light is reflected from the surface. Should pores and grain still be visible, use a third coat and sand it off as before. For outdoor gliders, or if a high gloss finish is desired, give the model one coat of thin clear dope. This method of finishing depends upon the builder being familiar with the sealer's characteristics and his own sanding habits. Also, the model must be smoothly sanded before applying the sealer.

In the second method, talcum powder is rubbed into the wood of all the surfaces. Apply the talc freely and rub it well into the pores of the wood. Then apply a coat of thin dope over all the model except the trailing edges of the tail surfaces. Sand the dope almost entirely off, stopping just before the bare wood is reached. If carefully done, only one such treatment may be enough. Should examination reveal grain showing on the surface, a second treatment may be applied. Again, if a gloss is desired, a thin coat of dope may be applied.

The question of whether to wax the glider or not will start an argument wherever glider fliers gather. Wax keeps the tail surfaces flexible and prevents moisture entering the wood and causing warps. Wax prevents cement from drying properly and weakens cement joints made in repairing field damage. If you want to wax your model, apply paste wax (I prefer "Simoniz"), rubbing it onto the surfaces briskly, leaving a slight film. When this film hardens, polish the model lightly with a soft cloth until a high gloss is developed.

With Part II is presented another glider design, the "Mohican", designed by Tom Johnson. This model is a very stable flier and is one of the most consistently high performing designs I've seen.

Now that the design and construction details have been covered, there would seem to be little left to discuss on the subject of hand launched gliders, but there is much to be said on the subject of flying these little models, especially concerning the launch and throwing techniques. Part III will cover this and give plans for "Curly", the present record indoor glider.



The Pied Piper

(Continued from page 23)

If there are club objections to this method of control, there is nothing that says there cannot be two brackets in the elimination heats. One bracket composed of the fast models, the other bracket of the somewhat slower models; the final race or heat to be of the 140-lap, two pit stop type, composed of the winners of both brackets.

Yet another method of control is to appoint a different event director for each day of club racing. He should have the authority to select the racing site and name the type of racing to be held on that day.

To meet all types of contest conditions, the rules permit contestants to enter two models, at the time of registration. The point here, of course, is that a contestant may go to any contest armed with two types of models. The small fast model and the larger model with the good landing and take-off characteristics.

In the first type of contest Rat Racing mentioned, that of short fast heats, it would seem that the contestant's logical choice would be the small fast model, if the terrain is smooth. If rough, he can afford no take-off flips in this short dash, so his choice should be the larger model.

In the second type of contest racing, with the smaller number of contestants and longer race, his choice would again depend upon the ground surface and upon his competition. The race isn't always to the swift. Dependability is just as large a factor as speed.

In the last type of race with the mixed heats of both fast and endurance types, the contestant can use either style of model, or can change models between heats, or even change motors in either model between heats.

DESIGN

Rat Racing is divided into three important parts: the model, the motor and the crew. We intend discussing only the first two, but in closely competed races the pit crew is just as important as the model and the motor.

In designing a model for any event, one should consider the problems peculiar to that event. The best model is the one that answers those problems most satisfactorily.

In Rat Racing we need a model capable of maintaining a high average top speed. Every portion of the design must contribute to this speed. So we must consider fast and easy service by the pit crew, ground stability, fast acceleration, flight stability and top speed.

The Pied Piper is strong in all these departments. It weighs in at 15 ounces, without fuel. This means fast acceleration, short take-off space and lower impact on landings.

The parts that do the most work and absorb the most punishment, the motor and tank mount, the landing gear and bell-crank platform, are beefed up in an integrated unit. The typical weakness of the profile model, the joining of the wing and fuselage, is not present in the Pied Piper. This joint is more solid than in most box-fuselage models.

Since the motor is profile mounted toward the outboard wing and the bell-crank is inboard mounted, perfect control is maintained at all times without extra weight in the outboard wing tip.

The center of gravity is well back, and the wheels are well forward and wide apart for good ground stability. A team racer type landing gear avoids bouncy take-offs and landings.

The center of lift is located at 35-40%

(Continued on page 40)

See These
Dealers
for Ace R/C

Alabama, Birmingham SPIVEY'S 5 & 10¢ STORE 1236 Tuscaloosa Avenue	Indiana, Michigan City VAIL'S HOBBY SHOP 429 Franklin Street
Alabama, Huntsville HUNTSVILLE HOBBY SHOP 2100 Triana Blvd. S. W.	Iowa, Des Moines HIGHLAND HOBBY SHOP 1081 - 6th Avenue
California, Carmichael HOBBY CORRAL 2930 Fair Oaks Blvd.	Louisiana, New Orleans HUB HOBBY SHOP 2818 South Broad Street
California, Hollywood BING'S GENERAL HOBBIES 7621 Sunset at Stanley	Maryland, Baltimore LLOYD'S HOBBY HEADQUARTERS 2201 North Charles Street
California, Los Angeles COLONEL BOB S 3707-1/2 W. Pico Blvd.	Massachusetts, Cambridge CROSBY'S HOBBY CENTRE 1704-A Massachusetts Ave.
California, Lynwood DUNHAM'S 10417 Long Beach Blvd.	Massachusetts, Mattapan TOY & GARDEN CENTER 542 River Street
California, Montebello VICTORY HOBBY SHOP 1411 W. Whittier Blvd.	Michigan, Detroit BOLLARD HOBBIES 13906 E. Warren Ave.
California, Oakland ROOT'S HOBBY HUT 6036 Telegraph	Michigan, Detroit COLUMBIA RADIO- HOBBY SHOP 8710 Van Dyke
California, Riverside DICK S HOBBY & LEATHER 6574 Magnolia-Hillmer'a	Michigan, Detroit JOE'S HOBBY CENTER 9810 Wyoming Avenue
California, San Leandro STEVE'S HOBBY CORNER 586 East 14th Street	Michigan, Flint FLINN'S HOBBY & MODEL SUPPLY 3302 Corunna Street
California, Whittier JACK'S HOBBYCRAFTS 223 West Philadelphia	Minnesota, Minneapolis WOODCRAFT HOBBY STORES 903 West Lake Street
Canada, Calgary, Alberta UNIVERSAL HOBBY SUPPLY 603 - 8th Avenue, West	Mississippi, Cleveland NOBETTA SEED STORE 234 North Sharpe
Canada, Fort Erie, Ontario SPEIDEL EQUIPMENT P. O. Box 1019 - Station B	Missouri, St. Louis CHARLIE'S HOBBY HOUSE, INC. 4624 Macklind Avenue
Canada, London, Ontario THOMPSON'S HOBBY & CRAFT SHOP 347 Talbot (South of King)	New Mexico, Roswell FRANK'S MODEL & HOBBY SHOP 615 North Washington
Colorado, Denver TOM THUMB HOBBY CENTER 7020 East Collax	New Jersey, Parsippany RICH'S HOBBYTOWNE U. S. Route 466
Connecticut, New Britain HOBBY CENTER 11 Franklin Square	New Jersey, Red Bank HOBBY HEADQUARTERS 62 White Street
Florida, Fort Lauderdale STAR HOBBIES 1000 East Las Olas Blvd.	New York, Bronx BROWN'S HOBBY CENTER 6031 Broadway
Florida, Tampa PHIL'S HOUSE OF HOBBIES 2306 Tampa Street	New York, Buffalo 17 BURD S HOBBY HOUSE 3044 Delaware Avenue
Illinois, Barrington LANGE'S BIKE SHOP 120-A West Main Street	New York, E. Meadow, L. I. LEF'S HOBBY SUPPLIES, INC. 2072 Front Street
Illinois, Chicago HOBBY HOUSE 5518 South Damen Avenue	New York, Rochester HERMAN'S HOBBY SHOP 283 Driving Park Avenue
Illinois, East St. Louis EAST SIDE HOBBY SHOP 2303 State Street	North Carolina, Charlotte CENTER HARDWARE & HOBBY SHOP Park Road Shopping Center
Illinois, Wilmington HURSH HOBBIES 106 South Water	Ohio, Attila J & J HOBBYHOUSE 122 North Main
Indiana, Evansville ABC HOBBYCRAFT 125 N. W. Sixth Street	

Ace Radio Control
BOX 301 HIGGINSVILLE, MO.

See These
Dealers
for Ace R/C

Ohio, Barberton
BARBERTON HOBBY SHOP
R/C SALES & SERVICE
190 Second Street, N. W.

Ohio, Cleveland
GENE'S
GOLF & HOBBY CENTER
14506 St. Clair Avenue

Ohio, Cleveland
RED'S HOBBYCRAFT
7804 St. Clair Avenue

Ohio, Dayton
HOBBY HAVEN
2025 Salem Avenue and
2281 Gettysburg Street

Ohio, Willoughby
KIRTLAND HARDWARE
& HOBBY SHOP
Route 306

Oklahoma, Lawton
LYONS'
HOBBY-ART CENTER
632 "D" Street

Oklahoma, Oklahoma City
EUREKA
ENTERPRISES, INC.
115 West Grand Avenue

Oregon, Portland
FLEGAL HOBBY SERVICE
4503 North Interstate

Pennsylvania, Allentown
BLOCH'S
PAINTS & HOBBIES
22 North 8th Street

Pennsylvania, Fogelsville
DON MOHR'S HOBBYLAND
Junction Routes 22 & 100

Pennsylvania, Philadelphia
RICHARD FRANCIS
HOBBIES
5815 Woodland Avenue

Pennsylvania, Upper Darby
TODD'S
7036 West Garrett Road

Tennessee, Chattanooga
A & M TOY & HOBBY
3516 Ringgold Road

Texas, Amarillo
AMARILLO HOBBY HOUSE
118 East 7th Street

Virginia, Richmond
THE HOBBY CENTER
3029 West Cary Street

Washington, Seattle
GREENWOOD HOBBY SHOP
209 North 85th Street

Washington, Seattle
HOBBY CRAFT
The Bon Marche

Washington, Seattle
SEATTLE HOBBY SUPPLY
1012 First Avenue

Wisconsin, Milwaukee
ACE HOBBY SHOP
4504 West Burleigh

Wisconsin, Racine
MARCY'S HOBBY SHOP
14th & Washington Avenue

Wisconsin, Waukesha
THE HOBBY HORSE
River Park Center

NOW-ALL-TRANSISTOR R/C KITS by Ace

Designer Approved All-Transistor Receiver Kit

The TR 4.5, an all transistor 27-1/4 mc. receiver, is sure to appeal to the advanced radio control enthusiast. Its many fine features, including reliable operation over a wide temperature range, high current charge, ultra economical battery life, is sure to win many friends.

To assist the advanced builder in making his unit, a complete parts package is being made available along with instructions.

All required components have been assembled and the total price is less than if the parts were purchased individually. The package includes three special transformers, a special Gem relay, four transistors, including a specially selected and tested A01 to insure operation at 27-1/4 megacycles.

All coils are completely wound. A special ferrite core RFC is used to insure small size. Allen-Bradley resistors and Goodall capacitors are used throughout.

A special light weight aluminated case is also supplied to make a

compact unit measuring 2x2-7/8x3/4 in.

Weight is slightly over two ounces.

The unit requires only 4-1/2 volts of battery and idles at 2 mls, which upon receipt of modulated signal of 400 cycles at 100% rises to 35 to 40 mls for really reliable operation.

Temperature checked from 130 down to 20 degrees and operation is reliable throughout this range. The TR 4.5 is not recommended for the beginner or the R/C fan with limited radio experience.

It is available only from Ace Radio by special arrangements with the designers Don Kamm and Red Costlow. Another Ace exclusive designer approved kit. Complete parts package, nothing else to buy except batteries, only **\$22.95**



OTHER DESIGNER APPROVED RC KITS

WORTH Simpl-Simul Pulser

Now - go mult with proportional rudder and elevator with the Simpl-Simul by John Worth. Converts single channel CW or audio receiver and transmitter to give proportional rudder and elevator with true stick-type control. Receiver must be capable of following 10 cps.

Ace Simpl-Simul kits approved by John Worth are complete including 5% resistors and individually matched capacitors where required. Chicago Telephone pots are used for reliability and dependability. Metal parts are stamped and punched, 4x5x6 aluminum case is silk screened. Sigma 4F relay and 1AG4 tubes. Complete except for batteries.

Only **\$21.95**

GOOD TTPW Dual Units



Ultimate in R/C fun, the WAG Dual system has stick-type control. Nearest thing to actually flying. Smooth proportional control of rudder and elevator and fail-safe operation of motor control. Dr. Walter A. Good personally selected components used.

Complete receiver kit with all tubes and relays. **\$39.95**

Complete transmitter kit with tubes, xtal, cabinet. **\$74.95**

HOWARD McENTEE'S New Transistorized Tech Receiver Parts Available from ACE

Now you can build your version of the Transistorized Tech Two with the parts recommended by the designer.

Interstage coupling transformer	\$2.95
1500 ohm choke	1.25
HB2 silicon diode95
6007 tube	1.95
7.5K Micro Gem relay	5.45
2N465 transistor	2.95
Duramite Silver Mica capacitors in 50 mmf or 75 mmf (each)	.25
1E1 submini electros 2 mf or 5 mf (each)	.75
SPC2 coil form35
SPC2 coil form wound85
RCA 10 uh choke45

For complete kit on the unit write for our parts package price. Considerable saving over purchasing individual components.



Send for New FREE Catalog - 59A

NEW! NEW! NEW!

Marcy Twin Simul System

At last, a simple fool-proof dual channel simultaneous receiver and transmitter, designed by Marcy Inkmann, developer of the MarcyTone single and six channel receivers.

Now you can use either channel for push button or pulse flying since each channel may be pulsed simultaneously up to 20 cycles per second.

Marcy's Twin Simul receiver kit contains 6007 tube, three T0037's, two Gem 5K relays, two filters and all other required components. Weight is under five ounces. Unit measures 2-1/2 x 3-5/8 x 1-7/8 inches deep. Only **\$27.95**



Marcy Twin Simul Transmitter - Dual-tone generators housed in a 3x5-1/2x8 case use an MOPA-type RF section with a 3A5 two-tube amplifier. May be operated with push buttons or with dual pulser below for twin simul proportional control. Complete unit including transmitter and twin simul tone generators. **\$37.95**

Marcy Twin Simul Tone Generators - Housed in aluminated case 2 x 4 x 4 for converting existing MarcyTone equipment to dual operation. **\$17.95**

Marcy Twin Pulsers - Stick control housed in small metal case plugs into twin simul tone generators for dual proportional flying. Motor control may be added, using either full on or full off. **\$32.95**

Ace R/C East

3029 W. CARY ST., RICHMOND, VA.

Ace Radio Control

BOX 301 HIGGINSVILLE, MO.

Ace R/C West

BOX 18 CARMICHAEL, CALIF.

SIG Balsa Wood and Model Products

AIRCRAFT Balsa

STRIPS 36" Lengths		SHEETS 36" Lengths		PLANKS 36" Lengths	
1/16x1/16	1c	1/32x2	10c	1 x1	40c
1/16x1/8	4.5c	1/16x2	10c	1/2x2	30c
1/16x3/16	4.5c	3/32x2	12c	3/4x2	45c
1/16x1/4	3.5c	1/8 x2	15c	1 x2	60c
1/16x3/8	2.5c	3/16x2	18c	1 1/2x2	80c
1/16x1/2	3c	1/4 x2	20c	2 x2	96c
1/16x3/4	4c	3/8 x2	25c	1/2x3	50c
1/16x1	5c	1/2x2	30c	3/4x3	78c
3/32x3/32	4.5c	1/16x3	16c	1 x3	1.00
3/32x3/16	3.5c	3/32x3	18c	1 1/2x3	1.25
3/32x1/4	2.5c	1/8 x3	20c	2 x3	1.44
3/32x3/8	3c	3/16x3	25c	3 x3	2.16
3/32x1/2	4c	1/4 x3	30c	1/2x4	65c
3/32x3/4	4c	3/8 x3	40c	3/4x4	1.00
3/32x1	6c	1/2x3	45c	1 x4	1.30
1/8 x1/8	3.5c	1/16x4	25c	1 1/2x4	1.65
1/8 x3/16	3.5c	3/32x4	25c	2 x4	1.92
1/8 x1/4	2.5c	1/8 x4	30c	3 x4	2.88
1/8 x3/8	3c	3/16x4	35c	1/2x8	1.10
1/8 x1/2	5c	1/4 x4	40c	3/4x8	1.80
1/8 x3/4	6c	3/8 x4	50c	1 x8	2.00
1/8 x1	8c	1/2x4	50c	1 1/2x8	2.45
3/16x3/16	2.5c	1/16x8	50c	2 x8	2.88
3/16x1/4	3c	3/32x8	55c	3 x8	4.32
3/16x3/8	4c	1/8 x8	60c	1/2x8	1.45
3/16x1/2	6c	3/16x8	65c	3/4x8	2.05
3/16x3/4	8c	1/4 x8	70c	1 x8	2.55
3/16x1	10c	3/8 x8	90c	1 1/2x8	3.20
1/4 x1/4	4c	1/32x8	75c	2 x8	3.95
1/4 x3/8	5c	1/16x8	75c	3 x8	5.90
1/4 x1/2	7c	3/32x8	85c		
1/4 x3/4	8c	1/8 x8	92c		
1/4 x1	12c	3/16x8	1.05		
5/16x3/16	6c	1/4 x8	1.15	1/8 x1/8	2c
5/16x3/8	7c	3/8 x8	1.35	1/8 x1/4	4c
5/16x1/2	9c			1/8 x1/2	7c
5/16x3/4	11c			3/16x1/2	5c
5/16x1	14c			3/16x3/4	14c
3/8 x3/8	7c	SECOND GRADE Balsa		1/4 x1/4	7c
3/8 x1/2	9c	3" x 36" ONLY		1/4 x1/2	12c
3/8 x3/4	13c			1/4 x3/4	15c
3/8 x1	16c			5/16x5/16	9c
1/2 x1/2	11c	1/32x3	12c	3/8 x3/8	12c
1/2 x3/4	16c	1/16x3	12c	3/8 x1/2	16c
1/2 x1	20c	3/32x3	14c	3/8 x3/4	18c
5/8 x5/8	16c	1/8 x3	16c	1/2 x1/2	18c
5/8 x1	24c	3/16x3	18c	1/2 x3/4	23c
3/4 x3/4	25c	1/4 x3	23c	1/32x3	25c
3/4 x1	30c	3/8 x3	31c	1/16x3	25c
				3/32x3	28c
				1/8 x3	32c
				3/16x3	37c
				1/4 x3	42c
				3/8 x3	55c

Ninety Stock Sizes of Blocks
LEADING EDGE --- RC Balsa
CONTEST Balsa - QUARTER-SAWN

BAG OF Balsa

MILL ENDS, REJECTS, ETC.

NO. 1 BAG—all blocks	69c
NO. 2 BAG—blocks, sheets	69c

BASS WOOD SHEETS

1/16x2 1/2x18	15c	3/16x2 1/2x18	23c
3/32x2 1/2x18	17c	1/4 x2 1/2x18	28c
1/8 x2 1/2x18	19c	3/8 x2 1/2x18	35c

GUY'S SELECT

TUFF & STRONG!

1/8 x1/8 x48	4c	1/8 x1/8 x36	3c
1/8 x1/4 x48	6c	1/8 x1/4 x36	5c
1/8 x3/8 x48	10c	1/8 x3/8 x36	8c
1/8 x3/4 x48	20c	1/8 x3/4 x36	16c
3/16x3/16x48	7c	3/16x3/16x36	6c
1/4 x1/4 x48	12c	1/4 x1/4 x36	10c
3/8 x3/8 x48	25c	3/8 x3/8 x36	20c
1/4 x1/2 x48	25c	1/4 x1/2 x36	20c

48-PAGE CATALOG

Hundreds of illustrated planes, motors, balsa, fuel, dope, glue, etc.

25c

JAPANESE TISSUE

Pre-war quality Japanese tissue produced for us by Japan's leading model builder.

RED, BLUE, WHITE, YELLOW, ORANGE, BLACK

BAMBOO PAPER

Heavier than our regular Japanese Tissue. Bamboo Paper is very tough and strong. Highly resilient on impact for large models.

RED, WHITE, BLUE, BLACK, YELLOW

SIG NYLON

Beautiful white nylon. Very strong but requires more dope than silk.

36" x 48" PKG. \$1.00

JAPANESE SILK

The finest pure silk produced specifically for model covering.

RED, BLUE, WHITE, YELLOW, GREEN, SILVER

GENUINE BIRCH Aircraft Plywood

1/32x 6x12	25c	3/32x12x12	60c
1/16x 6x12	30c	1/8 x12x12	70c
3/32x 6x12	30c	1/32x12x24	1.00
1/8 x 6x12	35c	1/16x12x24	1.20
1/32x12x12	50c	3/32x12x24	1.20
1/16x12x12	60c	1/8 x12x24	1.40

SIG DETHERMALIZER FUSE

Easy to light, glows hot, absolutely will not go out. Calibrated.

BIRCH DOWELS

1/8 x12 3 for 5c	5/16x12 3c
3/16x12 each 2c	3/8 x12 3c
1/4 x12 2 for 5c	1/2 x12 4c

PIRELLI RUBBER

5/32" or 1/4" 1 Lb. Skain \$5.00

DUNLOP RUBBER

1/8"-3/16"-1/4" 1 Lb. Skain \$4.50

U.S. T-56

1 lb. \$4.50 & Pkged
1/8" x25 ft. 30c 3/16"x50 ft. 85c
1/8" x50 ft. 55c 1/4" x25 ft. 60c
3/16"x25 ft. 45c 1/4" x50 ft. 1.15

Hardwood Motor Mounts

3-8x3/8x12 10c 3-8x1/2x12 12c
3-8x3/4x12 15c

MASKING TAPE

NARROW TAPE FOR STRIPING
1/4"-3/8" or 1/2" WIDE
STRIPS CLEAN

12 FT. ROLL **15c**

SEE YOUR DEALER TODAY.
IF HE CANNOT SUPPLY YOU,
ORDER DIRECT. PROMPT ONE-DAY SERVICE. MINIMUM ORDER \$1.00. ADD 25c FOR POSTAGE.

MODEL-MAKERS' PINS

No. 8	1/2"	No. 20	1 1/4"
No. 14	7/8"	No. 24	1 3/8"
No. 16	1"	No. 28	1 1/2"
No. 17	1 1/8"	No. 32	2"

STATE SIZE WANTED
1/4 lb. \$1.00 PKG. **15c**
1 lb. \$3.50

RUBBER BANDS

Pure Gum-High Resistance to Sun & Fuel

No. 8	1/16x 7-8	No. 32	1/8x 3
No. 10	1/16x 1 1/4	No. 62	1/4x 2 1/2
No. 14	1/16x 2	No. 64	1/4x 3 1/2
No. 16	1/16x 2 1/2	No. 105	5/8x 5
No. 30	1/8 x 2	No. 107	5/8x 7

1/4 lb. \$1.10 1 lb. \$3.99
PKG. **15c**

MUSIC WIRE

1/32x36 05	1/16x36 08
3/64x36 06	3/32x36 15
	1/8x36 20

CARVING KNIVES



SET **\$1.95**

12 assorted shapes and edges suitable for all types of carving—wood, linoleum, etc. Hand-ground surgical steel. Each complete with 4 1/2" hardwood handles.

HAND VISE

Hardwood Handles
Jaws Open 1"—Positive Grip—

95c

BENCH VISE—LIGHT

1 1/4" Jaws—Open 1"—Machined

BENCH VISE—HEAVY

2 1/2" Wide Machined Jaws—Open 1 1/2"

\$1.95

ADJUSTABLE ANGLE WRENCH

95c

HAND SAW

10" Blade—Fine Teeth—4 1/2" Handle

\$1.00

COPING SAW

6" All Metal—With Blade

25c

ADJUSTABLE COPING SAW

Adjustable Tension—Wood Handle

80c

COPING SAW BLADES

6" 3 for **15c**

HACK SAW WITH BLADE

25c

RAZOR PLANE

Does Straight, Curved or Irregular Work

\$1.50

HAND DRILL

3-Jaw Chuck—Double-Geared

\$2.95

13-PIECE DRILL SET

Chrome Vanadium Steel

\$2.25

4" JEWELER'S PLIERS

Flat Nose
Round Nose
Snipe Nose
Combination
One Side Flat
One Side Round
Diagonal Cutting
End Nippers

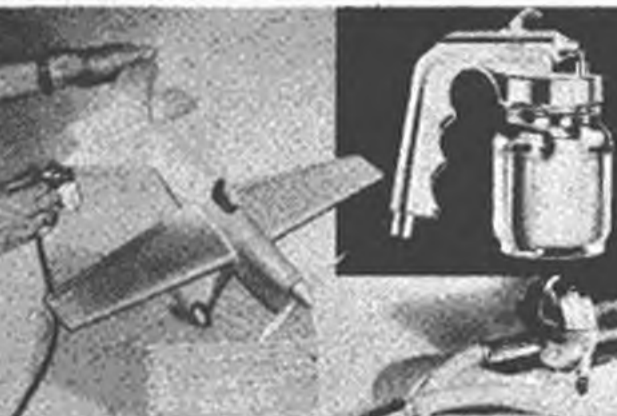
PLAIN **\$1.25**

HEAVY CHROME PLATED **\$2.00**

SIG MFG. CO.

401 SO. FRONT
MONTEZUMA, IA.

DEALERS WRITE ON YOUR LETTERHEAD FOR FREE LITERATURE



for that "finishing touch" **hobby spray gun**
operates from vacuum cleaner

The ideal spray gun for modelers, hobbyists, and the do-it-yourself fan... paint your model planes, cars, trains, boats, display shelves, etc. For that "finishing touch" get the Hobby Spray Gun—and it's...

- Simple to operate • Direct spray (minimum waste)
 - One filling covers 10 sq. ft. • Nickel plated • No moving parts
 - Always in adjustment
- sprays dope • vinyl • lacquer • enamel • water base paint
Faster, Easier, with Smoother Finish
Comes complete with hose and attachments to vacuum cleaner

stewart / lundahl co., 7342 Fulton Avenue, North Hollywood, Calif.

only **\$3.95**

of chords, the aspect ratio is seven to one. The center of gravity and center of resistance are located below the thrust line. All of these points contributing good flight stability at all speeds. There is no hunting or tail wagging in flight.

The fuel tank is pressurized by slip stream and well located for easy starting and good fuel feed at high speeds. The tank is of sufficient size to accommodate .29's or .35's and for experimenting with different fuels and props.

Motor and tank are out in the open, run cool, and permit easy service by the crew. Quite often green crew men have to be used; consequently, the less complicated the starting procedure the better. Under the rules you can use a fuel shut-off or not, as you prefer. With the use of green crew members, the wisest choice would be just a tank.

The wing features a new type of construction easy for those of limited experience. It is light but sufficiently strong, since the center of the model absorbs the punishment. The wing is a thin, lifting, speed type which tapers toward the tips.

The stab and elevator areas are large, and shaped to give good control at all speeds with low proportionate braking action. This model can be looped or figure-eighted.

CONSTRUCTION

Start from the bottom up when building the wing. Place waxed paper over the plans. The planking for the leading and trailing edges go down first, then the cap strips and the center plywood platform, after it has been drilled for bellerank and landing gear. Blind mounting nuts are used for the landing gear and Phillips-head bolts are the right length to allow clearance for the bellerank. After fitting, the landing gear is added when the rest of the model is completed.

Before adding ribs, place bellerank in position and draw lines where the lead out wires go. Wires go between the ribs and the bottom cap strips, so ribs are temporarily located, wire positions marked, and ribs notched before cementing. Top leading and trailing edge, center planking, and cap strips are added after installation of bellerank, lead out wires and push rod. Stab, rudder, fuel tank and top of wing and fuselage joint are faired in with triangular strips split from 1/4" sq.

The Pied Piper was finished with four coats of clear and sanding filler, three coats of base color and one coat of spray-can trim.

Motors: Choose a motor that has plenty of sock, is easy to restart when hot and, considering refueling time and weight saving, reasonably economical to operate. By applying these requirements to your local or general conditions, your choice should be easy. I prefer the good .29's and .32's although the top displacement allowable is .36.

On the smaller sized props, the smaller motors will turn up just as fast, are easier to restart when hot, and more economical to run.

In every contest, and sometimes in every event, a motor will start revving up, that will cause all contestants within hearing distance to turn their heads to listen. Such a motor is above average in performance, one of the "good ones." Despite the high standard maintained by manufacturers, and numerous inspections designed to uphold those standards, occasionally there are motors that prove to be exceptionally good. Others are "dogs." Extremes occur in all fields of manufacture. If you are fortunate enough to own one of the good motors, baby it and take care of it, use it only in contests, as there is only so much time at

peak RPM on any motor.

You are fortunate if you own such a motor because, unless you are lucky, finding one can be expensive. There are three ways that you can acquire such a motor. The first is to buy and try, and rebuy, until you hit. The second way is to buy a motor and then buy extra parts, replace each part or parts until you find the combination that clicks. The third method is to purchase a motor from a firm that deals in, or reworks, motors and have them guarantee results. This latter method may look expensive but after you've had a taste of the first two methods, it can be inviting.

Some manufacturers prolong the useful peak of their motors by methods that will permit them to still sell motors at competitive prices. One of these methods is to impregnate the walls with lead, another to temper the liner beyond the hardness of the usual liner; third (a high priced motor) uses chrome sparingly in the interior.

Further use of chrome can be made to prolong the life of a motor that is beyond the cost point of the manufacturer who must stay within the popular-price bracket. This more extensive use of chrome will cost about the price of an additional motor but will maintain the peak of a hot motor to the life of that of several other motors.

I am told that chrome is bonded to the basic metal in the form of a network of lacy veins. While it may look solid to the eye, there are many small openings in the coating. Since the coating is not a solid wall, there is less friction between the piston and liner, resulting in less drag, less wear and higher RPM. In addition, oil is caught in the openings, assisting in lubrication and cooling, again reducing drag and wear. Chrome is the hardest metal used in model motors and other contact surfaces such as the crankshaft and crankpin may be coated with it.

The reason for the high cost of chroming is that chrome seems to be contrary to work with; it may take several attempts before the right pattern of coating is deposited.

Any of the above methods are resistant to careless methods of breaking in of motors or to lean runs that would ruin a motor without such extra protection. A few years ago, it would have been impossible for you to reach the top in modelling, unless you were especially adept with tools, had a well equipped machine shop and well lined pocket book. At the present time, while it still takes a chunk of change, it is possible for anyone to reach the top, because there are others that will do the work for you, both manufacturers and specialists. How far you want to go, depends on your ambition. For a good model, such as Pied Piper in Rat Racing, a good motor is required, and a good pit crew can take you right to the top.

EVER NOTICE THAT FUEL CLAIMS SOUND GREAT EVERYWHERE BUT IN YOUR ENGINE?







Take it from your engine!

THE BEST INGREDIENTS MAKE THE BEST FUELS!

Thimble-Drome fuels are made with the finest basic ingredients money can buy—nothing else. Nothing added—nothing subtracted from the life or performance of your engine.

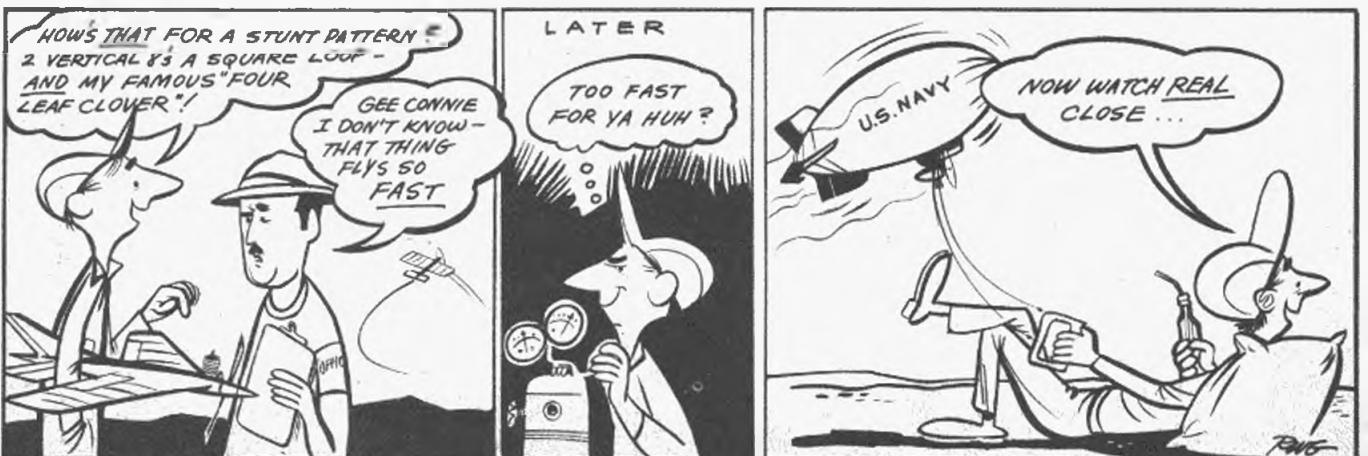
Send for folder 15M. "How to Get the Best Performance from Your Engine." Informative, valuable.

PRECISION within millionths of an inch resulting in quicker starting, smoother performance, peak power, longer life! Choice of engines designed for sport-stunt and/or contest work.

- | | | | |
|---|--|---|--|
| <p>Golden Bee .049</p>  <p>Goldtone anodized
24 carat quality
best performance!
Stepped up 1/2A
power. Overhead
start tank</p> <p>\$4.98</p> | <p>Babe Bee .049</p>  <p>World's most
popular 1/2A engine.
Instant starting,
powerful action.
For Free Flight
or Control.</p> <p>\$3.98</p> | <p>Pee Wee .020</p>  <p>Weights only 21 grams,
yet more power per
gram than any
larger engine.
Does practical
work up to
25,000 RPM!</p> <p>\$3.98</p> | <p>RR1 .049</p>  <p>Real Rotary Valve
engines that deliver
very high starter
torque & power.
Extremely flat
peak-power curve!</p> <p>\$5.98</p> |
|---|--|---|--|

L. M. COX MANUFACTURING CO., INC., SANTA ANA, CALIF.

conrad conrod



DUCTED-FAN JETS

now for the first time... by *Berkeley*
ducted fan jet for .020 pee wee

Grunman F-11-1F Navy

"TIGERCAT"

KIT FEATURES:

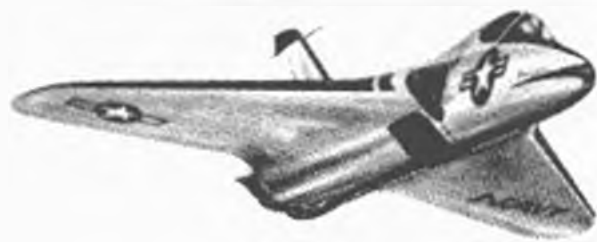
- Plastic Canopy
- Die Cut Balsa
- Aluminum Impeller Fan
- Decals
- Full-Size Detail Plans



25" Overall

\$2.95

"1/2 A" Gas Engine Powered



Complete with Aluminum Impeller Fan

DOUGLAS

\$4.95

"SKY-RAY"

For .049 Engines 25" Wingspan 1/4" Scale

VOUGHT F8U-1 "CRUSADER"

1/4" Scale For .049 Engines Free-Flight or Monoline



with Impeller Fan

\$4.95

LOCKHEED "T-33A"

29 1/4" Wingspan 3/4" = 1" Scale



\$4.95

with Impeller Fan

BERKELEY MODELS INC
WEST HEMPSTEAD NEW YORK U.S.A.

If you need details in connection with model making and kit building, write to Berkeley Models, Dept. 101, West Hempstead, N.Y. Please include 25c mailing & postage.

new **x-acto** *tool!*
**HAND DRILL
PIN VISE**

All-aluminum handle with swivel knob. Precision-tooled English model chuck. Length 4". Saves wear and prevents breakage of expensive drill bits. Designed for fine accurate work.

Send 25¢ for latest X-acto Model Tool Guide



In 3 sizes to accommodate No. 80 to No. 44 drill bits. From \$1.25 to \$1.50.

DRILL CHUCK ADAPTERS

Precision-tooled English models 1 1/4" long. Fit standard hand drills, power drills and lathes. 3 sizes to accommodate No. 80 to No. 44 drill bits. 75¢ each.



x-acto, INC.

48-53 Van Dam St.
Long Island City 1, N. Y.

SPECTACULAR FILMS
40 years of AVIATION
HOME MOVIES
8 mm MOVIES
8 mm 30 FT. REELS
FLYING MOVIES
ONLY 100¢ EA.
SPECIAL
LOWEST PRICE ANYWHERE
Req. \$1.05
SPECIAL OFFER!
FLYING MOVIES
P.O. BOX 100-K
VAN NUYS CALIF.

**YOU'RE ALWAYS
IN GOOD HANDS**



When You Buy At
The Store Displaying
This Dealer Emblem

(Dealer inquiries invited)

Write To:

CRAFT, MODEL & HOBBY INDUSTRY
30 East 29th St. New York 16, N.Y.

International Airfoils

(Continued from page 30)

Gott.-495: Should be good for A/2. Reschenberg.

B-8306B: A/2, A/1, Wakefield. Use same airfoil or B-8306B in stabilizer. Very low sink rate, but may be difficult to trim in rough air. Source: East German Aero Club.

B-8306B. A/2, A/1, Wakefield. More stable airfoil than 6% thick section but has higher sink rate. Slow glide, good in wind. Might also be used for FAI power. East German Aero Club.

Gott.-362: A/2 and A/1. Horst Eichenhaur, first German Nats 1957.

B-8358B: A/1 and A/2. Somewhat highly flexed for maximum duration but with turbulator at about 50-60% of chord should reach 2:45 with good gust and thermal stability. Use B-8356B in stabilizer. East German Aero Club and Denzin.

B-8356B: A/1 and A/2. High performance. Might be difficult to trim in wind. Still air should give 3:00 plus. Use same airfoil in stabilizer with "curled" trailing edge, per Edith 2. Denzin, who uses section, rates it high.

G-810B: Power airfoil. Can be built flat on bench. This is the Carl Goldberg section; source Czech Aero Club.

B-8353B: Used by winner of the 1958 FAI power event. Gives very good climb with good glide.

Gott. M.V.A. 123: A/2. Good for still air. Gott. M.V.A. 123 plus 301: Very good for FAI power. Use 8% thick stabilizer Clark Y.

S.I. 53507: Very good Wakefield section. Klaus Hersch.

S.I. 33006: Stabilizer airfoil, may be used for Clark Y 8% thick.

S.I. 63008: Good for A/2.

H-7327: Germans say good for A/2.

A-93B17: Lothar Piesk says good for FAI power. (Piesk models noted for climb -Editor.)

DAN. M.P.: Hans Hansen's A/2 Championship Glider, 1954.

FIN. M.P.: Very stable but good only for two minutes, used in Finland for rough air, and due to strong, cold-air thermal conditions.

Men and Ships

(Continued from page 17)

Sevenaya, Zemlya, Yakutia, Petropavlovsk, Sea of Okhotsk. Owing to bad weather, a landing was made on the Island of Udd, one of what were later called the Chkalov Islands in honor of the plane's commander. The distance flown was just over 5800 miles. A map of the route was later painted on the tail of the ANT-25.

Chkalov and Biadukov were military test pilots, and Beliakov a crack navigation expert and instructor for the Red Air Force. After the 1938 flight, they all returned to regular duty, their appetites whetted for another try the following season. Meantime, trips were made to TSAGI in Moscow where development work on the plane and test flying proceeded, in cooperation with the engineering staff headed by Comrades Stoman and Berdnik.

The fliers had as their goal an extension of the Stalin route right over the North Pole to North America. The idea had previously been vetoed by Stalin in favor of the less ambitious Moscow-Chkalov Islands journey to test the plane and crew. With the experience of that flight behind him Chkalov again put forward to Stalin and Vorushilov the plan for the North Pole flight, spurred on by the establishment of a base at the Pole by Russia's "Commissar of the Ice", Dr. Otto J. Schmidt.

A very considerable portion of the

modern Soviet empire lies above the Arctic Circle, and since 1932 in particular the whole area had been opened up under control of what was then the Central Administration of the Northern Sea Route. Schmidt sailed on several preliminary explorations of these Northern territories and in 1932 made the North East Passage from Europe to the Bering Straits in one navigation season.

Aviation played an increasing part in these Arctic probings—scouting for ships, mapping and exploring, supply dropping; and in the case of the sinking of the "Chelyuskin", trapped in shifting pack ice in February 1934, taking off the entire crew and passengers marooned on the ice floes.

Schmidt's North Pole base was established and maintained entirely by aircraft, and from the met. station there valuable scientific data on Polar weather conditions would be made available to Chkalov.

At last, Chkalov and Biadukov were summoned to Stalin's Moscow office, where also waited Molotov and Voroshilov, to personally put forward their plan. That other famous Soviet flier, Sigmund Levanevsky, was also there to present his alternative plan of a North Pole flight in a four-motor machine; (he later made an ill-starred attempt which ended in disaster after engine trouble and bad weather were encountered soon after crossing the Pole).

Stalin called in Alksnis, chief of Soviet aviation, and while they were waiting for him, conversation ranged over many aspects of flying, including the valuable knowledge gained from study and purchase of U.S. aircraft and equipment.

When he arrived, Alksnis gave Chkalov the go-ahead, endorsed by Stalin and the others. Final preparations took less than three weeks, but in fact the flight was backed by two years preliminary work by the Committee of Long Distance Flights, which was responsible for the training and teaming of record crews and development of equipment and aircraft.

A batch of the latest American charts were a valuable last-minute addition to the assorted gear bundled into the plane before the take-off on June 18, 1937. Tupolev was there to see them off. A white flag wagged, and the red-winged plane began to trundle along the narrow single concrete runway. At six minutes past, one the wheels lifted, Biadukov quickly retracted the landing gear, and with Chkalov at the controls the crew settled down to the flight routine, escorted on the first leg of the journey by an old twin-engined ANT-4 and another plane.

As they flew North towards the Arctic wastes, an early scare came when oil began flooding the cabin floor; eventually the cause was traced to overfilling of the system caused by over-enthusiastic pumping by the crew.

The next hazard was ice. Frantic work with the propeller de-icer cleared the prop, but ice still gathered on the wings and tail. Weighed down by the heavy fuel load, the plane inched upwards, until at 8200 ft. over the Barents Sea it broke through the cloud into brilliant sunshine, and the ice began to break away.

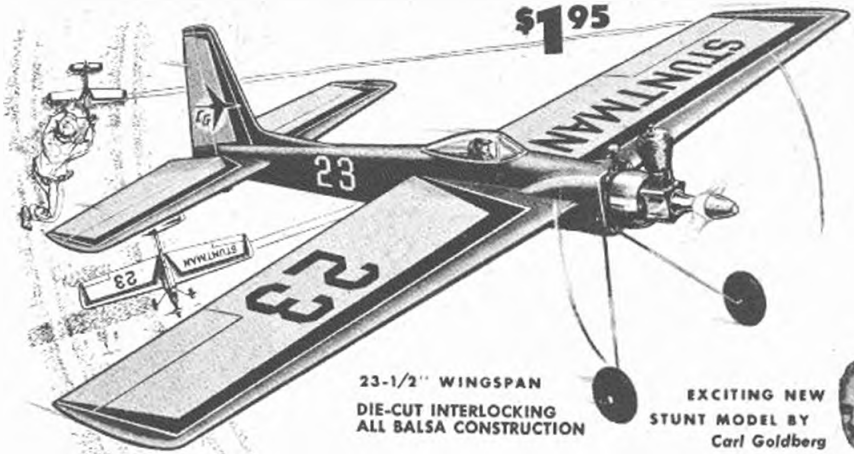
Further tussles with ice as the machine droned onwards over a sea of water and ice—this time the plane had to claw its way to 13,600 ft. before clearing the cloud.

Slowly, monotonously, the hours slipped by. Chkalov, having spent the first eight hours at the controls, was asleep when, soon after 4 a.m. on June 19th, in brilliant sun and unlimited visibility, Biadukov and Beliakov looked down from 13,600 ft. on the wilderness of fissured ice that was the

(Continued on page 46)

STUNT MAN 23

FOR .049 TO .09 GAS ENGINES



23-1/2" WINGSPAN
DIE-CUT INTERLOCKING
ALL Balsa CONSTRUCTION

EXCITING NEW
STUNT MODEL BY
Carl Goldberg

Dear Modeler:

Want a plane that can REALLY STUNT - but tough enough to let you learn the ropes? A plane that isn't too hard to build? Here it is - the brand new Stunt Man 23 - a real hair-raiser for thrills - yet so simple and rugged that you can fix any damage with a tube of cement! It's a bigger, stunt plane, based on my popular Swordsman 18 and will give you more action and advance your flying skill. Great with 1/2A engines, and really tops with .09s. Wingspan 23-1/2", length 16-1/2". Fully prefab construction (no paper), with all die-cut interlocking balsa and plywood parts, formed landing gear and tail gear, rubber main wheels and tail wheel, screws, washers, controls, large colorful decals, clear plastic canopy, nylon for hinges and reinforcing, and the finest illustrated step-by-step plans. PLUS - a full picture guide - "Learning How To Stunt"! See your dealer, he's getting Stunt Man kits to help you get into the fun of stunting for only \$1.95.



RANGER 30—Die-cut balsa. 40" span, for .020-.049 engine. \$1.95



SPACE JET 21—Die-cut balsa. 21" span, .020-.049 engine. \$1.69



SWORDSMAN 18 Die-cut balsa, 18" span, for .020-.049 engine. \$1.49.



1/2 A BLAZER—Die-cut balsa, tissue. 40" span, for .049 engine. \$2.50



RANGER 28—My "pre-fab plus paper". 28" span. 2 colors \$1.00



SHOESTRINGER RACER—18" span. All die-cut balsa. Complete \$1.00



SPIRIT OF ST LOUIS—A miniature duplicate. 21" wingspan \$1.00



RANGER 21—All die-cut balsa parts. 21" span beauty \$1.00



CESSNA 180—The champion of business liners. 21" span \$1.00

P.S. If no dealer near you, send me cost of plane plus 25¢ each for postage and packaging. Or send cost of any three and I'll pay the postage.



CARL GOLDBERG MODELS

9847 S. CLAREMONT, CHICAGO 43, ILL.

PROBABLY THE STRONGEST RECEIVER MADE!

PLUS... Super range with exceptional selectivity. Time-proven tube detector eliminates detuning with temp. or bat. voltage. "Trans-Tone" audio modulation delivers stable transistor performance. Handcrafted factory units, not kits.

TRANSMITTER: 26.995 MC xtal, meets new specs. Handsome red anodized aluminum case. Built-in pulser socket, telescoping antenna. Price, postpaid, \$34.95.

RECEIVER: We believe this is the world's strongest case! One tube, two transistors. Dependable operation on 1 pencil, 1-30v, from -20°F to 115°F. Low idle, follows fastest pulsing. Wt. 3 oz., 1 1/4" x 2" x 2 1/4". Price, postpaid, \$34.95.

SPECIAL OFFER FOR LIMITED TIME: Both units for \$67.95, postpaid. Send 104 for details.

alpha tech products, Box 111, Appleton, Wis.



Scientific introduces the brand new "super 6" for NEW AND WON

COMBAT MASTER
18" Wingspan Model
For .020 to .074 Engines

Curtiss SB2-C
HELLDIVER
18" Span for .020 to .074 Eng.

Piper Cub Military
RESCUE PLANE
18" Wingspan Model
For .020 to .074 Engines

6"

**BRAND NEW! SEE THEM AT
YOUR DEALERS!**

Here's big news for all control line fans! You're looking at 6 sparkling new Scientific models . . . just about the hottest performing planes that ever mounted a half-A gas engine. We call 'em our "super 6" . . . and they're just that. Super fast! Super looking! Super quality! And each one a Super Bargain! A tiny \$2.50 each and you're all set for U-Control modeling fun and thrills like you never dreamed possible. Each kit comes super prefabricated with our exclusive pre-carved balsa fuselage and all parts formed or shaped for easy assembly.

KINGPIN \$1.69
SPAN: 14" For .020 to .049 Eng.
Brand new profile stunt model with a big 60 sq. inch wing. U-Control flyer. All prefabbed.

AIRCOUPE \$2.50
SPAN: 18" For .020 to .074 Eng.
A real "beaut" of a model. It's authentic scale . . . for U-Control flying. Prefabbed. Carved fuselage.

Stuka Dive Bomber \$2.50
SPAN: 18" For .020 to .074 Eng.
Something new! This U-Control thriller drops bomb as you fly. Prefabbed with carved fuselage.

Gee Bee Sportster \$1.95
SPAN: 18" For .020 to .074 Eng.
Brand new U-Control scale model. An excellent performer. Kit is all prefabricated. Carved fuselage.

No. Am. "Texan" \$2.50
SPAN: 18" For .020 to .074 Eng.
Authentic scale model of the USAF AT6 Trainer. A top-notch "fly it yourself" model. All prefabbed.

BULLET \$2.95
SPAN: 24" For .020 to .099 Eng.
Bullet-like styling . . . bullet-like performance. Big 24" wingspan on this U-Control thriller. Prefabbed.

Messerschmitt \$1.95
SPAN: 18" For .020 to .074 Eng.
U-Control scale flyer of the ME-109 Ger. "Desert Fighter". Prefab model with carved fuselage, etc.

P-40 Flying Tiger \$2.50
SPAN: 18" For .020 to .074 Eng.
Our popular U-Control model of this Curtiss World War II fighter. Prefabbed with carved fuselage.

GOLDEN HAWK \$2.50
SPAN: 18" For .020 to .074 Eng.
Big expansive wing . . . extremely colorful model for U-Control flying. Carved fuselage, prefabbed.

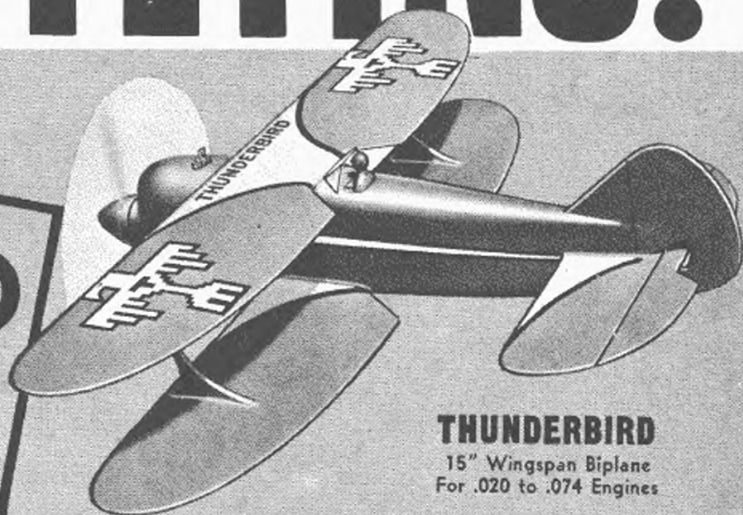
"Supersonic" Missile \$2.50
For .020 to .074 Gas Engines
Real "space age" U-Control model of ground-to-air guided missile. Takes off vertically, too. Prefabbed.

SEE YOUR DEALER . . . BE SPECIFIC, SAY **SCIENTIFIC**

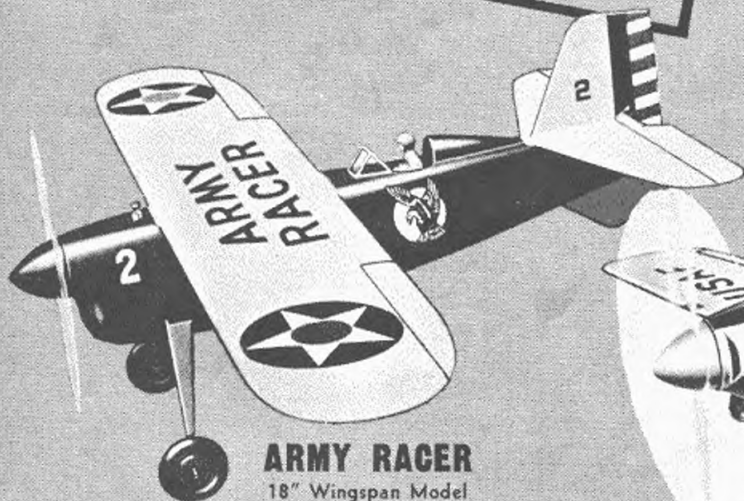
Copyright 1959 Scientific Model Airplane Co.

DERFUL FLYING!

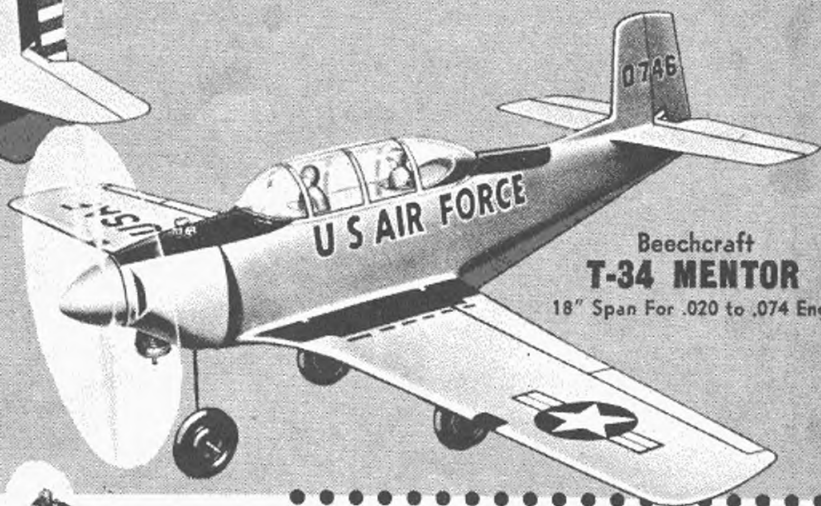
-CONTROL MODELS
at a low **250**
each



THUNDERBIRD
15" Wingspan Biplane
For .020 to .074 Engines



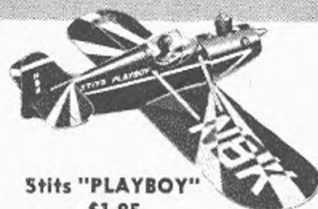
ARMY RACER
18" Wingspan Model
For Gas Engines .020 to .074



Beechcraft T-34 MENTOR
18" Span For .020 to .074 Eng.



STUNT MASTER \$1.95
SPAN: 18" For .020 to .099 Eng.
Very popular 1/2A stunt plane.
Highly colorful . . . terrific action.
Super prefabricated kit.



Stits "PLAYBOY" \$1.95
SPAN: 18" For .020 to .074 Eng.
One of our hottest looking and performing U-Control planes. Styled from Goodyear Racer. Prefabbed.



"Bluebird" Racer \$2.95
For .020 to .074 Gas Engines
Low cost, big value propeller driven race car that speeds over 50 m.p.h. Prefab, carved body.

Hobby Dealers!

ASK YOUR JOBBER
about our new

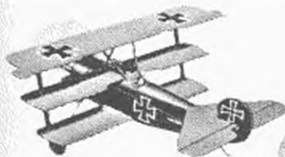
6-PAK

Contains one kit each of the new Scientific models shown above . . . plus

FREE ADVERTISING MATERIAL

1959 CATALOG

It's Free! See your dealer or send us a postal card for your copy. It's fully illustrated! Has over 50 exciting gas powered model airplanes, speedboats & race cars.



Fokker Triplane \$2.50
3 WINGS For .020 to .074 Eng.
Scale, 3-wing U-Control model has terrific maneuverability. All prefab with carved fuselage, etc.



LITTLE SPITFIRE \$1.50
SPAN: 18" For .020 to .074 Eng.
Our fly-it-yourself version of the famous hero of the "Battle of Britain." Profile U-Control. All prefab!



Buckeye Jr. Cabin \$3.95
For "1/2A" Eng., Electric Motors
Here's our sleek cabin cruiser. Has a removable balsa cabin, 14" carved balsa hull - 100% complete.

SCIENTIFIC

SCIENTIFIC MODEL AIRPLANE COMPANY

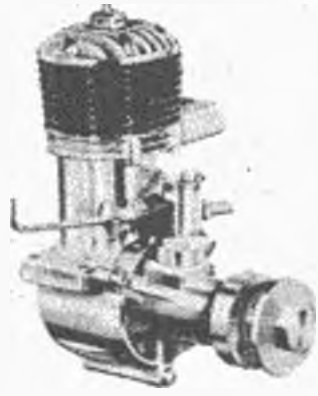
113 M5 MONROE ST., NEWARK 5, N. J.

If no dealer is available, add 25¢ (postage & packing) to cost of model

a longer run for your money

when you own a

FORSTER



On July 13, 1958, George E. Ganter, Jr. of Reading, Pennsylvania, set a new National Endurance Record of 2 hours, 12 minutes and 1 second, on 30 ounces of fuel, using an UNMODIFIED Forster Model 29R engine.



TALK ABOUT RELIABILITY AND FUEL ECONOMY! THIS IS IT! THE ADVANCED ENGINEERING THAT MADE THIS RECORD POSSIBLE INCLUDES A SPHERICAL COMBUSTION CHAMBER LIKE LARGE AIRCRAFT ENGINES, A NEW "PRECISION CAST" LAPPED, CAST IRON PISTON, A HARDENED AND GROUND CRANKSHAFT WITH SQUARE PORTS, AND A SUPER STRONG FORGED ALUMINUM CONNECTING ROD. THE NEW SCIENTIFICALLY DESIGNED CARBURETOR GIVES HIGH FUEL LIFT WHICH MAKES FORSTER ENGINES EASY TO START AND MISERLY ON FUEL. BUILD YOUR NEXT PLANE OR BOAT WITH A FORSTER ENGINE TO STOP FUELING AROUND AND ENJOY YOUR HOBBY!

THERE ARE EIGHT FORSTER MODELS TO CHOOSE FROM:

29R & 35R	Air Cooled	\$14.95
29RC & 35RC	Speed Control	\$19.95
29RW & 35RW	Water Jacket	\$19.95
29RCW & 35RCW	Water Jacket & Speed Control	\$24.95

BESIDES ALL THIS, YOU GET UP TO \$5.00 TRADE-IN ALLOWANCE FOR YOUR OLD ENGINE AT YOUR AUTHORIZED FORSTER ENGINE DEALER.

SEND COUPON FOR HIS NAME & ADDRESS AND FREE DESCRIPTIVE LITERATURE.

FORSTER-APPELT MFG CO., INC.
47 E. LANARK AVE. LANARK, ILLINOIS



Name _____
 Street _____
 City _____ State _____

CLOCK WORK TIMERS

The "Tick Off" Timer has proven to be the most accurate and dependable fuel shut off timer ever offered. Finest quality clock-work movement, crash resistant and contest proven. Guaranteed to satisfy.



The Tick Off

- Split second accuracy. 0 to 25 seconds
 - Dial selected motor run
 - Positive acting fuel shut-off, can't jam
 - Weight 1/2-oz.
 - Nothing to adjust
 - Unaffected by climatic changes
 - Size 1 1/2 x 1 3/4 x 3/4
- Complete (including fuel line and mounting screws) **\$3.95 p.p.**

DETHERMALIZER TIMER



D-T Tick Off

- 0 to 6 minutes
- Extremely accurate
- Dial selected time
- Built in sure-fire release for pop-ups, flaps, etc.
- Simple to operate
- Weight 1/2-oz.
- Size 1 1/2 x 1 3/4 x 3/4

This smooth running clock-work timer provides you with the most accurate method yet devised for dethermalizing your plane. It can be set for less than a minute for testing or flying in small fields. Proves 5 minute pop-ups saves extra hiking at contests. No more guesswork—just turn pointer to the exact time that is desired.

The D-T Tick Off is also ideal for R/C and experimental work.

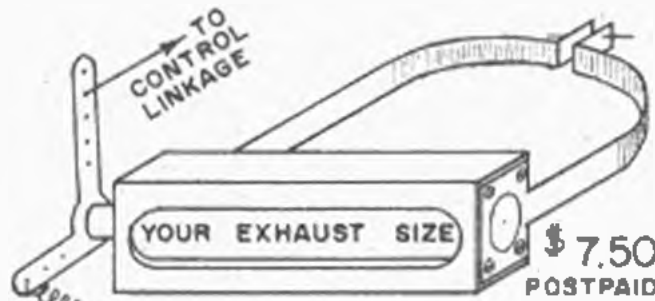
If no local dealer in community, SEND CHECK OR MONEY ORDER FOR IMMEDIATE DELIVERY

\$3.95 p.p.

TATONE PRODUCTS 1275 Geneva Ave. San Francisco 24, Cal.

MOTOR CONTROL

ROTARY TYPE
 STRONG-LIGHTWEIGHT-EASY ACTION
 CUSTOM MADE FOR YOUR ENGINE
 JOIN OUR LIST OF SATISFIED MODELERS
 TEST PROVEN BY MANY CHAMPIONS



SPECIFY YOUR ENGINE TYPE & DISP. WITH ORDER TO:-

JIM E. MOORE
 29 WEST 35TH ST. NEW YORK 1, N.Y.

YOU'RE ALWAYS
 IN GOOD HANDS



When You Buy At
 The Store Displaying
 This Dealer Emblem
 (Dealer inquiries invited)

Write To:

CRAFT, MODEL & HOBBY INDUSTRY
 30 East 29th St. New York 16, N.Y.

Pole, distinguished only by their calculations and the sensitive whirlings of the compasses.

Past the Pole and headed South again for North America, the plane reached its 18,700-ft. ceiling, cruising precariously, losing height at every bump, dodging cloud or boring into it, fearful of ice.

Spasms of frenzied activity interrupted the tedium of their solitary flight; an ice blockage in the cooling system nearly seized the motor; ice caused them to inch up and down the heavens, seeking clear air. But finally at 4:15 p.m. the same day, after 40 hours flight over 3860 miles, Cape Pierce Point in the Canadian North West Territories came into view. At 6 p.m. they were over the Great Bear Lakes, and two hours later, the great Mackenzie River and mountain range.

A front of storm clouds forced them to turn West towards the Rocky Mountains and the Pacific, mountains forced them higher and the oxygen supply began to give out. At 20,000 feet they had to carry on with an occasional whiff of oxygen, nursing the diminishing fuel supply fighting against the lassitude and anoxaemia.

And with the oxygen finally gone, they were forced down again until at 13,000 ft. they broke cloud to see the Pacific Ocean beneath. At the expense of a four-hour diversion, the worst of the weather had been avoided, and the Rockies crossed.

Turning South again down the Pacific coast, Queen Charlotte Islands were passed. Then the sun which had alternately blinded down or been dimmed to grayness, filtered by swirling mist and cloud, sank below the horizon. In the gathering darkness, flying blind in cloud and hail, Biadukov sat at the controls watching the instruments, the dimly-lit cabin behind littered with equipment and the bodies of his sleeping companions, feeling unutterably alone.

First the Seattle and then the Portland radio beacons guided them in. Past Portland the fuel gauges began to flicker on the "empty" stop, so a turn was made back into the Portland beam. They eventually slipped into the soggy field at Vancouver, Washington, after 63 hours 17 minutes in the air and 5507 miles from their take-off field.

Chkalov did not break the existing long-distance record, but his flight was a true pioneering effort and set the stage for a second, successful, attempt the following month. Colonel M. M. Gromov, Commandant A. B. Youmachev, and Engineer S. A. Daniline set off from Chelkove Airport, Moscow, in the modified ANT-25 registered NO25-1 along the route Matochkin Char, Novaya Zemlya, Rudolf Island, and the North Pole. Sixty-two hours later, having flown 6262 miles, they landed at San Jacinto, California, to set a new world's long distance record for the Soviet Union.

Thus ended a series of flights which, apart from the prestige gained, obtained for the Russians priceless information and experience in Arctic flying and Polar weather conditions. Now, the Soviets have a veritable Arctic air empire based on a network of military and meteorological stations clear across the roof of the world.

Biadukov and Beliakov had distinguished careers in the Soviet Air Force during WW2, reaching Major-General's rank. The latter's 1957 comment on the flight as a Lt.-General of Aviation (Biadukov also reached this rank) was: "On the wings of the ANT-25 we carried warm greetings from the Soviet people to all the people in America, the desire of Soviet people to live in peace and friendship with all peoples."

Chkalov was killed on December 15,

1938 while testing a new aircraft. The son of a railroad worker (his mother was an office cleaner), he had risen to become perhaps the best known Russian flier of the period.

Made a hero of the Soviet Union, like Chkalov, for his services to Russian aviation Mikhail M. Gromov was born in 1899 and received his pilot's license in 1917. After the war he led long distance flight from Moscow to Peking in 1925, in 1927 worked at the Stalin Aircraft Works Plant No. 1 in Moscow, having the year previously piloted an ANT-3 on a round-Europe propaganda flight. Early in WW2, Gromov headed a Soviet air mission to the United States to study methods of aircraft production. Back on the Russian front, he commanded a Stormovik group and finished the war as a Colonel-General. In 1946 he became Chairman of the Presidium of the Chkalov Central Aero Club, and a year later visited England a second time as head of a Russian delegation.

The original ANT-25 was designed in 1932—it is said by order of Stalin himself—by P. O. Sukhoi under the direction of A. N. Tupolev at the Central Aero-Hydrodynamic Institute (TSAGI), Moscow. Much was made at the time of the machine's completely Russian origin as to the motor and equipment, as well as the airframe, although in fact some of the instruments were of English and U.S.A. manufacture.

The machine was of conventional all-metal construction, spanning about 112 ft. and extending 44 ft. in length. Overall height was 18 ft., aspect ratio 10, wing area around 945 sq. ft., wing loading 26.4 lb. sq. ft., and power loading, based on a normal 900 h. p. output, 27.7 lb./h. p. Empty weight was roughly 9250 lb., but an enormous 13,000-lb. fuel load—enough for over 7000 miles flight—chiefly contributed towards the 24,885-lb. gross weight. Slightly differing figures were given in various contemporary sources, but all added up to the same general picture.

Power plant for the later record flight was an AM-34R 12-cylinder Vee liquid-cooled 900-1000 h. p. engine driving a large-diameter adjustable-pitch 3-bladed propeller, giving a top speed around 150 mph. Special attention was paid to the engine cooling system to allow fault-free cold-weather functioning.

A Russian photo shows a modified earlier version, labelled ANT-25 (RD), with a blunter nose, lower thrust line (probably with an inverted Vee engine), and tiny two-bladed propeller, but the AM-34R model was used for the North Pole flights.

Aft of the engine was the pilot's seat, over the front spar. A full complement of blind flying instruments was provided, but no automatic pilot. The remainder of the crew's quarters comprised a long narrow cabin, with first a rough bunk, then a midships position for the navigator facing the starboard wing trailing edge, and behind him the second pilot's position with dual controls.

Navigation and radio gear was very complete and included two transmitters and a wing root-mounted receiver, radio compass (the loop for which was carried either on the roof or the belly), two aperiodic compasses, a sun compass in a small transparent canopy on the fuselage roof over the wing, and assorted chronometers and timepieces.

Side-folding hoods covered the front and rear pilot positions, and the navigator had his own transparent hatch above the compartment. For emergency use on the ground, a gasoline-engine generator was carried in the rear fuselage to work the
(Continued on page 50)

NEW ACCESSORY KITS

FROM PERFECT

FEATURING
THESE
EXCLUSIVE
PERFECT
ITEMS

- Plunger type pump with swivel spout
- Ready to use battery set
- Wrench that fits all kits
- Flight tested connectors
- Control handle with line-wrap feature
- Pre-stretched, Dacron Control Line
- Manual on complete flying instructions

ONLY PERFECT KITS CONTAIN THESE FEATURES
GET YOURS TODAY



RETAIL
VALUE
\$1.64

28 ACCESSORY KIT

CONTAINS:

- ★ Fuel Pump
- ★ Glo-Klip Battery Set
- ★ Modeler's Wrench
- ★ Line Connectors

Only
\$1.49
Complete



29 DELUXE ACCESSORY KIT

RETAIL
VALUE
\$2.18

CONTAINS:

- ★ Control Handle
- ★ Fuel Pump
- ★ Glo-Klip Battery Set
- ★ Modeler's Wrench
- ★ 1/2A Control Line (Dacron)
- ★ Line Connectors
- ★ Instruction Manual

Only
\$1.98
Complete

PERFECT PARTS CO.

For Perfect
Performance
Use Only
Guaranteed

PERFECT Products

BRAND NEW!

JUST OUT!

**Strongest
Props Made!**

NOW!

A Complete Line of  **NYLON PROPS**

**that are indestructible
under normal use!**

These marvelous props were perfected after years of intensive work in design and development! They are the strongest props made! Field tests prove they will outlast any other kind almost 50 to 1, reducing the cost per flight to the absolute minimum. They are flexible, heat-proof, fuel-proof and have a super high gloss finish. They deliver the best all around performance of any prop!

SIZE	EACH	SIZE	EACH
5 1/4-3	25c	8-4 New	60c
5 1/4-4	25c	8-6 New	60c
6-3	25c	9-4 New	85c
6-4	25c	9-6	85c
7-4 New	40c	10-3 1/2 New	85c
7-6 New	40c	10-6	85c
		11-4 New	1.00

**EXCLUSIVE
SAFETY TIP
STRIPES!**

The Safety Tip Stripes in contrasting bright red indicate the extreme tip of the prop to help prevent accidents. And this trim adds beauty and lots of dash, too!



 **and** 

the PROPS OF CHAMPS

*deliver the MOST THRUST from ANY engine
... more flights per prop, too!*

All of these props are designed with highly efficient airfoil and perfect pitch to give the most thrust from any engine. Every one is precision made, molded to round leading edges, thin trailing edges, and perfectly balanced to give maximum aerodynamic efficiency.

There are 84 precision engineered props of nylon, wood in the size and pitch best suited to your engine and plane in our line ... the most complete and most widely used in the entire industry!

There's a TOP FLITE or POWER PROP for EVERY flying need:

- Radio Control
- Free Flight
- Combat
- Sport Flying
- Speed
- Stunt
- Payload
- Scale

Our world famous wood props

New Sizes for the .020 Engine

TOP FLITES:
4 1/2-3, 4 1/2-4, 4 1/2-5
POWER PROPS:
4 1/2-6, 4 1/2-7

15c
each

TOP FLITES:
6-3, 6-4, 6-5
POWER PROPS:
5 1/4-3, 5 1/4-4, 5 1/4-5,
5 1/4-6, 6-3, 6-4, 6-5, 6-6

20c
each

TOP FLITES:
7-3, 7-4, 7-6, 8-3 1/2, 8-5, 8-6,
8-8, 9-4, 9-5, 9-6, 9-7, 9-8,
10-3 1/2, 10-5, 10-6, 10-8
POWER PROPS:
7-4, 7-6, 7-8, 7-9, 7-10 1/2,
8-4, 8-5, 8-6, 8-8, 8-9, 8-10 1/2,
9-6, 9-8, 9-9, 9-10 1/2, 10-6, 10-8

25c
each

TOP FLITES R/C:
11-3, 11-4, 11-5, 11-6,
11-8, 12-3, 12-4, 12-5, 12-8
POWER PROPS R/C:
11-3, 11-4, 11-5, 11-6,
11-8, 12-3, 12-4, 12-6, 12-8

35c
each

TOP FLITES R/C:
13-5 1/2, 14-3, 14-4, 14-6

40c
each



- get a new, up-to-date FREE PROP CHART at your hobby headquarters or write us direct.
- get these PROPS OF CHAMPS at your favorite hobby store.
- made by the makers of "Duralume" Aluminum-Bonded-To-Balsa Kits.



TOP FLITE MODELS INC.

2635 S. WABASH AVE.—CHICAGO 16, ILL.

TOP FLITE

GAS KITS TOP THEM ALL!

Three terrific planes designed by George Aldrich, America's greatest stunt champion!



THESE 1/2-A MODELS SWITCH FROM CONTROL LINE TO FREE FLIGHT & BACK AGAIN IN A JIFFY!

Each kit contains: formed landing gear, push rod, elevator horn, wheels, bell crank, firewall, decals, and all necessary hardware. All parts are completely finished. Only select Grade-A balsa is used. Full size detailed plans with many step-by-step construction features making it easy to build and fly.

- Ideal for beginners... and experts, too!
- All feature Famous JIGTIME CONSTRUCTION for easy, no-mistake assembly!

the NOBLER CHAMPIONSHIP CONTROL LINE



STUNT SHIP

Kit No. N-1

\$8.95

Wing Area 550 sq. in.
Wing Span 50"
Length 38 1/2"
Eng. Sizes .19 to .35

THE "WINNINGEST" STUNT MODEL EVER FLOWN... Won More Nationals and International Stunt Championships Than Any Other Model!



PIPER CUB

27 inch wingspan. This 1/2A scale flying model is so realistic that only the size makes it a model instead of the real thing! Includes formed plastic cowl, die cut clear plastic windshield.

Kit No. G-8
\$2.50



RASCAL 27

27 inch wingspan. An outstanding favorite with all 1/2A model builders for years! Includes die cut clear plastic windshield.

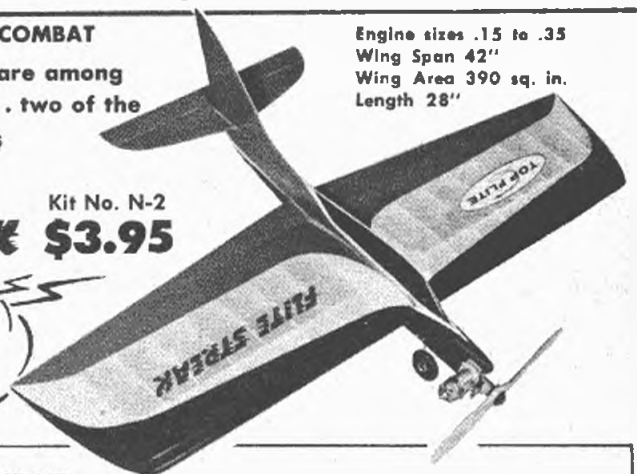
Kit No. G-5
\$1.95

these CONTROL LINE COMBAT and STUNT TRAINERS are among America's greatest... two of the most successful planes ever designed!

Kit No. N-2
FLITE STREAK \$3.95

FLASH!

1958 NATIONALS WINNER OF BOTH Senior and Junior COMBAT



Engine sizes .15 to .35
Wing Span 42"
Wing Area 390 sq. in.
Length 28"

BOTH OF THESE KITS CONTAIN:

- Full length shaped and notched leading and trailing edges and spars.
- Shaped fuselage.
- Select grade A balsa.
- Printed and precision die-cut balsa and plywood parts.
- Formed landing gear and push rod.
- High grade silkspan.
- Hardwood engine mounts.
- Complete detailed plans with many step-by-step construction features making it easy to build and fly.

HERE'S WHY THEY'RE SUPERIOR MODELS:

1. Full length leading, trailing edges and spars. Require NO SPLICING, an exclusive feature for this size and type of model.
2. Assembly is easier, faster — with perfect alignment.
3. This Jigtime construction of notched spars, leading and trailing edges allows you to construct a symmetrical wing on a flat surface without special jigs, also making it warp resistant.



ARROWJET 24

24 inch wingspan. Has the dash and class of modern Navy prop-jet design. Ideal for 1/2A gas engines. Includes formed clear plastic canopy.

Kit No. G-7
\$2.50

Ask your dealer for a
FREE Top Flite
PROP CHART



JR. FLITE STREAK

Kit No. N-3
\$2.95

Engine Sizes .15 to .25
Wing Span 31"
Wing Area 230 sq. in.
Length 22"

by the makers of famous TOP FLITES and POWER PROPS... the Props of Champs!
AVAILABLE AT ALL LEADING HOBBY SHOPS

TOP FLITE MODELS, INC., 2635 S. Wabash Avenue, Chicago 16, Illinois

TOP FLITE



RX-1
single channel compact



RT 1-3V
single channel



Certificate OF PERFORMANCE
CG Electronics Corporation, the Pioneers of Engineered, Transistorized R/C Equipment, Guarantees You Trouble-Free Operation within the Limits of the Operating Specifications Under the Terms of the Standard Warranty.

WRITE FOR
FREE
ILLUSTRATED
CATALOG



Charlie CG Sez:

**"IT'S TRANSISTORS
EVERYTIME FOR
TROUBLE-FREE
R/C FLYING!"**

Check these features of the new RT 1-3V and RX-1 that only the engineered transistor can offer.

- No Tubes to Break or Burn Out
- 3 Volt Operation (Two Pen Cells) with No Converters
- Subminiature Size and Weight
- 'High Shock' Ruggedness
- 'Super Solid' Ultra Sensitive Detector
- Temperature Operating Range from 0°F to 130°F without Reduced Sensitivity

AND HERE'S PROOF

CGG Electronics
CORPORATION

Dept. MA-5

15000 CENTRAL EAST ALBUQUERQUE, NEW MEXICO

radios. Other emergency gear included an inflatable rubber life raft; flotation bags in the wings and front fuselage to add buoyancy in a forced landing on the sea; electrically-heated survival and flotation suits; and rations for a month and a half stowed in wing leading edge compartments. Heating was by warmed air passed over the exhaust stacks and through cabin ducts.

The wing center section was an integral part of the fuselage structure. Attached to the stubs were long finely tapered metal-covered outer panels of ANT-6 aerofoil section, with pronounced chordwise ribbing on upper and lower external surfaces, the whole fabric-covered, painted and lacquered to give the smoothest possible finish. Internal structure was based on a three-spar box beam, part of which formed a sealed compartmented integral fuel tank. Twin-wheeled main landing gears retracted backwards into large fairings attached to the bottom surfaces of the wing trailing edge. The tail wheel was neatly faired but non-swivelling. Horizontal stabilizer was wire-braced and its incidence adjustable for trimming.

For the Chkalov flight, the machine was as illustrated in the tone general arrangement drawing. All wing and horizontal tail surfaces were painted red to make the plane visible from the air should a forced landing be made in the snow. The fuselage was silver, but with the nose and narrow stripes along the fuselage upper and lower centre lines painted a dark color, probably black. The legend "Stalin's Route" was painted in Russian along the fuselage.

(Acknowledgements: "Flight" and "Soviet Weekly" for the photographs; "The Aeroplane"; The Royal Aeronautical Society; "Aero Digest" for August 1937, and other contemporary magazines: "Over the North Pole" by George Biadukov; Miss Jean Alexander.)

Whip-Control Starfire

(Continued from page 25)

parts of final sanding with fine sandpaper the model is now ready for assembly.

Insert the wings into the slot provided for them in the fuselage, block each tip up $\frac{1}{8}$ " and cement them securely in place. Now attach the two elevator halves to the fuselage, making sure that they are properly aligned before the cement sets. Mount the rocket pads and fuel tanks and the assembly is now complete.

Wing and tail fillets are made by applying a large amount of cement to the junctions of the two surfaces and smoothing it off with the fingertip. Several coats may be necessary to build them up to the desired size. Bend the control line hook from a paper clip and attach it to the left wing tip as shown on the plan. After balancing the model at the point shown on the plans by adding weight in the hole provided beneath the nose, plug the hole with scrap balsa, sand it off smooth, and the model is now ready for finishing.

Give the entire model at least three coats of sanding sealer and, when dry, sand thoroughly with fine sandpaper. Now brush or spray on three coats of aluminum dope. The trim areas are masked off and painted the colors indicated on the plans. Finally, apply the star decals, the control surfaces and other markings, with india ink and ruling pen; give the model a coat of wax and she is ready to go.

For best results the model should be flown with a rod and reel type of fish pole, since the line can be let out in flight, thus simplifying launching. Dig that old rod and reel out of the attic or hall closet and you're ready for a flight. The length



Start a full set
today!

AUTHENTIC SCALE MODELS

ONLY \$2 EACH

PAN AMERICAN World Airways Super-7 Clipper; CONTINENTAL Airlines DC-7B; DELTA Air Lines DC-7B Golden Crown; JAPAN Air Lines DC-7; NORTHEAST Airlines DC-6B Sunliner; SCANDINAVIAN Airlines DC-7; UNITED Air Lines DC-7 Mainliner; WESTERN Airlines DC-6; ALASKA Airlines DC-6B.

These sturdy snap-together (no messy glue) authentic models make an ideal collection, so order now! Send check or money order (no C.O.D.'s, please) for \$2.30 (includes packing, shipping and postage) for each model.

AUTHENTIC AIRCRAFT MODELS

P. O. Box 613, Coral Gables 34, Fla.

MC TONE

The inexpensive Tone Transmitter and Receiver that performs like Top Dollar Equipment.

MC Model 250T Transmitter

\$20⁹⁵
Less Batteries

MC Model 100T Receiver

\$20⁹⁵

The T Combo Transmitter and Receiver

\$39⁹⁵
Less Batteries

See It At Your Hobby Dealers

MC MFG. & SALES CO.

6720 Monroe Kansas City 30, Mo.

Descriptive Brochure Upon Request

THE BROAD RANGE
GLO FUEL

HI-FIRE

\$1.10 qt.
\$3.75 gal.

SEE YOUR DEALER

TECHNICAL MODEL PRODUCTS CO.

Box 11483 Pittsburgh 34 Pa.

of the rod will determine the amount of control you will have over the model: the longer the better. About 25 feet of good nylon fishline should be enough. We use a small snap or control-line hook of some kind to fasten our line to the model.

For your first flights, select a calm day and a flying site covered with long grass to cushion any hard landings. With about two or three feet of line extended, and the plane held off the ground, begin to turn in a counter-clockwise direction. Centrifugal force will immediately bring the plane into an upright position. Now pay out about 10 or 15 feet of line slowly. Once you get the feel of it, try raising the tip of the rod to make the ship climb, lowering it will make the ship dive. By turning more slowly, the ship will slowly lose altitude and with a little practice you can slide the ship in for a belly landing if the field is smooth, or if you prefer, the line can be reeled in instead of making a landing.

Once you get the feel of the ship you can use more line but be careful not to let out too much or you may lose control of the plane. Once you've gained experience try balloon bursting or combat.

With no balky motors, no messy fuel, and no noise to bring the neighbors' complaints, you'll have plenty of good flying.

Indoor R.C.

(Continued from page 19)

much stronger than is necessary when you get down to these light weights—it even flew right into the trunk of my car one day, banging the structure in several places without damage.

Another point; with a pusher, the engine would be in back and forcing the exhaust back as well—so let's go to a profile job and let everything hang out in the breeze. Finally, let's go really indoor in the design concept, with a single-surface wing.

So, I laid out the design and built an entirely new model. I went back to the Bonner SN escapement, but here I got tricky. I cut off one of the neutral stops, and thereby had a compound escapement. Of course it presented the problem of how to get the second position, since there was no governor, but by using 1/16 inch rubber (plenty powerful for the job) I found that the rotation speed was slow enough that with some practice I could get the proper command. This return to the SN escapement also saved weight.

When the model was finished, I covered the wing with Jap tissue, and then made my mistake. I didn't plasticize the dope enough and when the covering dried after the first coat, the airplane was named "Warp." I should have used the same size wood for the leading and trailing edges, but I didn't and the trailing edge really warped up. This gave me a lot of wash-out—more than I wanted, but I figured it would be all right to experiment with, so I finished up the model, fuel proofed it, and took it out early one morning to test in calm air.

This model proved to be a truly named indoor job. It weighs 3 3/4 ounces, has a 33" span, 7" chord, and flies slowly enough that you can run alongside of it. Don't try it, though, unless you've checked your transmitter-receiver combination to be sure the receiver isn't swamped when the transmitter is too close. The model is adjusted to fly in a 30' circle to the left. By pressing the button on the transmitter once, right rudder pulls the airplane slowly into straight flight and then into a gradual right turn. If you can't keep fast enough to get the second position, which is left rudder, you can still fly around indoors and have fun, just by using the adjustment mentioned

POLK'S Model-Craft HOBBIES

314 FIFTH AVE., Dept. MA 59, N. Y. C. 1
WE IMPORT-EXPORT THE WORLD OVER
DEALERS-JOBBER, REG. TRADE PRICES—INQUIRIES INVITED

OUR MAIL-ORDER DEPT. FILLS ALL ORDERS SAME DAY RECEIVED

BATTERY CHARGER



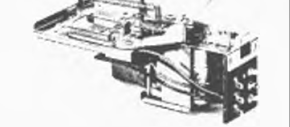
WITH SELECTOR SWITCH
Charges 2 V., 4V. & 6V Wet Cell Batteries
Heavy duty transformer and rectifier. Compact, it has a ventilated metal case features indicator lamp and a selector switch for correct charging. **\$7.95**
rate: 110 Volt A.C. input.

Power-Packed ALL NEW WET CELLS

High ampere hr. capacity, small physical size, long life NOT surplus batteries! Manufactured from hi quality materials, include heavy duty plates, clear plastic case, marked terminals. Add 50¢ shipping charges to battery prices.

- TYPE 64—6V., 4 Amp. Hr. Cap (2 1/2" x 3 3/4" x 1 3/4") **\$4.75**
- TYPE 23—2V., 3 Amp. Hr. Cap (3 1/2" x 2 1/4" x 1 1/4") **\$1.75**
- TYPE 41—4V., 1.5 Amp. Hr. Cap (1 1/2" x 1 1/4" x 1 1/4") **\$1.65**
- TYPE 26—2V., 6 Amp. Hr. Cap (4 1/2" x 2 1/4" x 1 1/4") **\$3.00**
- TYPE 266—2V., 6 Amp. Hr. Cap (8 1/2" x 2 1/4" x 1 1/4") **\$3.75**

FOR ALL BOATS



ARISTOMATIC COMPOUND ACTUATOR FOR R/C
Self contained electric motor (low drain) plus special integral switching give 2 channel operation from low cost single channel receivers includes: Electrical Switching Action-Forward-stop-reverse stop Mechanical Directional Control left neutral, right neutral. Operates on 3.6 V. complete with instructions. **\$10.95**

ARISTO R/C MULTI-TESTER
Sturdily built, accurate testing unit covering every R/C need. 2% Full 2 1/2" moving coil type meter. Readings to 1000 MA, 200 V DC, 100 in 10K ohms. Zero adjusting screw. Ohms adjust. Black and red test leads with prods supplied. Black plastic case. Instruction book included. **\$16.50**

ARISTOL MOPA TRANSMITTER
Features printed circuit chassis, extended range transmission, 27.4 freq. & "tuning eye" for fast, accurate checking, quality controlled hi-tolerance components & specially designed crystal.
E Z ASSEMBLY KIT **\$14.95**
READY-TO-USE (less batt.) **\$19.95**

FREE! 24 PG. HOBBY CATALOG
—IN COLOR WITH ORDER

- SEND FOR CATALOGS**
- All Trans. R.R. Catalog, 169 pgs. **75¢**
 - Trolley-Bus Manual, 48 pgs. **25¢**
 - Rivarecar HO Catalog, 16 pgs. **15¢**
 - Radio Control Catalog, 16 pgs. **15¢**
 - Royal "T" Catalog, 27 pgs. **25¢**
 - Ships & Fittings, 82 pgs. **50¢**
 - Vehicles & Cars, 24 pgs. **20¢**
 - General Hobby Fun, 24 pgs. **10¢**
- ALL CATALOGS FULLY ILLUSTRATED WITH COMPLETE DETAILS AND PRICES

ARISTO'S ALL NEW

SPACEMASTER ... MKI RECEIVER



COMPLETE... \$19.95
Manufactured from all new Hi-Fi quality components, this new receiver is a carrier response unit that has been thoroughly field tested for over a year. It incorporates "single touch" tuning, 2 "burn matched" transistors, plus a low drain hard tube. The "locked-in" deep etched printed circuit guarantees consistent quality and trouble-free performance. The Spacemaster MKI can be tuned over all new allocated frequencies.

- Battery Requirements: 22 1/2 V.B., 1 1/2 VA.
- Relay Operation: 6 MA on xfd, rises to over 4 MA on signal for positive relay operation.
- Factory built, tested, ready for operation.
- Metal case enclosure—Wgt. 13/4 ozs with relay.
- FULLY GUARANTEED

WEBRA ENGINES



BOXER TWIN \$79.95 WITH PUMP
\$69.95 (WITHOUT)

- DISPLACEMENT .45 C.I.
- 2-SPEED CARBURETOR
- RADIAL MOUNTED
- CUSTOM BUILT
- WEIGHT: 16.22 OZ.
- FOR LARGE R/C MODELS

The BULLY .19C.I. **\$13.95**
The KOMEY .15C.I. **13.95**
The PICOLLO .049C.I. **7.95**
The RECORD .09C.I. **9.95**
The MACHI .15C.I. **13.95**

E. D. DIESEL ENGINES

BEE .061 **\$9.95**
FURY .09 **12.95**
RACER (Mark III) .15 **13.95**
HUNTER (Mark IV) .21 **19.95**

POWER CONVERTERS



COMPLETELY TRANSISTORIZED Available For 30V - 45V and 67V OUTPUT **\$16.00**

A terrific power booster for your receiver set. Will convert 4 1/2 V to 6V output to relieve, lightweight, constant operating voltages for efficient operation. Truly, you get more out of it, than you put in.

1" Sq. MILLIAMETER
Small enough to bust into your Model's battery range. Desires wires: silver, Wai Approx. 3 or 4 0 to 1, 0 to 5, 0 to 50 **\$4.95**



True-Hue SILK COVERING...
Made from mother nature's strongest and lightest fibre... pure silk. This sensational air plane covering material is closely woven comes packed in individual plastic envelopes, bound in albums. You get your silk clean, unwarmed, snag free ready-to-use in 1 yd. sq. pieces. Step-by-step, illustrated instructions, by famous modeler Walter Musciano ensure you a wrinkle-free, light, "tight as a drum" covering job.

Aristo-Craft Silk is truly the ARISTOCRAFT of silks. It's a SUPERIOR quality especially selected and suited for model planes.

12 PAGE ALBUMS—1 YD. per PAGE

White	95¢ yd.	11.40 per album
Red	1.00 yd.	12.00 per album
Yellow	1.00 yd.	12.00 per album
Orange Gold	1.00 yd.	12.00 per album
Sky Blue	1.00 yd.	12.00 per album

12 PG. ALBUMS—ASSORTED COLORS
Contains 4 yds. Red, Orange, Gold & Sky Blue **\$1.00 per SHEET—\$12.00 per ALBUM**

12 PG. ALBUMS—CHECKERED COLORS

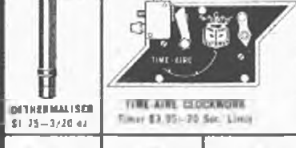
Black & White	1.50 yd.	18.00 per album
Black & Red	1.50 yd.	18.00 per album
Red & White	1.50 yd.	18.00 per album

12 PG. ALBUMS—POLK A-DOT COLORS

White & Blue	1.50 yd.	18.00 per album
Red & Black	1.50 yd.	18.00 per album

ARISTO PRECISION-MADE PNEUMATIC TIMERS

A Timer for every purpose and engine type. Glo or Diesel Light weight, can be pre-set for required cut-off or dethatching.



- MINI-DIESEL **\$2.25—1/2 oz.**
- LIMITONK **\$2.75—1/2 oz.**
- UNIVERSAL **\$3.95**

"MIGHTY-MIDGET" WORLD FAMOUS ELECTRIC MOTOR



Only 1 1/4 inches high. Revolution speed 4500 to 6000 rpm. Stand and motor for use on 3.6 V DC. Replaceable brushes fitted for term. sale. **\$2.95**

DOUBLE PER-MAG MOTORS



D.C. battery operated motors — Hi-power, no drain. Ready mounted with replaceable carbon brushes. Operate on 1/2 to 8 volts.

No. 01 **\$.80**
No. 0 **1.00**
No. 1 **1.25**
No. 2 **1.50**
No. 3 **2.00**
No. 4 **2.50**
No. 5 **4.95**
No. 4.5 **2.95**

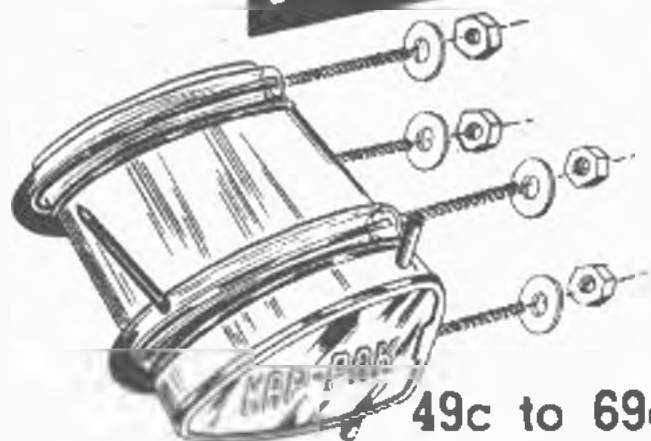
ARISTO MICROSCOPE SLIDES

Scientifically prepared under strict laboratory conditions with polished glass edges. Each has identifying label. All specimens embedded, cleaned, stained, dissected and covered.

ALL-NEW! PROFILE TANKS WITH MOUNTS & FUEL LINE

BY

KAP-PAK



49c to 69c

V100	1" Long	Midget	1/4 oz. cap.	49c
V101	2" Long	Midget	1/2 oz. cap.	49c
V102	3" Long	Midget	1 oz. cap.	49c
V103	1 1/2" Long	Medium	1 oz. cap.	49c
V104	2 1/4" Long	Medium	1 1/2 oz. cap.	59c
V105	3" Long	Medium	2 oz. cap.	59c
V106	1 3/4" Long	Large	2 oz. cap.	59c
V107	3 1/2" Long	Large	4 oz. cap.	69c

KAP-PAK PRODUCTS, INC.

156 WEST WALTON PLACE, CHICAGO 10, ILLINOIS

While They Last!!!

1958 EDITION

Observer's Book of Aircraft

ONLY 50 CENTS

- Over 180 photos of world's aircraft
- Three-view silhouettes
- Complete specifications on each plane
- Arranged alphabetically by manufacturer
- NATO code names of Soviet aircraft
- Special section on Helicopters
- Hard-bound—not a paperback
- Handy pocket-size

Limited supplies! Send your order and 50c cash
(No C.O.D.'s) to:

FREDERICK WARNE & CO., INC. (Dept. AC)
210 Fifth Avenue, New York 10, N.Y.

above. If you can get the second command, the left rudder makes the model turn sharply to the left and nose down, and this is the way to get altitude control and keep from hitting the ceiling.

"Warp" is what I would call a sort of "laboratory" model. It does the job, but it isn't much to look at. But it does point the way, and for you experimentally minded modellers, it isn't too hard to make a few refinements to the design and come up with a really attractive indoor R/C job which you can fly in the local high school gymnasium (get the principal's permission first!). For example, make the boom hollow, and run the torque rod through it—maybe close in the cabin area with a light shell of balsa. You probably already have an idea or two of your own, so go to it, and let us hear how you make out.

Foreign Notes

(Continued from page 2)

60 ship spun in at full bore from 500 feet. Eventual winner was Geoff Tuck with a large Max-29 powered model.

WEST GERMANY

As reported in our January column, the 1959 World Championships winning East-German Schlosser engine went out of production when designer-manufacturer Benno Schlosser left the East to settle in Federal Germany. Having worked for a short time in the Volkswagen plant, Schlosser has now become re-established at Knittlingen/Wurtemberg. Here, in partnership with Klaus Krick, son of an East German publisher and kit manufacturer, he has founded the firm of "Modelltechnik Knittlingen."

Unable to bring the dies for his .06 and .15 cu. in. engines from East Germany, he has commenced production of an entirely new Schlosser engine, a diesel of 0.5 c.c. (.030 cu. in.) displacement. The motor, which is a shaft-valve unit, looking somewhat like the British D-C Merlin .046 externally, has a bore and stroke of 0.3346 x 0.3465 in. and weighs approximately 1.2 oz. Karl-Heinz Denzin, well-known German model designer, tells us that the motor will turn up 11,200 rpm on a Tornado Plasticote 6/3 prop—which is pretty good for an .03.

JAPAN

The Japanese model firm of Oishi & Company of Takatsuki-cho, Ika-gun, Shiga Pref. have just introduced a new clockwork timer called the "Kopil." We have received a sample and it seems to be very good—as,

in fact, it would have to be, to compete with the Tatone, KSB and Japanese-made timers now enjoying popularity with free-fighters in numerous Western countries. The Kopil is similar in layout to the KSB, etc., but instead of having a fuel shut-off valve, a snap-action squeezed fuel-tube system is employed. Timing is 0-20 seconds, with on-off switch and a dial graduated 5-10-15-20. Mounting plate dimensions of the timer are 1-9/16 x 1-3/16 in., the movement being 9/32-in. deep. The complete timer weighs approx. 0.8 oz.

HUNGARY

This year sees the world's first International contest for indoor (microfilm) models. As agreed at the last FAI Models Commission meeting and reported in last month's column, the event will be run by the Central Aero Club of Hungary to rules suggested by the U.S.A., Great Britain and Hungary. There will be two classes: for models under 35 centimeters, and over 35 centimeters (13.78 in.) span, respectively. The contest will take place in the 100 ft. high hall of the University of Medical Science at Debrecen, 125 miles from Budapest, on May 17.

SOUTH AFRICA

From "Wipmac", bulletin of the Western Province Model Aircraft Club, we learn that Johan DuToit's Twin-Nobler stunt ship boasts two Fox 35's and has done everything, so far, except an hour-glass. Inside motor has a two degree offset; outside motor seven degrees. A trifle tricky, at present, to get both motors running evenly, but model will fly well on either engine. Entire model is sheet covered, is finished in attractive blue and white color scheme and weighs four lbs., including four oz. nose ballast.

CUBA

For the past couple of years we have had little to report from Cuba. Apparently, modeling there fell into the doldrums: partly because of the withdrawal of some model flying facilities with the worsening political situation; partly because of a boycott, on some official contests sponsored by the late Batista government, by modelers sympathetic towards the former rebels. Now, however, we have a letter from our old friend Tony Alvarado in Havana, in which he tells of enthusiastic new plans to re-establish organized model flying in the island. New flying sites, open to everyone and suitable for all types of model flying, are being planned and it is hoped that Cuba will be able to compete in Inter-

(Continued on page 54)

ANNOUNCING the
FINE NEW
THE FIRST Really NEW R/C Model
Advancement in over 5 years!

Not since the advent of the 1st Live Wire has there been such a sensational advancement in R/C model design as the new Custom Live Wire offers! After 3 years of intensive development the "Custom" comes with features which make it the first fully aerobatic R/C model kit! Only now is it possible to duplicate completely full scale aircraft controls and achieve performance equal to them, both in the air and on the ground!

The "Custom" has symmetrical airfoil wings for greater stability and equalized inverted maneuvering. Its Biplane wings give the area required to provide a low wing loading, the answer to quick, snappy maneuvers! The Biplane also offers a very low gross weight plus compactness for ease of transportation. Coupled with the fine aerodynamic qualities comes a brilliant undercarriage system which by the use of a movable tail wheel and wheel brakes gives absolute ground control on the roughest of terrain. Takeoffs, landings and all taxiing now becomes a pleasure!

With the "Custom" Live Wire you have the most modern and versatile radio controlled miniature aircraft that could be wished for!

The fine deluxe kit includes:

- Giant full size plans with complete assembly details
- Complete radio installation instructions with details
- Complete profight and flyin instructions
- Selected premium grade balsa and tough hard maple parts
- Precision machined and sharply die cut parts
- Ready formed dyrol gear and necessary hardware

Check these specifications!

Top wing span: 66" Lower wing span: 55"
Wing area: 1326 sq. in. Wing loading: 18 oz./sq. ft.
Flying weight: 5 1/2 to 7 lbs.
Model weight minus R/C equipment: 4 lbs.
Controls as desired: Possible to have rudder, elevator, engine, tail wheel, wheel brakes, ailerons and flaps.

Custom "LIVE WIRE"

A truly Spectacular Multi-Channel R/C Model!

FOR USE WITH .25 to .35 ENGINES AND
2 to 8 CHANNEL RADIOS



A COMPLETE
DELUXE KIT
\$21.95

deBOLT MODEL ENGINEERING CO.

"Home of Design-engineered Models"

WILLIAMSVILLE NEW YORK U.S.A.

SEE YOUR HOBBY DEALER

IF NOT CONVENIENT ORDER DIRECT

INCLUDES 25¢ FOR POSTAGE

THE BIGGEST NEWS SINCE THE ADVENT OF THE GLOW PLUG!

GLOW CHECK

(Pat. Pend.)

PRESS TO TEST!

Checks Any Glow Plug in Seconds without removing plug from engine.

CHECK BATTERIES TOO!

One's first concern in starting any glow plug engine is the glow plug... is it good? This can be answered in 1 second with the "GLOW CHECK." Press to Test. "GLOW CHECK" tells one immediately whether the plug is good or bad. Simply attach "GLOW CHECK" to battery and fasten glow plug battery clip in usual manner—press indicator light which lights up if plug is good.

The "GLOW CHECK" is left on battery at all times—ready for instant use. The "GLOW CHECK" also indicates when battery is becoming weak. The indicator light will merely glow faintly showing it is time to REPLACE BATTERY.

- Works on any 1½ or 2 volt battery • No longer necessary to remove plug
- Saves time—a must for all types of flying • Install in seconds
- Easy to use—press to test • Ready for immediate use on any glow plug

The advantages of the "GLOW CHECK" are even greater in engines where the glow plug is part of the head. Many engines of this type have been damaged in the process of dismantling to check the glow plug. They need never be taken apart for this purpose when a "GLOW CHECK" is used.

IF IT LIGHTS — PLUG IS RIGHT!
FAINT GLOW — BATTERY LOW!

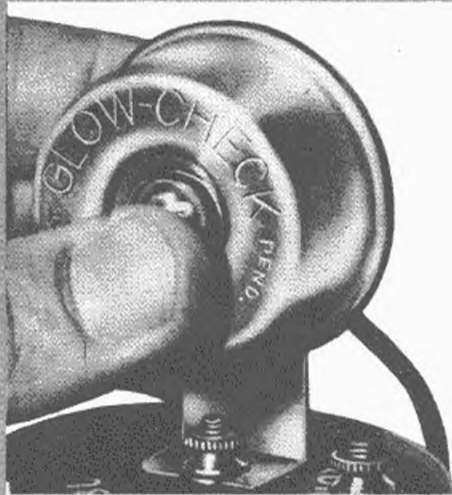
Only
\$1.49

"GLOW CHECK" is to be left on
battery at all times.

OHLSSON MANUFACTURING CO.

P. O. Box 9055 LONG BEACH, CALIFORNIA

Not connected with Ohlsson & Rice, Inc.



ACTUAL SIZE

NOW!



MIN-X INTRODUCES A NEW STANDARD TO THE RADIO CONTROL FIELD

THE POPULAR MIN-X RECEIVER AND TRANSMITTER COMBINATION GUARANTEES HOURS OF CAREFREE FLYING. TRANSMITTER FEATURES: RELIABLE MOPA CIRCUIT • 100% MODULATED HIGHEST OUTPUT • HIGHEST QUALITY COMPONENTS • GOLD ANODIZED CASE WITH 2 COLOR NAME PLATE • \$38.50 RECEIVER FEATURES: NEW ALL TRANSISTOR CIRCUITRY • WEIGHS ONLY 2.5 OZ. WITH CASE AND PLUG • SIZE 1" x 2 1/16" x 2 3/8" • FLY ALL SEASON ON 25c WORTH OF 3-VOLT BATTERIES SIMPLIFIED TUNING PROCEDURE • 30 DAY WARRANTY • THE ALL TRANSISTOR RECEIVER WITH THE RELIABILITY OF TUBE TYPE RECEIVERS • ONLY \$39.95 FLIGHT TESTED FOR MONTHS ACROSS THE NATION, UNDER ALL TEMPERATURE CONDITIONS



MIN-X RADIO

6555 OAKLAND • DEPT. M-5 • DETROIT 2, MICH

national events in the not too far distant future.

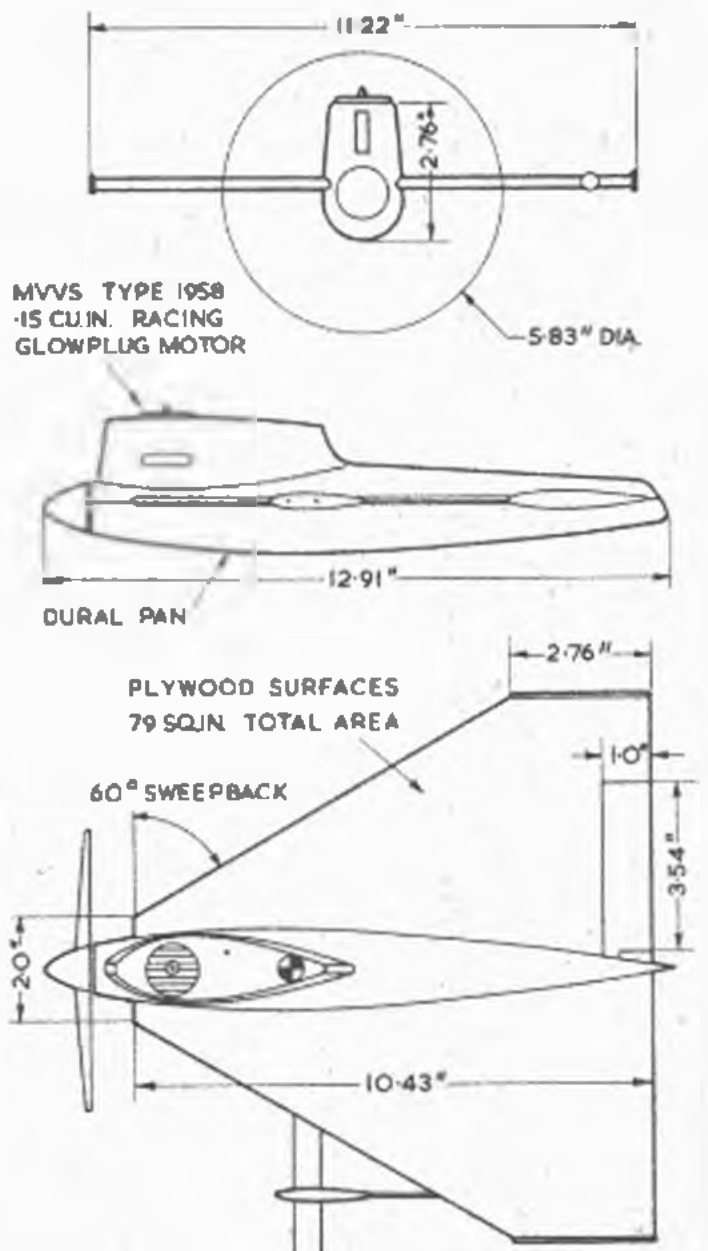
IN BRIEF . . . Eta Instruments Ltd., who, during the past year or so, have been back in the racing engine business with a new version of the Eta 29, have now re-introduced their 19, with improvements. Claimed output is 0.43 bhp at 15,000 rpm on 40 percent nitro, which, if substantiated, means an improvement of about 30 percent over their original 19 and, possibly, the most powerful Class A engine in current production. Also in the course of development is an RC version of the 29. Italy . . . Expected soon from the Super-Tigre factory is a .50 cu. in. motor for overweight Astro-Hogs, deBolt Bipes, etc. (K&B .45 already on market—Editor). Engine will probably use certain Super-Tigre G.24 (.60) parts, having similar stroke, but sleeved to .50 displacement and with front rotary intake designed for proprietary throttle units.

The SE-5

(Continued from page 11)

Cut slot on top side to admit axle. Cover unit with silk.

Wings: The wings are built in four panels, two left and two right. They are identical in construction except for dihedral brace boxes and rigging hooks which are on the top wing. You will also note that the strut retainers are on the top of spar on lower wing, and bottom of spar on upper wing. On lower wing the strut retainers will have to be blocked up to be flush with wing surface. Ailerons may be omitted if desired by replacing W-4 and W-5 ribs with W-3 ribs. The W-2 and 1/16" ply end ribs should lean inward five degrees to allow for dihedral angle. Build the 1/16" sheet boxes with the 1/8" ply dihedral (Continued on page 56)



F.A.I. (WORLD CHAMPIONSHIP CLASS) SPEED MODEL
BY FRANTISEK PASTYRIK - CZECHOSLOVAKIA
4TH. PLACE, 1958 CRITERIUM D'EUROPE - 128-006 MPH

**24
HOUR
SERVICE**

New Catalog, over 300 pages, your **BIGGEST SOURCE OF SUPPLY**. Send for it on your letterhead. We sell to dealers only, 100% wholesale. **FAST SERVICE ON ALL ORDERS.**

★ **MODEL AIRPLANES**
★ **CRAFTS** ★ **TOYS**
★ **RAILROADS**

HAW-KI HOBBY SUPPLY

Dept. N 1951 Rockingham Rd. Davenport, Iowa

DEALERS HOBBY SUPPLY

Dept. KC-N 2940 Southwest Blvd. Kansas City 8, Mo.	P. O. Box 10661 1950 S. Lauderdale Memphis, Tenn.
P. O. Box 506-N 570 E. Sixth St. Des Moines, Iowa	P. O. Box 10353-N 2009 Farrington Dallas, Texas

GEM MICRO

Weigh less than 1/2 oz., Size: 3/4 H., 17/32 W., 1-1/16 L. Mounting: One screw; Coil: 5000 ohms; 7,500 & 10,000 ohms at extra cost.



Deluxe adjustable

NEW! SILVER PALLADIUM Contacts

RC Experts prefer Gem's MICRO version . . . you *adjust in the field!*

New contacts suppress arcing . . . won't tarnish, corrode or oxidize. Harder, wear better. Resist "welding" or "sticking". Extra tie point mounts. Highly sensitive . . . crash resistant construction. **Still \$4.95**

JAICO Products At Your Dealer

RELAYS

1921 W. HUBBARD
CHICAGO 22, ILL.

"IT'S VO SERIES BATTERIES For HOBBYISTS and PROS"

The CG VO nickel-cadmium batteries are the latest addition to CG's extensive line of electronic and electrical products for the hobbyist. Rechargeable; Hermetically Sealed; Long Life; Rugged; Indefinite Storage.



Properly Handled and Recharged These Cells Will Last Indefinitely.

CG Electronics CORPORATION

15000 Central, SE, Albuquerque, N. M.



Thimble-Drome

World's Foremost Name in Model Engines

announces a new

CHAMPION FOR

1/2 A

Even finer, lighter, tougher than previous T-D Champions!

OUTSTANDING DESIGN AND PERFORMANCE FEATURES

- Less Weight — only 1.3 oz.
- Improved Main Bearings
- Superfine Crankshaft Finish
- Better Intake Valving
- Triple Periphery Carburetor Jet System
- Rear Needle Valve Location
- 360° Needle Valve Positioning
- Micro-Lock Needle Valve Adjustment
- Beam Mounts with Firewall Adapters
- New Super TEM-TROL Pistons, for longer life and minimum blow-by



Space Hopper .049

Reflecting the benefits of several years production of the leaders in 1/2 A contest work, Space Bug and Thermal Hopper

LIGHT WEIGHT

698

A superb new 1/2 A contest engine, ready for the Nationals, regional contests, and a full season of peak engine performance

Send for folder M5. "How to Get the Best Performance from Your Engine." Information valuable.



L. M. COX MANUFACTURING CO., INC. SANTA ANA, CALIF.

MODEL AIRPLANE NEWS • May, 1959

ACE

With easy to shape and finish Balsa wood Ace kit parts you can turn out a collection of models as beautifully detailed and professional as your skill permits. Ideal, too, for novice experience. Either way, you'll be proud you built them!

17 Ace Models



PICK-UP 60c



T' ROD 60c



JALOPY 60c



HOT ROD \$1.00

If no local dealer is convenient, send check or M.O. include 10c per kit for packing and mailing. No C.O.D. please.

ACE PRODUCTS 60 N. San Gabriel Blvd
Pasadena 8, Calif.

brace in place to assure a tight fit. (Do not cement braces.)

The top wing center section is 1/16" sheet covered on the top surface only and silk covered on bottom. The bottom wing roots are 1/16" sheet covered on the top and bottom. Wings and roots are then silk covered.

Rudder and Fin: Entire construction is of 1/8" sheet; the ribs are 1/16"x1/8". Mark off where the rigging wires go through fin and insert small dia. aluminum tubing and sand flush. Make two aluminum hinges, insert where shown; cut a slot in fuselage block to accept lower hinge. Cover with silk.

Stabilizer: The stabilizer is built in two halves which makes transportation and repair easy. The movable elevators may be omitted; however, their flexibility makes final flying adjustment easier. Before covering make sure the 1/8" dowels align properly with the 1/8" aluminum tubes in fuselage.

Assembly: Perhaps the one most important assembly on this model is the proper angular setup of the top wing. The lower wing and stabilizer are automatically aligned by the slots and tubes. This is the method I use and find it quite accurate.

Carefully trace off on the plan sheet the area between the bottom of the top wing and the top of the fuselage. Cut a template out of 1/8" sheet of this area and pin to top of fuselage. Slit the silk covering of the center section along the spars to accept the wire struts and slip down until flush with your template. When parts seem to fit well, mark off the wire where the rigging hooks go, then remove center section and solder hooks to wire struts.

Run a ribbon of cement up into slits and replace onto struts. Check alignment

carefully and allow to dry thoroughly. Force a strip of hard 1/16x1/4" up into slots and cement in solidly, then sand flush. Add the 3/32x1/4" strips to wire and wrap with silk to complete the center strut assembly. Cement bottom wing roots to fuselage sides. Cement rudder in place. Make shutters and paint them with aluminum dope. They are built to allow the air to flow between them.

The wheels can be built satisfactorily without the use of a lathe, and they are very strong. The model bounced very hard on the gravel filled runway at Glenview N.A.S. and the only damage was pieces of gravel pocking the balsa tires which was easily filled and repainted black. Not a bad price to pay for scale wheels. Build up the remaining details such as gun mount, machine guns, sight etc.

Finishing: The entire model was given four thin coats of clear dope and two of color. Add the trim and markings. My SE-5A bears the markings of No. 85 SQDN. RFC. Additional SE-5A SQDN. markings were published in June 1947 M.A.N. Paint, then cement machine guns and other details in place.

Rigging: Slip wings and stabilizer into place. The 1/8" ply dihedral braces are not cemented but can be completely removed. On one flight, the model hit the ground so hard that two of the braces actually sheared clean; it was a simple matter to slip in new ones and resume flying.

The landing wires are added first. They are rigid and secure the dihedral angle. Loop the ends of the wires to engage hooks; do not solder looped ends so they can give on impact. Rig with the interplane struts in place. Your top wing will automatically assume the proper angle. All the flying
(Continued on page 58)

WYLAM PLANS

EIGHT 14x20 IN. PLATES TO EACH SET!

For the first time in sets—YOU asked for them! Now available!

- | | | | |
|--|---|--|---|
| <p>Set #
W-1</p> <ul style="list-style-type: none"> SOPWITH CAMEL
Famed WW I English pursuit WRIGHT MODEL A
A true pioneer—a gem! WRIGHT MODEL B
Another collector's item SE-5A
WW I pursuit—a favorite | <p>Set #
W-2</p> <ul style="list-style-type: none"> SPAD S-XIII C-1
Renowned WW I French pursuit CURTISS MODEL A
A competitor of the Wrights SPAD S-VII
Great French WW I pursuit WRIGHT FLIER
Man's first flyable plane | <p>Set #
W-3</p> <ul style="list-style-type: none"> CURTISS P-1 HAWKS
Glamorous Army fighters F11C-2 GOSHAWK
Navy carrier fighter P-6E HAWK
Greatest of all the Hawks! | <p>Set #
W-4</p> <ul style="list-style-type: none"> REPUBLIC P-47D
The wonderful Thunderbolt SPITFIRE 2
Battle of Britain hero MESSERSCHMITT Me-109J
WW-2 German fighter CURTISS P-40D
American WW-2 Warbird |
|--|---|--|---|

For over 20 years, William Wylam has been an acknowledged master of the detailed drawings of historically famous airplanes. MAN is happy to comply with the many requests for Wylam plans by making available this selection

MODEL AIRPLANE NEWS
551 Fifth Ave., New York 17

Just off the press! two new Wylam sets



- Set #
W-5
- GRUMMAN F6F-3
Navy's shipboard fighter
 - DOUGLAS C-54
Air Force transport
 - DOUGLAS A-26
Invader—now B-26
 - BOEING B-17
The Flying Fortress
 - CONSOLIDATED B-24
Liberator—a heavy!
 - CURTISS A-25
Navy divebomber
 - CONSOLIDATED PBV
That Catalina!
- Set #
W-6
- NORTHROP P-61
Black Widow!
 - BOEING B-29
Famed Superfortress
 - BOEING C-97
Military transport
 - MARTIN B-26
Medium bomber

EACH SET . . . \$1.00 ALL SIX . . . \$5.00

Enclosed is _____ for plan sets numbered in boxes below
Please print your number **DISTINCTLY** in box for each plan you desire.

PLAN SET #	PLAN SET #	PLAN SET #	PLAN SET #	PLAN SET #	PLAN SET #
------------	------------	------------	------------	------------	------------

NO STAMPS PLEASE

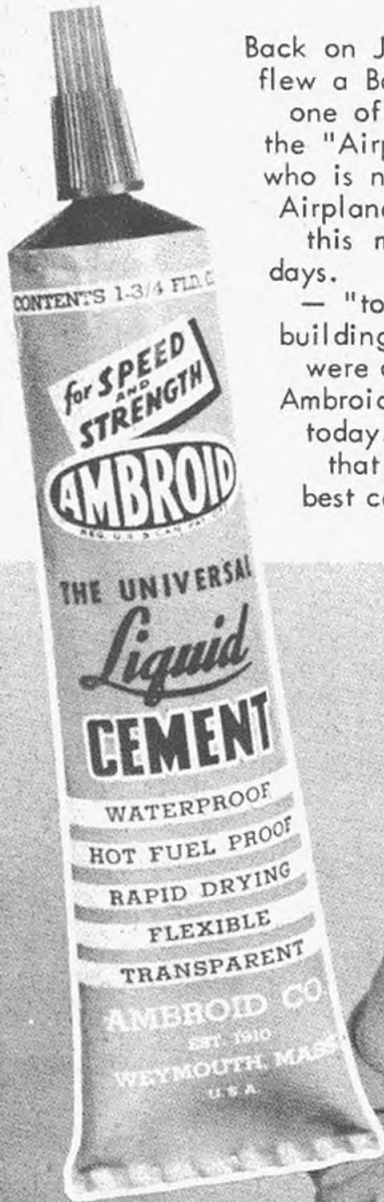
NAME _____ PLEASE PRINT

ADDRESS _____

CITY _____ ZONE _____ STATE _____

AMBROID & SCIENTIFIC - TERRIFIC!!

Back on June 6th, 1928, John D. Frisoli successfully flew a Baby R.O.G. model for 132 seconds, to gain one of the coveted Honor Certificates awarded by the "Airplane Model League of America". John — who is now President of the famous Scientific Model Airplane Company — used Ambroid cement to build this model, back in the old "Spruce 'an Bamboo" days. "It was difficult 30 years ago" — says John — "to secure satisfactory materials for model plane building. Balsa was scarce and covering materials were often poor, but at least we had the same fine Ambroid cement which is available at hobby dealers today. For building Scientific Models, we suggest that model builders always ask for Ambroid, the best cement that money has ever been able to buy!"



Scientific's John Frisoli and three new 'Ambroid-built' prototypes — Cessna 172 (top), Thunderbird (left) and Piper Cub Rescue Plane (right)



- | | |
|--------------------------|-----------------------------|
| "REGULAR" AMBROID | "EXTRA-FAST" AMBROID |
| 1-3/4 Oz. Tube . . . 30¢ | (Model Airplane Cement) |
| 4 Ounce Tube . . . 60¢ | 20 cc. Tube 15¢ |
| 1 Pint Can . . . \$1.75 | "SYNTH-WOOD" (Ideal |
| AMBROID SOLVENT | as a filler & for fairings) |
| 1 Pint Can . . . \$1.35 | 4 Ounce Can 40¢ |

In Every Field There's A Leader — In Cement It's



AMBROID CO. • BOX 30 • WEYMOUTH 88 • MASSACHUSETTS

New!

FOUR NEW EDITIONS FOR YOUR AIR AGE TECHNICAL LIBRARY

Completely new, another set of four manuals—covers the "great" fighters of World War 2. Be up to date on the very popular warplane designs of the second world war. Plans, pictures, and data a collector's item.



P-51 MUSTANG

Fastest of all fighters of the period, this magnificent plane fought the world over



P-38 LIGHTNING

Famed twin-tailed, long-range, two-engine fighter was most unique



P-47 THUNDERBOLT

Powerful slugger, the P-47 earned name "the Jug." Rugged, powerful.



F4U CORSAIR

What the P-47 was to the Army Air Force, the Corsair was to the Navy and Marines.

AIR AGE INC. 551 Fifth Ave., New York 17, N. Y.

Herewith \$..... for the following booklets in your TECH MANUAL Series at 50¢ each, or enclosed \$2.00 for all four

.....copies P-51 Mustangcopies P-47 Thunderbolt
copies P-38 Lightningcopies F-4U Corsair

Name.....

Address.....

City.....State.....

wires are rubber band loaded. These rubber bands also keep the struts from slipping out of the retainers. Add all remaining wires as shown on plan.

Flying: With model completely assembled and with the prop on engine make certain the model balances where shown. Add weight to nose or tail end as needed.

With the set-up shown, my model swings a 10-3/8 propeller and weighs in at 30 oz. ROG's are long and satisfying, taking about 10 feet to raise the tail and about 30 feet to lift gently off the ground into a shallow left climb. Glide is straight. The model flies best in calm conditions. If a lot of windy weather flying is expected, try a .15 but be careful of overpower.

Adjust for a smooth glide. Slight compensations can be made with elevators. Once a good glide is obtained make all your power adjustments with engine offsets alone. If the model seems to drag her tail as if under powered, keep adding turn a little at a time until corrected.

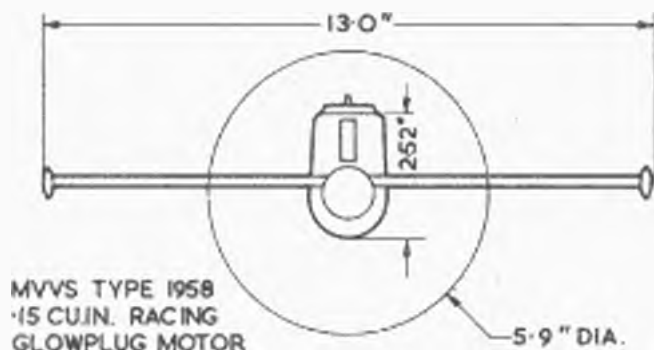
If at all possible, make your power flights from a take-off position. Proper tracking and any unstable tendencies can be spotted before she gets away. Caution and patience should prevail, think before each flight, and do not try to adjust your model when it's windy.

Pop It!

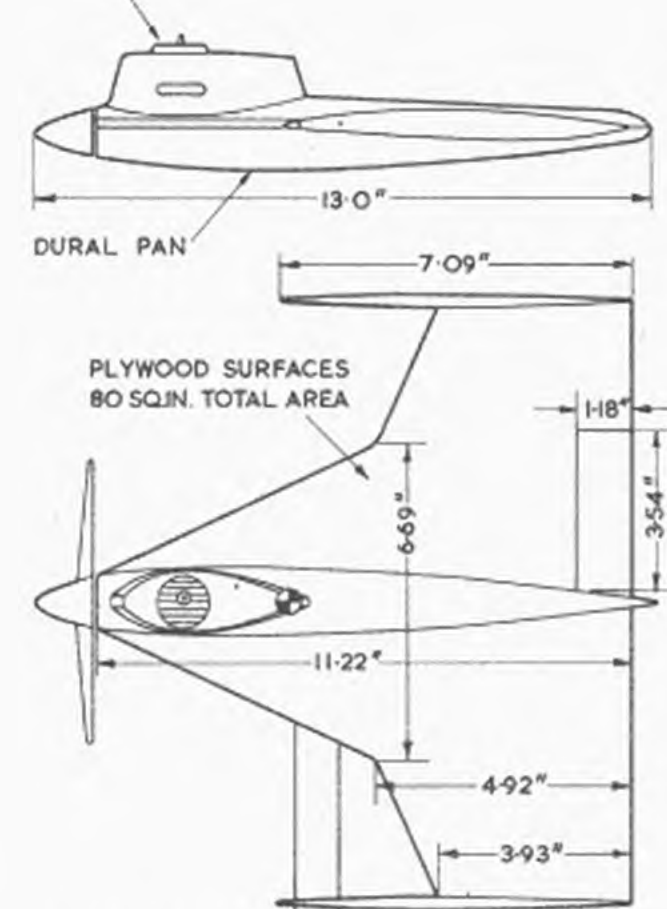
(Continued from page 14)

in rainy weather is another. A celluloid shield over the fuse is helpful under such conditions. Don't think it odd to use a de-thermalizer when it is raining, as there still may be thermals present.

Another cause of failure is using too large a rubber band, requiring it to be wrapped many times around the hooks, and snuffing out the fuse before it severs the rubber band completely. Hooks too closely spaced will require any rubber



MVVS TYPE 1958 1/5 CU.IN. RACING GLOWPLUG MOTOR



F.A.I. (WORLD CHAMPIONSHIP CLASS) SPEED MODEL
 BY: JARDA KOČI - CZECHOSLOVAKIA
 3RD PLACE, 1958 CRITERIUM D'EUROPE 120-864 MPH

SEVEN TECH MANUALS WITH PLANS, PHOTOS, DATA, FAMED PLANES.



TECH MANUALS 50¢ each.

B-25 MITCHELL

Best medium bomber WW 2, the ship used by Doolittle on Toyko raid from carrier.

B-24 LIBERATOR

Companion in arms to the B-17, the Liberator "heavy bomber" noted for range.

B-17 FLYING FORTRESS

The most famous of all the World War 2 warplanes, B-17 "heavy" was tough ship.

CURTISS P-40

From beginning to end, P-40's prominent in all theatres excepting the European.

F-86 SABRE

What the Mustang was to WW 2, the Sabre was to Korean war. Classy jet fighter.

F-94 STARFIRE

All-weather jet with tremendous rocket fire-power, seeks out intruder by radar.

B-47 STRATOJET

More of these six-jet bombers in Strategic Air Command than any other machine.

AIR AGE INC.
 551 Fifth Ave., New York 17, N. Y.

Herewith \$..... for the following booklets in your TECH MANUALS at 50¢ each.

.....copies B25copies F86
copies B24copies F94
copies B17copies B47
copies P40

Enclosed \$3.50 for all seven copies.

Name.....

Address.....

City.....State.....

band, large or small, to be wrapped around many times.

Note that we show a limit wire instead of a limit string. When using a string, there is always the danger of it becoming tangled in the fuse and getting burnt. Some modelers prefer to use braided Control-line lead-out wire. We prefer to use solid wire of about .012-.015 diameter because it helps in pushing the tail up. Very helpful if the keys are a bit too tight fitting. You must use a small rubber band to hold the lower end of the wire on the lower hook. The other end is placed on the upper hook before the stabilizer hold down rubber is pulled down over it.

Don't forget to use a snuffer tube on your dethermalizer installation. A smoldering fuse falling on dry grass or leaves is very dangerous. In fact, fuse-operated dethermalizers are outlawed in some parts of the country. When the fuse burns down to the tube, it is snuffed out due to lack of oxygen. Select a piece of thin wall aluminum tubing with the inside diameter to match the outside diameter of the fuse. Build it in as part of the fuselage, or if the plane has already been built, the tube can be cemented under the stabilizer platform against the fuselage.

Some modelers don't like the idea of pulling down the stabilizer hold down rubber band back around the rudder. They are afraid that the sometimes delicate rudder adjustment may accidentally be bumped. To avoid this they use a forward hook, even on the rudder-mounted-on-stabilizer arrangement. (Fig. 2) Sometimes a wooden peg is used in place of a wire hook. Some modelers have carried this set-up a step further and let the peg extend through the stabilizer and into the stabilizer platform. The peg is used now as a key to help maintain a perfect rudder alignment. By slotting the stabilizer platform the key acts as a pop-up stopper and eliminates the use of a limit wire. See Fig. 3. On this arrangement be sure the peg or key is firmly cemented in the stabilizer. Preferably mounted between two center ribs and always against the leading edge. The platform must be reinforced at the rear of the slot or in time it will wear and tear out.

Fig. 4 shows the arrangement used on ships with an inverted rudder. Since the trend at the present in free-flight gas seems to favor the hi-thrust model, this arrangement will be helpful because almost everyone of these hi-thrust designs features an inverted rudder. We show a forward hook for the stabilizer-hold-down rubber band although some modelers prefer to anchor the rear hook solidly and pull the hold down rubber band back to it. A limit wire

SEND ONLY \$2.95

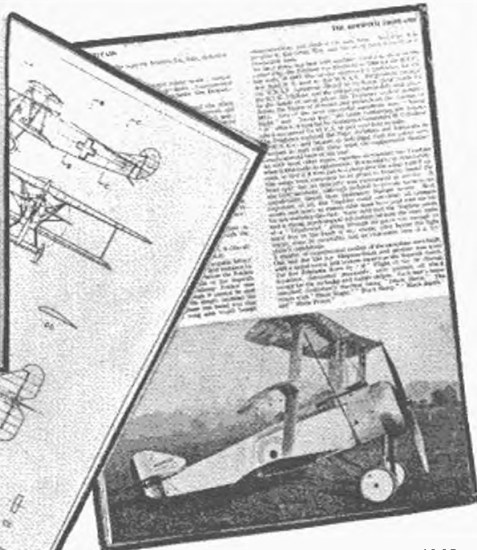
FOR THIS \$11.95 BOOK

(remaining \$9.00 to be paid \$3.00 per month)



"AIRCRAFT OF THE 1914-18 WAR"

by Thetford - Riding - Russell



ONLY BOOK
THAT COVERS
ALL PLANES FLOWN
IN WORLD WAR ONE

DELUXE BOUND

CONTENTS

Only book that contains not only all the Aircraft flown in World War One, but also hundreds of photos and drawings of rare and experimental type so hard to find. Book is cloth bound, 234 large 11 x 8 3/4" pages, 80 full page 1/72" scale plans shown of planes from USA, England, France, Germany, Italy, etc. Full page photos of Squadron line ups, plus half page and third page photos of each plane, in all over 200 photos. Full Dimensions, Weight, Armament, Performance, Power Plant, and constructional details are given for each plane, plus its Operational History. This book is of great interest to any who have flown these old planes, to any who are interested in the building of true scale Museum type models, and to those who simply like to see top notch photos and write ups about these, now rare, aircraft. This book is a collector's item. Book weighs almost 2 pounds. It is sold on a money back guarantee, after you have paid for the book in full, if not satisfied with it we will grant a full money back refund within 10 days after you have received it.

SAMPLE PAGES and Circular about the book above25c

CHECK OFF THE FORM BELOW and PRINT your name and address in column this ad add 25c postage per book.

Please send me the 14-18 book above, I enclose full \$11.95

I please place me on order for the 14-18 book above, I enclose only \$2.95.....
I agree to pay the remaining \$9.00 in three monthly payments of \$3.00 each

Also available "PLANSBOOK" contains over 1000 different plans, including hundreds of 14-18 Aircraft "PLANSBOOK" comes with \$1.00 Credit Voucher which can be used on future purchases..... "PLANSBOOK" \$1.00

"AEROMODELLER" magazine contains scale plans. Year sub. \$4.50. Sample 25c

Gull Model Airplane Co. 10 E. Overlea Ave., Dept. M2 Baltimore 6, Md.

NEW JETCO "THREE-IN-ONE SUPERSCALE" FLYING SCALE MODEL

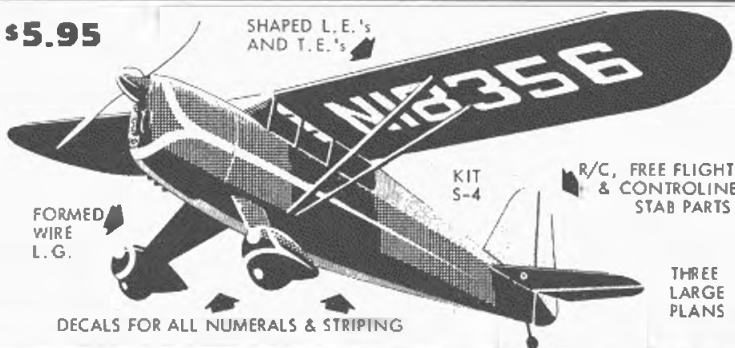
REARWIN SPEEDSTER • \$5.95

Radio Control, Free Flight & Control Line Scale

FOR .049 - .19 ENGINES SPAN 38" LENGTH 26-3/4"
Designed by WALT MOONEY Kit developed by BILL DEAN

Rearwin's famous tandem two-seat SPEEDSTER of 1935 flies again in this beautifully detailed "Superscale" replica! Walt Mooney's original magazine design was for free flight only, but this new "Three-In-One" kit by Jetco features plans for R/C, F/F and Control-line versions. Top grade balsa, plywood, hardware, decals and other materials are provided - while exclusive "Superspeed" construction (242 die-cut parts!) reduces building time by 25%

SEE THESE OTHER FINE JETCO "SUPERSCALE" KITS AT YOUR LOCAL DEALER TODAY:
FAIRCCHILD PT-19 - \$24.95 • MUSTANG F-51H - \$9.95 • MOONEY MITE - \$8.95



C. A. ZAIC CO. INC., 883 LEXINGTON AVENUE, BROOKLYN 21, N.Y.



Complete Listing

**MODEL AIRPLANE NEWS
FULL SIZE PLAN SERVICE**

The editor's selection of all time favorites, including completely new combinations of the greatest designs. All types!

PLAN SETS 50c p.p.

PLAN OF THE MONTH

58.

SE-5: FF, .09-.15
PIED PIPER: Rat Race, UC.
½ WAVE: RC, .049
SE-5 most beautiful flying scale model ever published. ½ Wave, popular re-run.

4.

SURE FUN: UC Sport, .29-.35
PROFILE SILVAIRE: FF Profile, ½A.
ZEPHYR: Rubber, Fuselage
Control line on floats. Sport Gassie.

6.

HIGGINS CABIN CRUISER:
RC Boat, .09-.19.

7.

FOKKER D7: Scale, U/C, .29-.51.
The great all-time favorite?
Try the Fokker D-7.
WORLD CHAMP GL.: Nordic Winner.
HI BOY: Cabin Stunt, Palmer.
Goyet, .29-.35
POW WOW: Bob Palmer stunt, .29-.35
Collector's item—two Palmer models!

9.

AEROCOM'DER: Scale, U/C, 2 .15
MARS: Bob Palmer stunt, .29-.35.
NOBLER: Aldrich's Nats Winner,
Stunt, .29-.35. Palmer and Aldrich,
plus a twin ukie. Imagine!

10.

SMOG HOG: Bonner's Multi RC, .19-.35
STRATOLINER: 2 Half A, U/C.
GUARDIAN: U/C Scale, .29 up.
Greatest Multi RC of all time—a beauty!

11.

GAMBLER: Mirror Stunt Winner, .29-.35.
DOUGLAS B-66: ducted fan FF, .049
B-66, the ducted fan job that
beats all others.

12.

WHIRLING WINGS: Sikorsky XH-5,
.15, 'copter.
BREEZY: Small field RC, .049.
SPITFIRE: Stunt, semi-scale, .29-.35
P. Schoenky, 'copter master—his Sikorsky!

13.

T-CRAFT: FF scale, .049.
FENO: Combat, stunt, .29-.35
PADDY'S WAGON: Contest FF, .049.
Paddy's Wagon—one contest
job ok for beginner.

14.

HEATH PARASOL: RC, FF, Scale,
.075-.09.
GUARDIAN: Nats carrier winner, .29's.
SHARPIE: FF Sport, .02-.049.
—Guardian a dilly.

15.

RE-8: WW1, U/C, .29-.35.
FLAPPING WINGS: Rubber,
ornithopter.
BOOMER: FF, sport, pusher, .049.
Can planes fly like birds?
Ornithopter sure does.

18.

PAACKHORSE: PAA Load FF, .15.
AIRNOCKER: Scale, FF, .049.
What model hit the jackpot?
Airknocker—the Champ.

22.

MOONEY MITE: ½A Scale FF.
'55 RAMBLER: .29 Team Racer.
WACO CABIN: ½A FF Scale
The Mite, stable, real looking low winger
Rambler still beats 'em. Waco—Cute!

40.

MUSTANG: U/C Scale, .29.
BI-GONE: Sport, FF, ½A.
GLIDERS FIVE: HL Sheet.
Mustang, Jim McCraskey's Nats
winner. Bi-Gone, nifty biplane

43.

EQUALIZER: .15 to .19 multi, RC.
QUICKIE-TRAINER: Speed, .29.
AMAZOOM: FF, contest, .15.
deBolt's best, the Equalizer?
Amazoom—Stan Hill's hi-thrust.
CONVAIR'S DELTA: Jetex FF.
LIL DYNAMITE: .15 stunt, UC.
SWAT: ½A, FF, contest.
A trio of exceptional planes.

44.

PROJET B-47D: U/C, .15's.
RUFFY: Stunt, .29-.35.
NOR'EASTER: Nordic glider.
B-47D, beaut of a project
Ruffy: big winner—it's new!

46.

FOKKER E-3: 1/2A, FF, Scale.
NAVY RACER: Rubber, semi-scale.
WOODY: .29-.35, UC Combat Hot!
E-3, beautiful model, fine flier.

47.

SPORTCOUPE: .09, U/C, Stunt.
WHATIZIT: .35, Combat, Wooten.
SWIF-F-FT: Jetex, two sizes!
Whatizit, seMlas fuse-wing debate!

48.

49.

CONQUISTADOR: .29-.35, U/C
Stunt.
TWO STAGE ROCKET: Jetex (2).
Stunter is a thing of beauty, and
it flies as well as it looks!

50.

DUMBO: PBY Scale, U/C, .19's.
FRENCH OLDTIMER: 1914, ½A, FF.
Dumbo, the Catalina, man-sized
ukie, takes off, lands on water
or ground.

51.

AMERICANO: .15 FF, by Blanchard
BOMARC: Scale, Jetex, missile.
CUTLASS: Sport U/C, .049's.
Scorpion power makes Bomarc ter-
rific flier. Americana is National
Champ's very latest.

52.

GAUCHO: RC Stunt, .29-.35.
THE CHAMP: Best U.S. Wakefield.
LAIRD SOLUTION: U/C Scale, .15-.23.
Gaucho, Argentine Champ, does pattern
inverted. Champ, a single Wakefield!

53.

SNAP: Sport U/C, .19-.23.
PELICAN: PAA Cargo, .049.
WINDMILL: FF, 'giro, .02-.049.
For proto take-off and landing
realistic Snap tops 'em all. Other
two, collector's items.

54.

SATELLITE: Hunter's FF, .19-.35.
SUPERMARINE S-6B: U/C Scale,
.09-.15. Satellite is top contest free
flight '58-'59. Schneider racer, S-
6B seaplane is one of FAST club's
best projects.

55.

DETROIT STUNTER: U/C, .29-.35.
HORNET MOTH: FF, Scale, .02-.049.
THE BARDON: Wakefield.
D'troit St.: McDonald's Strathmoor,
Nats favorite. Bardon: Canadian
and US Nats winner, tops in rubber.

56.

RYAN PT-22: U/C, .19-.25.
SNIPE: Gurnett's Nordic.
Lovely scale job, that PT, with
workable flaps, throttle.
Tow-line glider long, strong
wing, right sections, etc.

57.

Twin Lizzie: 1/2A FF.
Com-Bat: U/C, .29-.35.
Fireboat: Marine, RC.
T-Liz, a cute sport job.
The boat, Musciano, a beaut.

PLAN SETS 50c p.p. NO STAMPS PLEASE

MODEL AIRPLANE NEWS • 551 FIFTH AVENUE, NEW YORK 17, N. Y.

Enclosed is for plan sets numbered in boxes below

PLAN SET =	PLAN SET =	PLAN SET =	PLAN SET =	PLAN SET =	PLAN SET =
---------------	---------------	---------------	---------------	---------------	---------------

Please print your number **DISTINCTLY** in box for each plan you desire.

PLAN SET =	PLAN SET =	PLAN SET =	PLAN SET =	PLAN SET =	PLAN SET =
---------------	---------------	---------------	---------------	---------------	---------------

List additional plan orders on separate sheet.

NAME PLEASE PRINT

ADDRESS

Limited Supply of Plans Listed Below.
Order Early! Check Correct Number on Coupon.

- Gimlet RC, Royano FF.
- Humdinger, Old Faithful, Cessna 180
- Aero Bat, Snoopy, Seagull
- Corsair, Gyro-Glider, Santanita
- Cougar, '55 Nordic Winner, Dizzy Boy
- Great Lakes Trainer, Triple Threat RC
- Mig-15, Finella, Coquette
- Skyraider, Dunwoody's Nordic, Flexi-Bull-It
- Corben Super Ace, Cessna 310, Profile
Lightning
- SE-5 (RC), Curtiss Robin FF, Nobody (Com.)

also must be used with this type of installation. Be sure that the rudder is reinforced properly on this type of model as it is the first part of the airplane to make contact with the ground.

In Fig. 5 we have shown two arrangements which also eliminate the limit wire. The first is used when the rudder is mounted in the fuselage forward of the stabilizer. Use the same type of hook arrangement as you would on the inverted rudder assembly. The other arrangement is usually used on rubber models which have large rudders. Both types work equally well.

Fuses are almost always treated to insure that they have an even burning rate and don't snuff out in flight. The only type of untreated fuse we know of is sold by Sig Mfg. Co., Montezuma, Iowa. It is graduated, ready to use and reliable. The other types of fuses used are purchased at any 5¢ & 10¢ store. Plain old cotton clothes line or venetian blind cord! There are two kinds of indoor clothes line that can also be used. One is braided with a solid cotton center and the other is a twisted cotton cord. The latter unravels slightly when cut, so care must be taken if you use it. It is the cheapest of all and is therefore widely used. Soak the fuse material in a potassium nitrate solution and then allow to dry thoroughly before using. You can buy potassium nitrate at the drug store. Use one part to three parts of warm water. This will dissolve it quickly. The small rubber band we use to hold the rear of the stabilizer down is a No. 8 rubber band. You can buy these at any art or business supply store. A quarter pound box costs about a dollar and is practically a lifetime supply.

Within the last year or so a clockwork



► 1959 Nationals: Will be held at Naval Air Station, Los Alamitos (Long Beach), Calif., July 27 through August 2.

► State Championship Fund: Hobby Industry Association has underwritten the cost of sending 50 state champions to the National Contest. An eliminations system will be established by the time you read this.

► 1959 Mirror Meet: Seventeenth Annual Mirror Flying Fair, to be held at Floyd Bennett Naval Air Station, Brooklyn, N.Y., on August 29.

timer has been introduced for dethermalizer use. It is the Tatone D. T. Tick-off timer. It is light (½ ounce) and very dependable. Fig. 6 shows the type of installation recommended by the manufacturer which is simple and foolproof. The action is self explanatory. Be sure the aluminum tube at the rear is curved. No sharp bends here! The rubber band we use is a No. 8 band doubled. The arrangement shown is that used on planes that are already built. A new plane could be built to have the cord running inside the fuselage from the aluminum stop to the rear. We do recommend that the cord be protected in some manner. We use a hardwood angle strip of the type used for building structures on model railroad layouts. Ask your dealer.

This article wouldn't be complete without a few words on the proper operation of the dethermalizer. For sport flying we usually guess at the length of the fuse needed to keep the plane around. But at a meet you must know exactly how long the fuse will burn. It may mean the difference between winning or losing. Before flying, cut a length of fuse and time its burning rate. Twirl the fuse around to simulate it moving thru the air as it would on a plane. After timing, cut your supply of fuses for the whole day. Cut a couple of extra for delayed or unofficial flights. We say cut them before you fly to keep down the number of times you must handle them with oily fingers. Carry a pencil in your tool box so you can graduate the fuses at intervals of a minute or 30 seconds. Of course, if you use a timer you don't have to bother with all this because you would have previously marked the timer at home as per the manufacturer's instructions. The timer is very accurate because it doesn't vary with different climatic conditions as does the burning rate of a fuse.

The subject of dethermalizers is very confusing to the beginner and we hope that we have, through this article, helped those readers who have requested such information and that this article may be of value to them. If there are any further questions, the author will be glad to answer them if you write to him in care of this magazine.

FLASH! Another proof of Zero outstanding superiority. At a TRIPLE A Southwest Regional Meet, Phoenix, Ariz., Toshi Matsuda and a ZERO took FIRST PLACE in CLASS A. If you want RESULTS in Free Flight, your plane is

Toshi Matsuda's **ZERO**



The hottest thing in 1/2A! It climbs higher, faster... stays up longer. Designed to use ALL the power of the best .049s! For an unsurpassed thrill, hang your engine on a ZERO. See for yourself the super performance that has already won a performance of Firsts! At a recent contest the "anyone can get 5 minutes" models were doing 3 to 3½ minutes. Toshi dethermalized his ZERO three times straight at over SEVEN MINUTES. Does that tell the story?

WARNING! Watch the engine-run—or you may put your ZERO in orbit!

A-1 NORDIC GLIDER



THE GHOST Kit \$2.95

Only A-1 Class Nordic Glider on the market! Adapted from latest, hottest German designs. With Auto Rudder and Pop-Up Dethermalizer, this model, properly trimmed, tows flat—no fall-off either side—to position straight overhead on 164 ft. line!

FREE FLIGHT DELTA



for .049 Just \$2.50

It doesn't take a hot shot to build and fly this Delta, although a lot of hot shots are flying them in order to be putting something different in the air. If you too are curious about a Delta, here's dependable performance and true Delta characteristics in a job that has been thoroughly proven before being announced.



MISS TINY \$5.95

Exceptional wind penetration and stability!

A good flying R/C Model doesn't have to be an ugly box! Miss Tiny is world-famous for her beauty and flying qualities. Uses hot .049 to .099 engines, depending on weight of R/C gear. Wing Span 46". Finished cowl and die-cut parts.

Ask your dealer, or send M.O. and we'll ship prepaid. (Mr. Dealer: If your jobber won't supply you, send M.O. for prepaid shipment, regular discounts.)

MODEL CRAFT

6945 SOUTH WESTERN AVENUE
LOS ANGELES 47, CALIFORNIA

"Great job! R/C modellers have been in need of a publication like this."

Howard McEntee

"In my opinion this book is a must for all R/C modellers, particularly the beginners."

John Brodbeck, K & B Allyn Co.

"We shall certainly keep this book on file in our engineering department for our constant reference when designing any type of model for radio installation."

Ed Manulkin, Sterling Models

"A must for the R/C modeller who wants a complete source for all available R/C equipment."

Dick Branstner, Bramco Inc.

"I consider this a worthwhile addition to any R/C library."

Harold DeBolt, DeBolt Model Eng. Co.



EQUIPMENT GUIDE \$1.00, refunded with your first order of \$5.00 or more. We have the most complete selection of R/C equipment available—Money back guarantee on all sales. Send cash or M.O. No C.O.D.'s—Prepaid shipment on all orders over \$5.00 in the U.S. Overseas orders add 10% for shipping.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

WORLDWIDE RADIO CONTROL
10261 TROY • DEPT M-5 • OAK PARK 31, MICHIGAN

BEGINNERS! EXPERTS! SPECIALISTS!

THERE'S

Something for Everybody

FOR BEGINNERS!

FLIGHT TRAINER

Kit S-16, Wing Span 24". For .09—.015 Engines
Designed especially for beginners in control-line flying! As completely prefabbed as a kit can get . . . a beginner can put it together in less than two hours! All wood, rugged enough to take plenty of punishment, extremely stable.

Completely carved wings and body, die-cut tail surfaces, finished landing gear including wheels, plywood parts for control system, etc.



\$295

FOR RADIO CONTROL EXPERTS!

PIPER CUB J-3

Kit FS-6, Wing Span 54" For .09—.35 Engines

Especially designed for radio control, also turns in remarkable performance as free flight or control line model! Parts are beautifully die-cut and shaped, internotched for fast, accurate construction. Easy to fly . . . complete flight instructions included!

Fully prefabbed of balsa and plywood, with carved lower nose cowling, formed aluminum front cowling, authentic insignia, etc.



\$795

All-American
HOBBY ACCESSORIES
by
AUSTIN-CRAFT



No. 227

4 WAY WRENCH

Designed for easy handling — protects plugs, porcelain and cylinder fins.

75¢



No. 545

A C GLUE GUN

Gives perfect control of glue and cement; anything that will flow through tip!

95¢

MADE IN AMERICA FROM AMERICAN MATERIALS
Write for FREE A/C Catalog

AUSTIN-CRAFT CO.

431 S. VICTORY Dep't. M, BURBANK, CALIF.

Radio Control News

(Continued from page 21)

would be excellent. On the other hand if it requires an extra stage of IF plus space and weight, we see no real advantage in it. The Citizen-ship superhet circuit is designed with an RF stage to provide good image response and uses RCA drift transistors in the RF, oscillator and first detector stages. We have heard of some work being done in attempting to consolidate the oscillator and 1st detector stage in order to use but one transistor. So far this has been only an attempt and we doubt if the extra cost of a transistor justifies this design. The 8-channel equipment uses the same basic superhet front end and varies only in the value of two resistors in the IF stages, in order to make it work on 15 instead of 9 volts. Higher voltage was needed to drive reliably the reed bank and auxiliary relays. Any extra weight is partially compensated for by reduced battery needs.

Citizen-ship has done the "miniature" modeler a favor by building the 3VTR receiver. A relay was used in this model so that a variety of actuators could be used, types that would use the NC contact of the relay. However, the relay may be taken out and the receiver is perfectly capable of driving an escapement directly. Currents as high as 400ma can be drawn through the transistors. This means that the receiver, escapement and batteries could be held down as low as 2.5 ounces. Regarding the transmitter frequencies supplied (27.045 and 27.145mc), this was done so there would be a maximum separation between all frequencies used, Babcock supplying transmitters on 26.995mc.

All of the superhets we have heard about are using an IF frequency of 455kc. As such, quite a few miniature and sub-miniature IF "cans" can be purchased without resorting to specials or home-made units. Most of these measure 3/4" square and some in the works, from various manufacturers, are 5/16" square. For a complete description of a superhet circuit we suggest you obtain books from your local library or get a copy of the Radio Amateur Handbook. Basically, the incoming frequency is beat against a local oscillator frequency to obtain the difference of 455kc, which is then amplified. Also, all sets we have run across so far have had the local oscillator operating on the low side of the incoming frequency. This gets us away from possible trouble and interference on the other side of the high end of the band, 27.255mc. Receivers can generally be made broad tuning to the point of changing frequency merely by changing crystals. Slight retuning might be necessary in going from 26.995 to 27.255mc. Local oscillator crystal frequency is merely the signal frequency minus 455 kc. For example, on 26.995mc you would use a receiver crystal of 26.540mc and, on 27.255mc, you would use a receiver crystal of 26.800mc, assuming an IF of 455 kc. The ball is rolling as far as superhets are concerned and eventually everyone will be using them. On the other hand you do not have to give up getting non-superhet equipment or using it, if you have no interference problems and if the flying line isn't too long. Incidentally, the Kraft receiver presented in the March issue of MAN is unusually selective and two units have been operated within our present allotted frequencies with no trouble.

IN THESE NEW

MODEL KITS By

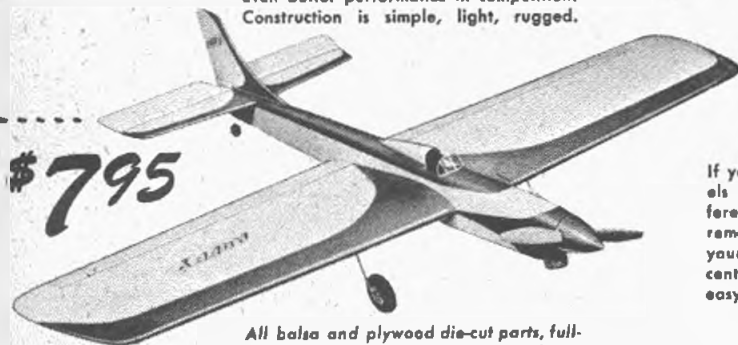
Sterling MODELS
Belfield Ave. & Wister St. Phila. 44, Pa.

FOR STUNT SPECIALISTS!

Kit 5-15, Wing Span 50"
For .29 and .35 Engines

Sensational contest-type full-stunt model . . . has been winning contests repeatedly all over the country! Designed by Lt. Lew McFarland . . . now improved for even better performance in competition! Construction is simple, light, rugged.

RUFFY

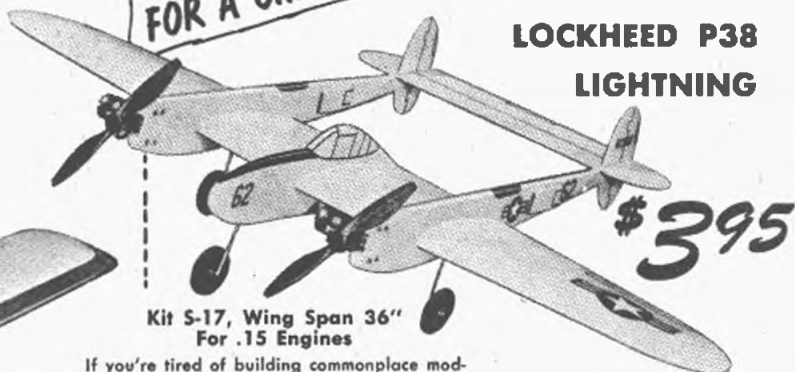


\$795

All balsa and plywood die-cut parts, full-length carved fuselage top, formed wire landing gears, decals, silkspan tissue, etc.

FOR A CHANGE OF PACE!

LOCKHEED P38 LIGHTNING



\$395

Kit 5-17, Wing Span 36"
For .15 Engines

If you're tired of building commonplace models . . . If you're looking for something different . . . this new BIG model of the remarkable World War II Fighter will satisfy your craving! Spectacular in flight, magnificent performance in the air! Fully prefabricated, easy to build.

Carved profile bodies, leading and trailing edges, etc. Die-cut balsa and plywood parts, formed wire landing gears, silkspan, authentic decals, etc.

When it's made by Sterling, IT'S UNCONDITIONALLY GUARANTEED . . . IN WRITING!

STERLING MODELS

Belfield Ave. & Wister St.
Philadelphia 44, Penna.

Please send me a copy of the Sterling Catalogue. Enclosed is my 10c to cover handling and mailing.

Name _____
Address _____
City _____ Zone _____ State _____

From Herman Hanyes, 8817 Bridgeport Avenue, Brentwood 17, Mo. comes Figure 1, showing his modified Bonner servo for aileron use. It also can be used for elevator and front wheel-brake control. The only real machining consists of boring a #51 (.067" diameter) hole through the 6-32 screw. This is done in a lathe, coming in from both ends. End fittings for the 1/16" push rod are made from brass or steel and silver soldered to the push rod. Note the "T" bar end screws into the nylon. This now provides a double-ended servo. Cut servo cover to clear pushrod.

The articles in MAN about endurance RC flights have encouraged many others to do the same. Tom Williams, of Oklahoma City, Okla., has made two practice hops of seven hours each and is shooting for 12 hours. If he can make 12 hours, he'll make an official attempt. Should be good country for this work in the middle west and we wish him success.

Carl Lindsey and Bud Atkinson of the KC/RC Club demonstrated a positionable control system developed by an electronic engineer. The system follows carded cues, ala "electronic brains" and the fascinating part is that it is transistorized and drives a 1.5 volt servo. The servo can be driven to any degree of throw and returns, on signal, to exact center.

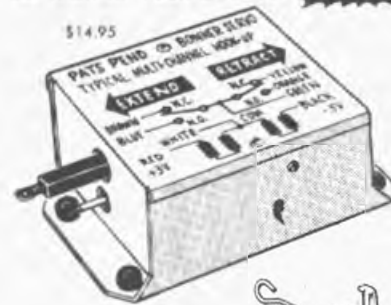
Down in the Washington, D.C. area, Walt Goud continues to take the boys in pylon racing. In spite of a stiff breeze several months ago Walt took 1st with 34.1 mph followed by Al Montzka with 30.4 mph, and Don Clark with 29.6 mph. Windy weather pylon flying shows up the real advantages of systems like the WAG and Simpl/Simul.

Mr. Donald Sump, of Sheridan, Wyoming, the generous gentleman who feeds RC fliers genuine western steaks, is holding his get-together on Memorial Day. Don mentions that outside of the Nationals, the RC judging leaves something to be desired. We have noticed this also and, rather than get into a big discussion, would like to mention that good judging is everyone's responsibility. It is a tough job and people being what they are, there are bound to be differences of opinion. Anyway, Don will have two trophies, one for the "best average" spot landing and one for maneuvers. Most flying out that way is rudder only and hand launched. The maneuvers event will consist of eight passes directly over the transmitter, coming in from the north, east, south and west, two times each. Sounds like a novel event for rudder only flying.

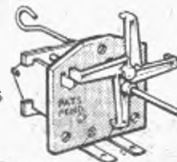
RC'ers in the vicinity of Ottawa, Ill., will be pleased to learn of the forming of the Illinois Valley Radio Control Club started December 10th. They plan a newspaper entitled the "Illinois Valley R.C. Roundup" and dues are 50 cents a month, with a \$3.00 initiation fee. For information, contact Howard Halm, 920 West Main Street, or Marvin Doucey, 600 Arch Street, Ottawa, Ill.

With the increased activity in the 27mc area, it behooves everyone to properly fill in and submit form 505 to the FCC. Be sure to get a copy of Part 19, Citizens Radio Service, and study it. (Required before you can fill out form—Editor) There should be no excuse at least for clubs and other groups not to be familiar with this document. Be sure to comply with Conelrad requirements. This can be

Bonner R/C PRODUCTS
SEE THEM AT YOUR DEALER'S NOW!



\$14.95



\$5.95



\$8.95

Widely known for their perfection, performance, and reliability, BONNER products are the unanimous choice of active model fliers and contest champions.

There's a BONNER actuator tailored to every control in all of the popular types of R/C systems. "Check them out" at your local hobby shop today.

FREE R/C DATA SEND STAMP

"IN R/C IT PAYS TO USE THE BEST"

BONNER SPECIALTIES

2900 Tilden Ave.
Los Angeles 54, Calif.

AMERICAN TELASCO TAKES PRIDE IN PRESENTING

... THE FABULOUS
Blue Angels "COUGAR"

GRUMMAN F9F-8

POWER: JETEX SPACEMASTER "600A"
OR SCORPION "600"

INTRODUCING A NEW ERA IN AUTHENTIC SCALE TYPE MODEL AIRCRAFT EXPRESSLY DESIGNED FOR THE SAFEST, MOST ECONOMICAL REACTION TYPE MOTORS (JETEX) AVAILABLE IN THE WORLD TODAY!

THIS KIT FEATURES THE MOST MODERN TECHNIQUES IN PREFABRICATION... PERMITTING QUICK AND ACCURATE ASSEMBLY COMPLETE EVEN TO AUTHENTIC DECALS AND COMPLEX PARTS FORMED FROM LIGHTWEIGHT PLASTIC!

TERRIFIC VALUE... **\$4.95**
ONLY

LESS ENGINE

WING SPAN: 28"
LENGTH: 30"

AMERICAN TELASCO, LTD.
Halesite Dept. MN-5 N.Y.

DESIGNED AND ENGINEERED BY:

Paul E. Del Gatto

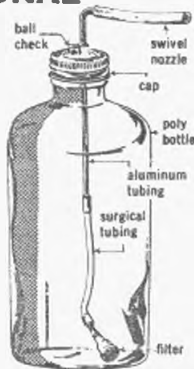
DARING IN DESIGN!

EXCITINGLY REALISTIC!

TERRIFIC PERFORMANCE!

PRODUCTS DESIGNED... with the
MODELER IN MIND!

**SENSATIONAL
NEW
SQUEEZ-
PUMP**



First effective fuel pump for models in 20 years. New Pylon Squeeze-Pump combines the best features of metal pumps and bulb type. Squeeze the poly bottle and fuel squirts into tank in constant, continuous flow with no dripping. No foam, no air bubbles, no spray with ball check valve. This ball check is the only moving part... nothing mechanical to break or go wrong. Visible fuel level; exclusive fuel filter made with stainless steel; special swivel spout of metal and surgical tubing.

8 oz. Bottle and Pump 79c
16 oz. Bottle and Pump 95c
Pump unit for cans 39c

• Check all the Pylon Brand accessories today...at leading hobby counters everywhere.

Sullivan Products

2300 Stratford Rd., Willow Grove, Pa.

done by taking a portable radio to your flying site. You can either tune to the Conelrad frequency of 640 kc or 1240 kc and leave the set alone, ready to pick up a broadcast, or, listen to any station you choose until it goes off the air unexpectedly. In this case, you immediately retune to the Conelrad frequency/s and listen for instructions.

December 7, 1958 proved disastrous for the Pioneer Radio Controllers. Bill Stelmach and Karl Peters had a mid-air collision, there were several fly-aways, a few out of control flights and a few lucky ones who just didn't get in the air due to mechanical or radio troubles. We hope this bolsters up other fliers around the country who can see the advanced and expert fliers have their problems too. Quite a few scale jobs being built by this group.

The Aerial Robots of Modesto, Calif., are in the scale field with a maroon-and-white Pitts Special Biplane (Fox 19, Citizen 27 and dual Varicoms RME) by LeRoy Hammer and a Schneider Cup job (Orbit 8) by Otto Lion. Bert and Wilbur Galeria and Les Farmer may have a solution to the sticking Bonner servo problem. They replaced the ball bearings by a piece of 1/8" brass tubing, pressed into place. No hangups since they have been using the modification. Glenn Carter really dresses his models up by installing a pilot from one of the Aurora AF Pilot kits.

The Second Annual RC Symposium sponsored by the DCRC and AMA will be held on Saturday, April 11th at the Perpetual Building Association, Bethesda, Md. Among the speakers who will give talks geared to the average RC builder are:

Woody Blanchard, aerodynamics of RC models; Maynard Hill, metallurgy for RC; John Worth, Simpl/Simul; Larry Herzog, feedback applied to dual proportional; H. C. McEntee, RC transmitters and antennae; and Hal deBolt, RC engines. Displays of new commercial and home-made equipment will be made and a church supper will be served Saturday night at \$2.00 each, a special rate for children. Sunday there will be flying demonstrations. These will be comparative demonstrations to help the onlooker decide which control system he should use. Motels are available in the Bethesda and Silver Spring, Md. area, the symposium fee is \$2.00. The Cherry Blossom weekend is on for the wives and family and additional information can be obtained from George Wells, 10004 Thorwood Drive, Kensington, Md.

The Peoria RC Tattler (Box 1235, Peoria, Ill.) tells of their members paying \$200.00 on the Washington Model Airfield site. From the sound of it, it appears that the members paid \$200.00 apiece, which makes this quite an active club. The controversy of flat rudder tab vs streamlined section was answered for them by Walt Good in favor of the flat tab for pulse work. Don Dickerson is working on a new proportional servo which is said to be a work of art. The Peoria club gives data on the penlight size cell made by the Gould Battery Company. Size is the same as a pencil with a nominal voltage of 1.25v and a capacity of .45 amp/hour. The short-circuit current, right after charging, is 8 amps and the cell will fit a conventional battery holder. List price is \$3.00 and while we have no first hand information on this cell, it sounds
(Continued on page 66)

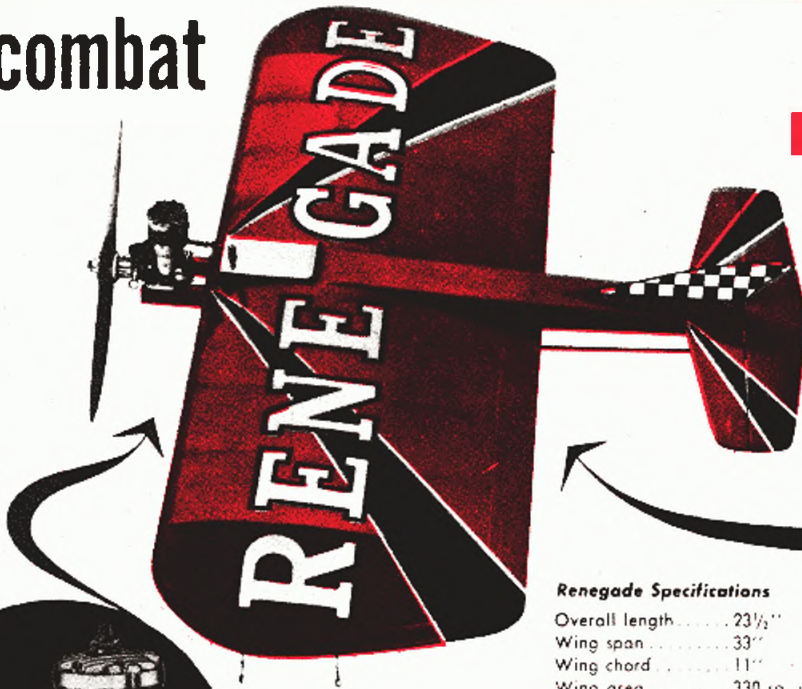
Veco's answer to combat



RENEGADE

Designed to maneuver like a hellion, the all-new Veco Renegade combat plane out-fights, out-speeds and out-performs all competitors! Rugged durability and simplicity of construction make it a favorite with all modellers. Pre-fabbed kit . . .

list price **\$3.50**



Renegade Specifications

Overall length 23 1/2"
Wing span 33"
Wing chord 11"
Wing area 330 sq. in.
Engine mounting Upright



Veco .35C

Combat Engine

A real package of power that's specially built to take the gruelling punishment of combat and rat-race flying. A new extra heavy heat treated crankshaft absorbs the strains of violent maneuvers. Improved high speed porting gives top rpms and thrust. Special fitting taps crankcase pressure for use with pressure fuel tank.

list price **\$16.95**

Convert your present

Veco Engine

For Pressure Fuel Injection Any 100 Series .19, .29 or .35 Veco engine can be converted to pressure fuel injection with a Veco pressure fitting. Easy to install.

list price **50¢**

A Sure-Kill Combination

Combat experts have been aware of the need for a new fuel system capable of meeting the demands imposed by today's highly maneuverable combat planes. They know that suction fuel systems, which permit fuel to be pulled away from the engine during certain severe maneuvers, are responsible for most speed-killing engine sag—frequently blamed on the engine itself.

Veco's answer is an entirely new pressure injection fuel system that forces fuel under pressure to the engine regardless of plane attitude. With constant fuel supply, engine sag and loss of rpms is eliminated. Power is instantly available to give you the edge you need for sure kills in competition.

For Fighting Ace combat flying the champion-making combination is the new Veco Renegade equipped with a Veco Combat 35 and Veco Pressure Fuel Tank. They're made to go together!



Veco Pressure

Injection Fuel Tank

Here's the first true pressure fuel tank especially designed for combat and stunt needs. New longitudinal baffle, developed after more than two years of testing, keeps fuel under pressure to the engine at all times. Power failure and engine sag due to surging during maneuvers is completely eliminated. Available in 5 sizes, from 2 oz. to 4 oz. list price **\$1.45**

A proven winner

Designed by John Barr of Los Angeles, and formerly known as "The Butterfly," the Veco Renegade has been contest proven. It is one of the top combat winners in Southern California.

Ask to see the Renegade at your hobby dealers!

VECO PRODUCTS CORP., BURBANK, CALIFORNIA • Veco Products are sold by leading hobby dealers everywhere

from start to (finest) **FINISH**

winning modelers use . . .



pacra AeroGloss

From the finest fuel proof cements that give you strong, sturdy construction, to the final coat of fuel proof Dope for a brilliant, trophy winning finish AERO GLOSS products on your workbench assure your model of lasting beauty and protection.

Aero Gloss Fuel Proof Cements
New—FULL OUNCE 15c
C-77-15 Strong
C-15 Extra Fast Drying

Aero Gloss Fuel Proof Dope
In Jars, Cans and Spray



Winning Modelers in Every Event
pacra-ty with *AeroGloss*
PACRA CHEMICAL CO. 1212 W. Highland Ave., East Angeles 39, Calif.

perfect for some of the 1/4A jobs.

The Central Jersey Radio Control Club News advises that they held "Operation Rolling Breadboard" on February 10th. This event was limited to electric-powered cars which had to run a slalom course, the minimum radius turn of which was 36". Winner was determined by time required to complete course. Anyone in the Central Jersey area who is interested in this club can contact Mr. John Trice or W. R. Staats, YMCA, 518 Watchung Avenue, Plainfield, N.J.

ESSCO RC Products, 58 Walker Street, NYC stocks the much talked about Mini-tone electric motor. This unit is extremely low drain, considering the power and efficiency, and is smooth running. The SRM model lists at \$2.95 and by the time you read this, ESSCO may have their kit of motor, bracket and gears ready for \$5.95. Also available from ESSCO is a new 12-volt vibrator supply for transmitter use, selling for \$11.95. Suitable for use directly from your car battery or two NT-6's, the drain being but one amp.

From the surplus market you can contact the J. J. Glass Electronics Co., 1615 South Main Street, Los Angeles 15, Calif., for the following items, obtained from their catalog number 120; an ARW-2 Remote Control Receiver for 27-50mc FM, containing ten 10k relays, 14 tubes, 10 audio filter sections and a 24v power supply. Price is \$15.00 for a used unit, or \$19.95 for a new one. BC-611 Walkie-Talkie assembly, new and complete with telescoping antenna but less tubes, coils and crystals for \$7.95 a pair. Originally designed for 3000-8000kc operation, these units make

an excellent starting point for a 27mc Walkie-Talkie.

Citizen-ship has announced three new receivers and a transmitter. Receiver Model 3VTR is a 3-volt, fully transistorized tone job, measuring 1 x 1 1/2 x 2 1/2, and weighing three ounces. The idling current is said to be equal to the shelf life of the two pencils. Receiver SSTR is the first all transistorized superhet to reach the market. Photo shows this \$69.95 receiver which measures 1-3/4" x 2-5/8" x 3-15/16" and operates from a single miniature 9-volt transistor battery. Channels are changed by merely plugging in the proper crystal. The third receiver, model SS-MSR-8, is the fully transistorized super-hot version of their reliable 8-channel receiver. Operating from a single 15-volt hearing aid battery, this model weighs 12 ounces and measures 2-5/8 x 2-11/16 x 3-5/16 and frequency can be changed by changing the receiver crystal. Both of these new receivers can be had from stock on 27.045 or 27.145mc. Receivers 3VTR and SSTR will operate from the new CTX transmitter, the Citizen-ship REX or MST-8. The SS-MSR-8 receiver will operate from the MST-8 transmitter or any unit using the proper RF crystal. The new transmitter, Model CTX, is a dual purpose unit having but a 200ma filament drain. The MOPA circuit is extremely stable and will provide on-off carrier or on-off tone. Operatable on any of the five new spot frequencies, it sells for \$39.95.

Those of you interested in tinkering with RC on a larger scale can get the famous ARW-26 drone receiver for only \$7.95 from the G & G Radio Supply Co., 51 Vesey Street, New York 7, N.Y. In working

(Continued on page 68)

more AIR POWER with **TORNADO** **NYLON** PROPELLERS

Yes, undisputed King of model air power these days is **NYLON!** No finer material for max. thrust delivery from engine-plus-propeller! Beats wood in **FLEXIBILITY** and durable resilience. **HOLDS SHAPE** and thrust at top RPM's. Practically **UNBREAKABLE** . . . survives even ground loops and belly landings! **TEMPERATURE-PROOF** — doesn't "brittle" at sub zero — nor soften in tropic heat. **FUEL PROOF** — no corrosion from today's standard or special fuels. **SMART COLORS, TOO!** A one-trip dip in any boiling type Nylon dye provides brilliant, beautiful color finish . . . and it's permanent! Because **NYLON** protects and maintains the superb thrust power of GRISH-Engineered propeller contours at *all* speeds . . . it's the **BEST** for longer, care-free flying! Ask for Grish **TORNADO** Propellers in most sizes of 3 blades, 2 blades, both tractor and pusher.

GRISH BROTHERS St. John 1, Indiana

2 Blade Tractor

5-3 5-4 5 1/2 -3

5 1/2 -4 6-3 6-4

7-4 7-6

8-4 8-6 8-8

9-4 9-6 9-7 9-8

10-4 10-6

11-4 11-6

2 Blade Pusher

5 1/2 -3 5 1/2 -4

6-3 6-4

8-6

9-6 10-6

3 Blade Tractor

5-3 5-4 6-3 6-4

3 Blade Pusher

6-3

25¢

40¢

60¢

85¢

\$1

\$1

25¢

85¢

\$1

50¢

\$1

50¢



MAXIMUM THRUST from

ENGINE TORQUE

Lindberg again has created another first! Here is a plastic construction model with moving parts plus REMOTE CONTROLLED MOVEMENT. The model builder can now pilot this B-58 HUSTLER by operating the control stick which actuates all control surfaces, causing plane to assume proper flight position. The model has all the other quality features found in LINDBERG kits, such as retractable landing gear, removable jet engines and afterburners, plus complete crew. It is 17½ inches long, 10¼ inch wing span.

Kit No. 551 154 PARTS

\$198
EACH

AMAZING ENGINEERING FEAT!



**REMOTE CONTROL
SIMULATED FLIGHT
SEE YOUR LOCAL DEALER**

**the
LINDBERG
line®**

ESTABLISHED SINCE 1933

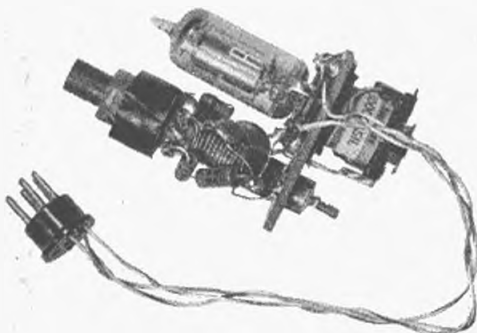
Berkeley's Crystal Controlled MARK "IV" "AEROTROL" TRANSMITTER and RECEIVER

Radio Control 27.255mc.

New plug in receiver of exceptional manufacture throughout.

Quality design and reliability.

less batteries



Citizen Radio Operation
No License Examination

DE-401 "MARK IV" AERO Assem. Rec. & Trans Comb. \$24.95
Ready to use - less batteries Free Escapement included

DE-401K MARK IV Combo. Kit. less crystal \$15.95
DE-402 MARK IV Transmitter. less crystal \$13.95
DE-403 MARK IV Receiver \$13.95

METERS



Super Aerotrol
MILLIAMMETERS
Low in cost, manufactured specifically for use with Super Aerotrol equipment. 0-3 Milliammeter for use with Super Aerotrol Receiver. 0-50 Milliammeter for use with Super Aerotrol Transmitter.

0-3 Milliammeter \$4.95
0-50 Milliammeter 2.75

CRYSTALS

AVAILABLE IN THE
FOLLOWING FREQUENCIES:

26.995 mc.
27.045 mc.
27.095 mc.
27.145 mc.
27.195 mc.
27.255 mc.

\$3.95
EACH

GUARANTEED TO MEET F.C.C.
TOLERANCE SPECIFICATIONS.



BOOK RADIO CONTROL \$1.00

72 Pages covering transmitters;
receivers; relays; actuators;
installation and flying.

If no local dealer is convenient, mail orders will be filled by Berkeley Model Supplies, Dept. MA West Hempstead, N.Y. Please include 25¢ postage & postage.

1910 Lakeside Court, West Hempstead, N.Y.
BERKELEY MODELS INC.
WEST HEMPSTEAD, NEW YORK U.S.A.

condition, this unit contains relays, tubes and filters for 5-channel operation on about the 72mc spot.

Al Diem, 11111 Lund Place, Kensington, Md., has a new transistor converter transmitter supply shown in photo. This unit measures 1 1/2 x 2 1/2 x 3 1/2 and weighs but four ounces. Quality parts and workmanship are used throughout with the rectifier being high-voltage silicon diodes. A unit suitable for the WAG TTPW system sells for \$25 and a 140-volt model, suitable for Bramco, CG, Orbit and others is \$20. Input is 8 volts, obtainable from an NT-6 wet cell, Saft cells or surplus nickle-cadmium cells from ESSE Radio. Tested with five Nicad cells (8.4v), the input current with no load is 350ma. With an output current of 30ma, which is about normal for most transmitters using a modulator, the output voltage is 140 volts and there is a drain of 900ma on the 8.4v input. We checked it out on a number of straight carrier and tone transmitters and operation of both converter and transmitter was very satisfactory. There is a controversy over whether a converter of this type or a vibrator type supply is better. It all depends on what you want and how much space you have available. This type converter has no moving parts, is lightweight and compact and quite shock resistant. The vibrator supply costs less.

Cobb Hobby's new Electro series actuators are the latest addition to their line of low cost, reliable units. These new units were designed to use in place of regular or compound escapements and can be obtained in Compound, 3-Position and S-N types. Weight is but 1 1/2 ounces and they are said to be more than four times as powerful as other units tested. Pushrod linkage should simplify installation and an "electronic brake" prevents over-runs. We have not tested a unit yet. However, current drain is said to be less than one percent per flight, or, with two pencells you get 600-800 movements (one hour flying time), two medium cells 1500-1800 movements (two hours time) and two 250 MAH nickel-cadmium cells 2000-2500 movements or three hours time. Price is \$8.95 for the S-N and 3-Position and \$9.95 for the Compound.

The Micro-Switch Division of Minneapolis-Honeywell, Freeport, Ill., has a new switch which sounds like it could be applied to RC work. It is a "One-Shot" switch that produces a single microsecond length pulse regardless of the speed of operation. The square wave pulse can be factory adjusted from .2 to 2.5 microseconds. Although a switch that could produce a single shot of short duration would be ideal for quick-blip controls, this particular switch is not for the average RC'er and is not in the low cost range. Write to Micro-Switch for Data Sheet 150.

New Babcock Magic Carpet Receiver Mark III. Measuring but 3/4" x 1 1/2" x 2 1/2" and weighing 1.7 ounces, this new receiver will operate from any carrier transmitter. Total flying weight with one 9 volt battery is but 2.4 ounces and the set will operate over a wide range of temperature. Four transistors are used and the famous Babcock Trans-Flex circuit gives more than ample reliability. This \$27.95 unit should do much to popularize the 1/2 A RC job.

Syracuse Sky Knights (Bill Kenyon, R.D. #2, Manlius, N.Y.) will hold their annual (Continued on page 70)

IT'S
HERE!
NEW
C-707
JET AIR LINER
GERMANIUM
RADIO
only
\$2.89



- Works without batteries or electricity
- Long life, nothing to break down
- Will not bother others when listening
- Can be used anywhere
- Attractive as a table ornament or desk stand
- Simple installation as a germanium radio
- Complete with earpiece and stand

MILO TRADING CORP.
215 FULTON ST.
NEW YORK 7, N.Y., DEPT. MA-1

RUSH... JETLINERS @ \$2.89 plus postage charges

Orders of 3 or more we will ship prepaid

NAME

ADDRESS

CITY ZONE STATE

SCALE DRAWINGS

1 inch=1 Foot true to scale outline drawings with cross sections. Add your own construction for control line, free flight or radio control models. Save the tedious work of scaling up small drawings.

NOW AVAILABLE

Henderson Longster Fokker DVII
Curtiss P-40F Corben Super Ace
Curtiss Robin ME 109
S. E. 5 Curtiss FIIC-2

\$1.00 Each or All Four
For \$3.50 Postpaid

RICHARD D. JORDAN

P. O. Box 1025, Irving, Texas

M.E.W. JET ENGINES

M.E.W. 307 JET ENGINE

\$14.95

PREPAID



Powerful, 5 lb. thrust
3 in. dia. x 2 1/2 in. long, burns
gasoline, complete with spark plug.

M.E.W. 601 JET ENGINE

6 in. long, easy to
assemble, \$1.95 prepaid
Burns gasoline. Complete, absolutely nothing else to buy.



MINNESOTA ENGINE WORKS

5600 N. Hamline Ave., St. Paul 12, Minn.

BABCOCK'S REVOLUTIONARY...NEW ALL-PLASTIC R/C PLANE KIT the "TRI-PACER"

CUTS ASSEMBLY TIME TO JUST A FEW HOURS!



37" wing span

For R/C
U-Control,
Free-Flight

Buy it today... Fly it tomorrow!

Another great Babcock-first! 37" wing span authentic model of the famous Piper Tri-Pacer...entirely pre-formed of new, fuel-proofed Hi-Impact plastic. Never before anything like it...no assembly or alignment problems...no covering or doping needed...completely decorated. You can assemble this beautiful flying model in a few short hours even if you've never built a plane before!

Designed for top R/C performance with

Babcock equipment...also contains parts for U-control...stable and versatile for free flight too!

Model BTP complete Tri-Pacer Kit includes realistic shock-absorbing wheels, pre-formed landing gear, all pre-formed plastic parts, colorfully decorated. Easy-to-read plans; detailed instructions for assembly, installation of R/C equipment and flying.

Model BTP Sensibly priced at \$9.95

world-famous
R/C equipment
precision-built by

Babcock

MODELS, INC.
COSTA MESA • CALIF.



"MAGIC WAND" TRANSMITTER

Powerful...reliable! Single channel 27.255 mc; 6 3/4" x 2 3/4" x 2 3/4"; handiest hand-held size using full-size batteries.

BCT-10K

"Quick-Lace" Kit. \$19.95

BCT-10

Factory Assem. ...\$24.95



"MAGIC CARPET" RECEIVER

Unmatched range and dependable performance. Reliable tube detection with transistor amplification...weighs only 2 oz.

BCR-10K

"Quick-Lace" Kit. \$21.95

BCR-10

Factory Assem. ...\$26.95



"MARK II" SUPER-COMPOUND ESCAPEMENT, NO. 886

Rudder, elevator, motor control. All linkage furnished. All parts rust, corrosion proof. Weighs only 3/4 oz.\$7.95

Get your complete **BABCOCK R/C and Model Catalog**
FREE at your **AUTHORIZED BABCOCK DEALER**

ADVERTISING INDEX—MAY, 1959

Aer Products	66
Aer Radio Control	38, 39
Alpha Tech Products	47
Amibrod Co., Inc.	33
American Talco, Ltd.	44
America's Hobby Center	4, 7, 8
Austin-Craft Co.	62
Authentic Aircraft Models	50
Beacock Models, Inc.	49
Berkley Models, Inc.	34, 42, 44, 72, 4th cover
Bonner Specialties	63
CG Electronics Corp.	30, 34
CitizenShip Radio Corp.	32
Comet Model Hobbycraft, Inc.	1
The Controlon Co.	70
L. M. Cox Mfg. Co., Inc.	41, 55
Craft, Model & Hobby Industry	42, 46
Dealers Hobby Supply	54
The DeBolt Model Engineering Co.	32
ESSCO	2
Enterprise Model Aircraft Co.	42
Flying Services	43
Foster-Anash Mfg. Co., Inc.	36
Fox Manufacturing Co., Inc.	3rd cover
Carl Goldberg Models, Inc.	43
Gish Bros.	64
Paul K. Gulliew, Inc.	3
Gull Model Airplane Co.	39
Herklimer Tool & Model Works	5
Jalco Products	54
Richard D. Jordan	48
K & S Allyn Co.	2nd cover
Ke-Pak Products, Inc.	52
Lafayette Radio	71
Lee's Hobby Supplies	33
Lindberg Products, Inc.	67
M.C. Mfg. & Sales Co.	30
Milo Trading Corp.	58
Minnesota Engine Works, Inc.	56
Min-K Radio	54
Modelcraft	61
Manogram Models, Inc.	34
Jim E. Moore	46
National Model Distributors, Inc.	70
Ohlson Mfg. Co., Inc.	53
Petra Chemical Co., Inc.	64
Pan American World Airways	2
Perfect Parts Co.	67
Pittman Electrical Developments, Inc.	2
Poli's Model Craft Hobbies	31
Scientific Model Airplane Co.	44, 45
Sig Mfg. Co.	40
Sterling Models	62, 63
Stewart/Lundahl Co.	40
Sullivan Products	64
Tyrone Products	44
Technical Model Products Co.	30
The Testor Corporation	36, 37
Top File Models, Inc.	48, 49
UHU Products Corp.	70
Vaco Products Corp.	63
Frederick Warrs & Co.	32
World Engines	71
World Wide Radio Control	41
K-Acto, Inc.	43
C. A. Zalc Co., Inc.	59

AMA sanctioned contest on June 28th. The RCNC group (Ed Reich, Jr., Box 4127, Winston-Salem, North Carolina) will hold their 5th annual three day session May 29th through 31st. Dale Root is hitting the spot with no trouble with his dive brakes which extend 30 to 45 degrees from the side of the fuselage. Servo operated.

Sablars Special

(Continued from page 24)

you can understand the hand-rubbed finish on my 'Sablars Special,' says Tony.

The Special will break ground after a 700-800 foot run, and climb about 800 feet per minute. Cruise is 130 mph, top 150 mph, range 200 miles. Performance isn't quite what Tony wanted, but the present 85 horse Continental and McCauley prop (85 in. diameter, 56 in. pitch) will have to do for awhile. Like veteran pilots are wont to say, Tony thinks the Special flies like any other plane once off the ground. For the less experienced, it probably is on the hot side. Of course, many home-builts are true, easy-to-fly flivver planes.

Tony brings the Special over the fence at 100, touches down at 80—a lively approach speed for a typical cabin light plane! Very sensitive on the controls, Tony himself will tell you. Empty weight is 540 pounds, gross 810 pounds.

Anyone planning a home-built, Tony advises to join the Experimental Aircraft Association. "It is one organization open to the average man," Tony states, "and you don't have to own a \$20,000 twin to read its publication, Sport Aviation. By belonging to EAA you can help further the cause of home-builts. And don't make a move without first contacting your local CAA (FAA) agent!"

MAN at Work

(Continued from page 4)

businessmen, but even the Cub now is a rich man's toy. Aviation simply forgot the sport fier and, incredibly, the fact that the great pleasure craft marine industry is based upon boating for fun. We suspect, and fondly hope, that EAA in the future will realize the revival of the kind of flying that the Wright Brothers invented, and which was dominant until December 7, 1941.

Membership in EAA costs \$10 annually, \$5 for junior members up to 18, and \$5 for non-member subscription to Sport Aviation (Hales Corners, Wis.).

► How many multi-engine UC jobs are creamed on the first flight? Carrier Event rules now give a 5-pt. bonus, to compensate for greater drag of the unclean ship, and to make feasible two smaller all-purpose engines—and you know what two good big engines cost!

Ray Randall, a great hand at multi-engines and gadgetry, contributes these "secrets." First of all, a twin lets you cut the power in half for the slow-speed run and landing. With the inside engine running, you don't have to worry about the crate coming in on the lines. Ray uses a ½ ounce tank on the outboard engine, good for about 12 laps after starting on a .35. He starts the inboard engine first.

"The center section must be strong," Ray states. "I use two 3/16" bass or spruce spars with 1/32" music wire, wrapped and fibre glassed to the top and bottom of the spars. Mounts tie to the spars with 1/16"

NEW! WORLD'S TOUGHEST CEMENT UHU-hart

Made for model-builders. Stronger than wood itself, new UHU-hart sets in seconds, dries glass-hard, holds forever! Heat-proof, fuel-proof, waterproof and colorless. Try it once, you'll use it always. Order UHU-hart at your hobby shop today. Another quality product from the makers of UHU All-Purpose Glue. Only 49c.

UHU Products Corp., 820 Greenwich St., N.Y.C.

Canadian dealers please contact
Model Craft Hobbies, Ltd.
66 Wellington St. W., Toronto, Ont.
or write

UHU Products (Canada) Ltd.
28 Wellington St. W., Toronto, Ont.



NEW! The first really efficient low cost model plane pylon control...

CONTROLON

- eliminates ALL crackups due to dizzy spells and wandering — makes model flying REAL FUN
- quick to set up — simple "ONE MAN" OPERATION — really works
- performs climbs, dives and stunts with real stick control from outside the circle
- all-metal, precision made (not a toy)

● control stick, 14" long. Pylon 1 1/2" high x 4" square base. Bright red hammertone, chrome finish.

Get ready now — be first to fly CONTROLON this summer. Ask your dealer — or order direct and add 35¢ pkg., handling.



PRICE, fully assembled \$14.95

DEALERS, DISTRIBUTORS inquiries invited.
Write us for attractive details.

THE CONTROLON CO.
6913 Sprague Rd., Cleveland 31, Ohio

Looking for a Hobby?

You'll find it in this fabulous New Edition of

MODELBUILDERS' HOBBYCRAFT Cyclopedia

Only "book" of its kind ever published!

- 14 Sections
- Hundreds of Hobbies
- Thousands of Items
- Printed in Colors
- Many Helpful Hints
- Over 265 Pages (9 1/2 x 11")
- Cross Reference Index to Each Section
- Profusely Illustrated
- Names of Manufacturers Shown
- Illustrated "How To Make" Ideas

Includes Planes

Cyclopedia of Hobbies for every member of the family — men, women, boys and girls — at your Hobby Dealers — priced at only \$1.00.

national DISTRIBUTORS
2516 N. Greenview Ave., Chicago 14, Ill.
12530 Canant Avenue, Detroit 12, Mich.

plywood bulkheads; the mounts are stiffened with 1/32" ply, which also ties into the spars, running forward to the front of the lugs and aft of the main gear, joints made with fibreglass resin. The 1/16" sheet balsa center section is covered with fibre glass cloth, doped on. A stiff center section is vital because a soft wing robs most of the power.

"Most builders have tried at least one multi-engined ship, only to have one motor quit in the air," Ray goes on. "This is caused by the vibration of two engines causing the tank sides to quiver and beat the fuel into a froth. I have licked this problem by enclosing tanks in a 1/16" hard balsa box lined with 3/16" foam rubber compressed to 1/8."

Since the torque of two .35's is potent, Ray warns that at least seven ounces of weight out just as far as possible on the outside wing is imperative!

► One result of the Hunter protest about alleged abuses in rules making procedures was a letter from AMA president, Dr. Walter Good, to Contest Board Members, asking for another CB poll. The gentlemen were told to consider possible loss of AMA membership if rules stood, as against loss if the rules were scuttled, and the vote of 22 CB members ran 15 to 7, in favor of the new FF power rule, and 18 to 4 for FF and UC classes, and wire sizes. We can hope now for by-laws modifications, for headquarters to do a better job of telling everyone how these things work (and beating their own drum), for no vindictiveness on the Coast because of the California Nationals, and a little less sweeping under the carpet of sworn-to protests about alleged builder-of-the-model rule infractions. The CB's had voted for a release (so far not

made) of a Hatschek memo regarding the builder-of-the-model argument.

Perhaps now, we can clear up such alleged infractions at the Nationals which one highly competent observer put at twenty in 1958. Hang them on the spot.

• • •

Frank Beatty (the Ryan PT-22) says simple, gayly colored scale jobs usually won for him over highly detailed ships with workable turrets, etc. But then some joker would cream him with points garnered from an extra engine. At many contests, the point spread between several better models was often small. Judges evidently feel they've done their duty by throwing a few more points to a seemingly better airplane. Some meets develop their own point system. Since a few extra flight points then loom mighty large, Beatty stresses flying with his nifty PT.

At the Nats, Howard Ogden's beautiful FW 190 (fourth) was 67 points ahead of Beatty's PT. At smaller meets, canny Beatty topped the 190 by 30 points on several occasions. The throttle-flap control, via Roberts' control system did this for him. So Ogden installed Roberts' system and Beatty hasn't beat him since. The Roberts system shows up more often now in contributed plans. You may be missing something!

• • •

► Nieto drawings from MAN are available from the National Air Museum, Smithsonian Institution, Washington 25, D.C. Checks and money orders should be payable to the Smithsonian Institution. Prints are three times magazine page size, cost 75 cents each.

We Have Again Moved To Larger Quarters



This advertisement was written at the Toledo Weak Signals R/C Conference. Pictured above is the World Engines and Controlaire gang. Right to left: Jack Port, John Maloney, Russ Brown and Bill Lesher. Our hat is off to the Weak Signals of Toledo, Ohio, for doing a fine job on this R/C conference.

As promised we are now producing a tone, all transistorized low voltage Controlaire receiver for \$29.95, and transmitter at \$34.95. Pictures later. Send 15c for our new catalogue.

— JOHN MALONEY

WORLD ENGINES

8206 Blue Ash Road
Cincinnati 36, Ohio

IN CANADA ACADEMY 2622 EGLINTON W., TORONTO 9, ONTARIO

LAFAYETTE RADIO -- RADIO-CONTROL HEADQUARTERS

ONLY 14.95

LAFAYETTE SPECIAL RADIO CONTROL TRANSMITTER

Newly designed, crystal controlled, single channel transmitter is completely assembled tested and guaranteed. Operates an exam-free 27.255 MC R/C band. Includes 27.255 MC crystal, tube and 6-section telescoping antenna. Range approximately 1 mile. Measures 8 1/2" x 2 1/2" x 1 1/4" exclusive of antenna. Less Batteries. Shpg. wt., 2 1/2 lbs.

F-249 — R/C TRANSMITTER
(Less Batteries) **14.95**

BATTERIES

3-Burgess U30.....	1.75
1-Burgess 2.....	.13

LAFAYETTE SPECIAL R/C RECEIVER

Completely factory wired and tested receiver, extremely sensitive and stable. Completely enclosed—ideal for use around water; case may be removed if desired. Features external fine tuning control, antenna lead, and plug for external power and actuator connections. Requires one 1.5V and one 45V battery whose size depends on size of model. Complete with 354, but less batteries. Size 3" x 2 3/4" x 1 1/4". Ideal companion to F-249 Transmitter. Shpg. wt., 8 oz.

F-208 — R/C RECEIVER (less Batteries).....Net 8.95

SPECIAL COMBINATION OFFER

Consists of R/C Transmitter (F-249), and R/C Receiver (F-208)

F-259 — Combination.....Net 22.90

NEW! LAFAYETTE 27.255 MC CITIZEN BAND REMOTE CONTROL TRANSMITTER KIT KT-127

- WAY OVER 1 MILE LINE OF SIGHT TRANSMISSION!
- SUPER STABILITY FOR FOOLPROOF CONTROL OF MODEL PLANES, BOATS AND CARS.

Once again Lafayette spurts into the lead with its new amazing RC CITIZENS BAND TRANSMITTER. Fits comfortably in the palm of your hand—yet is so stable that it is unaffected by hand capacitance or motion. Has new at-tractive wide scale meter for visually tuning transmitter. Has wide, non-critical tuning. Uses one B & W prewound coil—no tedious winding of coils! Tuning for maximum output and antenna loading adjustment easily performed from exterior of cabinet. Complete with approved telescoping antenna, meter, cabinet, chassis, tube, crystal, alignment tool, all parts and easy step-by-step instructions. Size 10" x 4" x 2 1/2". Shpg. wt., 5 lbs.

KT-127, Less Batteries.....Net 15.95

1 Burgess No. 2 (RCA VS03s) Battery.....	Net .13
2 Burgess P45 (RCA VS218) Battery @ 2.17.....	Net 4.34

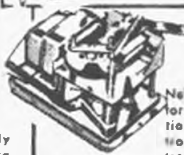


R/C ELECTRIC SERVO MECHANISM

• DESIGNED AND PRICED FOR HOBBYISTS

New, powerful, motor driven R/C actuator. Delivers positive, instantaneous action. Provides selective steering and electronic, automatic return to neutral. Extremely efficient when used with model boats and land vehicles. Only 2 1/2" x 2" x 1 1/4". Includes instructions and linkage.

F-327.....Net 4.95



LITTLE "JEWEL" R/C RELAY

The Mighty Mite of the R/C field. Weighs less than 1/2 oz. Only 3/4" H x 17/32" W x 1-1/16" L. Highly sensitive—extremely rugged. Pulls at 1.4 Ma—drops out 1.2 Ma D.C. S.P.D.T., 5000 ohm coil.

F-260.....Net 2.75

FREE



1959 CATALOG 260 GIANT-SIZED PAGES

The newest and largest assortment of Electronic Radio and TV parts, H.F. and Public Address Components and systems Test Equipment, Tubes, Transistor Kits and miniaturized components for transistor circuitry, Mem. Equipment, Builders Kits, Tools, Books, Microscopes, Singers, Telescopes, Cameras, and Drafting Equipment—ALL AT LOWEST PRICES—Catering to the economy minded dealer, serviceman, engineer, technician, experimenter and hobbyist. **CRAMMED FULL OF MONEY SAVING BUYS. SEND FOR YOUR FREE COPY TODAY.**

CUT OUT AND PASTE ON POST CARD

Lafayette Radio ME 9 P O BOX 511 JAMAICA 31 N.Y.

NAME _____

ADDRESS _____

CITY _____

ZONE _____ STATE _____

Send FREE CATALOG 590

FOR A BEAUTIFUL MODEL - THRILLING PERFORMANCE

CHAMPIONSHIP

Berkeley's

"1/2A"

FLYING SCALE

First at Nationals - For 19 Years

EXTRA DETAIL

EXTRA PRECISION

EXTRA FLYABILITY



"TEMCO" 150



"STINSON VOYAGER"



STINSON "SENTINEL"



Cessna "BIRD-DOG"



CESSNA "180"



"AERONCA SEDAN"

"TEMCO" 150 30" Wingspan — 1" Scale \$3.95

For Jetex "Jetmaster" or "Scorpion" Engines

A fine flying reaction engine powered design. The fuselage is balsa planked, molded celluloid parts.

"STINSON VOYAGER" 34" Wingspan — 1" Scale \$2.50

.049 Engines Free-Flight — .049 to .099 Controline

Equipped with wing slots. A fine flying scale to start your collection off. Easy to build and trim.

STINSON "SENTINEL" 33 1/2" Wingspan — 1" Scale \$2.50

.049 Engines Free-Flight — .049 to .099 Controline

A constant National's winner. An unusually fine design. Nice lines and ideal for building ease.

Cessna "BIRD-DOG" 36" Wingspan — 1" Scale \$2.95

.049 Engines Free-Flight — .049 to .099 Controline

This fine liaison Korean War veteran is an excellent flyer, easy to build too, with sheet balsa siding.

CESSNA "180" 35" Wingspan — 1" Scale \$2.95

.049 Engines Free-Flight — .049 to .099 Controline

Fine flying, easy to build from highly detailed full size plans. Authentic Decals, Rubber Wheels.

"AERONCA SEDAN" 34" Wingspan — 1" Scale \$2.50

.049 Engines Free-Flight — .049 to .099 Controline

Plans show pontoon details. (Material for pontoons not included.) Authentic Decals, Wheels, Gear, etc.

AERONCA "C-3" 36" Wingspan — 1" Scale \$2.50

.049 Engines Free-Flight — .049 to .099 Controline

Unusual in design, this model is an exact detailed replica of the prototype, popular in the thirties.

"WACO CABIN" 35" Wingspan — 1" Scale \$3.95

.049 Engines Free-Flight — .049 to .099 Controline

Features Metal Ring Cowl, Decals, Detailed Plans. It's a beautiful flying biplane, easy to build too.

Colonial "SKIMMER" 33 1/2" Wingspan — 1" Scale \$3.50

.049 Engines Free-Flight — .049 to .099 Controline

Takes off water beautifully. Nothing like a high performance flying boat. Fine flyer, all balsa hull.

Piper "SUPER-CRUISER" 35" Wingspan — 1" Scale \$2.95

.049 Engines Free-Flight — .049 to .099 Controline

National's winning design, a fine flyer. Easy to build, this fine model is a must for any collection.

"SUPER CADET" 35" Wingspan — 1" Scale \$2.95

.049 to .099 Engines — .049 to .099 Controline

Many times a first place Nationals Winner, this fine flying scale design is a threat at any scale contest.

FAIRCHILD "24" RANCHER 36 1/2" Wingspan \$2.50

.049 Engines Free-Flight — .049 to .099 Controline

This strong reliable detailed scale design is very well proportioned for model flying. Easy to assemble too.

"BUHL-PUP" 37 1/2" Wingspan — 1 1/4" Scale \$3.50

.049 Engines Free-Flight — .049 to .099 Controline

Famous early light plane, makes a very fine flying scale model. Body balsa planked, authentic detail.



AERONCA "C-3"



"WACO CABIN"



Colonial "SKIMMER"



Piper "SUPER-CRUISER"



"SUPER CADET"



FAIRCHILD "24" RANCHER



"BUHL-PU"

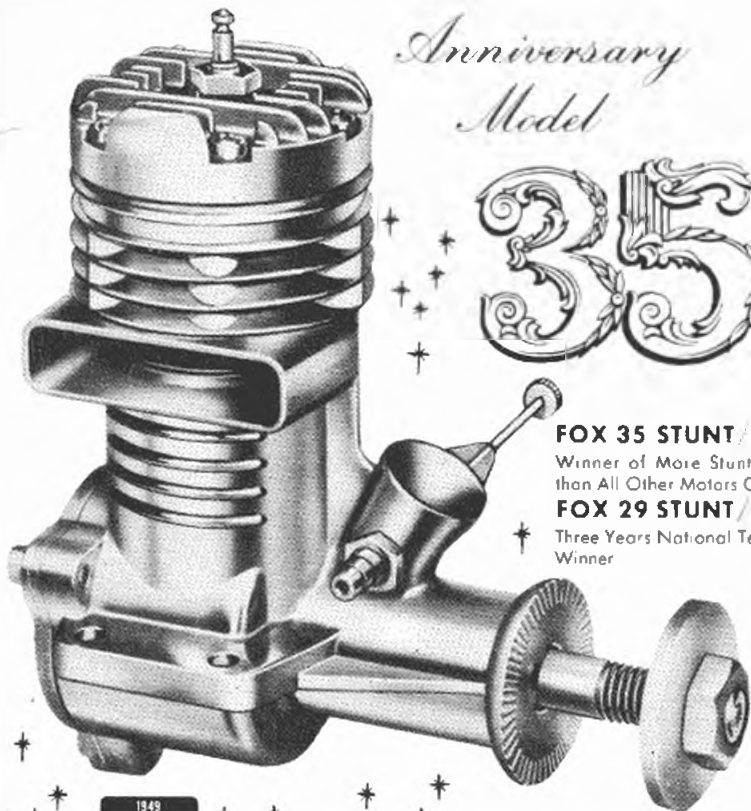
Since 1933—Leader in Creative Model Kits...

BERKELEY MODELS INC.,
WEST HEMPSTEAD, NEW YORK, U.S.A.

If no local dealer is convenient, mail orders will be filled by Berkeley Model Supplies, Dept. MA, West Hempstead, N.Y. Please include 25¢ packing & postage.

The complete FOX line... for 1959

The FOX Anniversary Model



35

FOX 35 STUNT / \$15.95

Winner of More Stunt Awards than All Other Motors Combined

FOX 29 STUNT / \$15.95

Three Years National Team Race Winner



The FOX 35 is the company's first model airplane motor. First built in 1949, it has been constantly improved and refined until today, it is the standard of the industry. Each succeeding year sees greater numbers of them chosen by discriminating modelers everywhere. If you have never owned a FOX motor, now is a good time to start with the FOX Anniversary Model 35. You will find it has the power and performance to your liking and its rugged construction and perfect craftsmanship assure carefree operation and enjoyment.

FOX now produces a highly specialized line of ten motors, one of which will fill your most exacting requirements. Select the one to fill your needs—at Your Hobby Shop.

Smart Champions choose



FOX MANUFACTURING CO., INC.

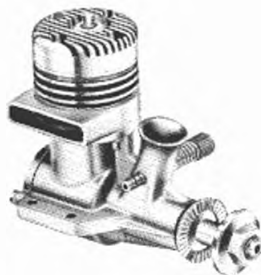
Designers and Manufacturers of the World's Finest Model Airplane Motors

5305 TOWSON AVENUE, FORT SMITH, ARKANSAS



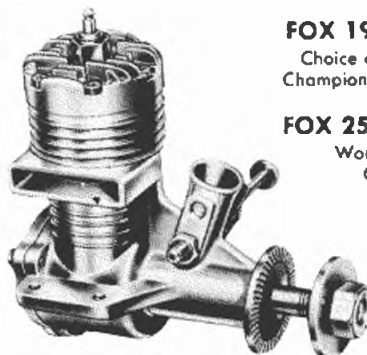
FOX 09 / \$4.95

Brand new model. Now an 09 for the price of a 1/2A. One flip starts it time after time.



FOX 15 / \$6.95

Ideal Beginner's Motor. Expert's Choice.



FOX 19 / \$14.50

Choice of Nationals Champion Jim Payson

FOX 25 / \$14.50

World's Record Control Line Endurance Holder.

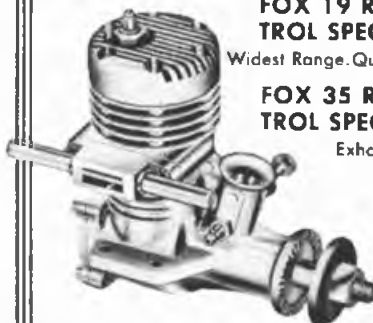


FOX 29X / \$19.95

Hot Performance for Rat Racing and Team Racing

FOX 35 Combat Special / \$19.95

World's Most Powerful 35



FOX 19 RADIO CONTROL SPECIAL / \$19.50

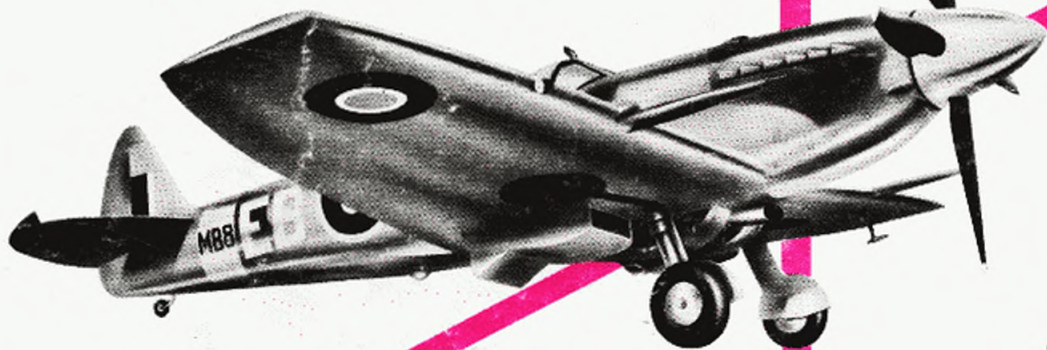
Widest Range. Quickest Response.

FOX 35 RADIO CONTROL SPECIAL / \$24.95

Exhaust Valve Speed Control.

"MODELS OF THE MONTH" by

Berkeley



Controliner

**VICKERS
SUPERMARINE**

For .09 to .15 Engines — 3/4" Scale — 27 1/2" Wingspan

"SPITFIRE"

ALL THREE KITS INCLUDE:

- Authentic Multi-color Decals
- All Necessary Hardware
- Full Size Detailed Plans
- Formed Wire Landing Gear
- Die-Cut Balsa

ROUNDED EDGE PLANKING

\$5.95

Kit No. 5-8

Rated as one of the best fighters of World War II

- a rugged, thrilling, highly detailed, fine flying controline,
- a must for any flying scale collection.



Controliner

\$5.95

Kit No. 5-9

For .09 to .15 Engines — 3/4" Scale — 25 3/4" Wingspan

Germany's answer to Britain's "Spitfire" - a sleek, powerful fighter, - a natural for controline flying.

Try a scale dogfight for a real crowd pleaser.

FOCKE-WULF

"190"

A natural for "Navy Carrier" - a highly maneuverable scale replica of the famous Grumman carrier fighter made famous at Wake Island's historic stand.

Controliner

GRUMMAN F4F

"WILDCAT"

For .09 to .15 Engines — 3/4" Scale — 26" Wingspan



\$5.95

Kit No. 5-10

Since 1933—Leader in Creative Model Kits
BERKELEY MODELS INC.,
WEST HEMPSTEAD, NEW YORK, U.S.A.

If no local dealer is convenient, mail orders will be filled by Berkeley Model Supplies, Dept. MA, West Hempstead, N.Y. Please include 25¢ packing & postage.