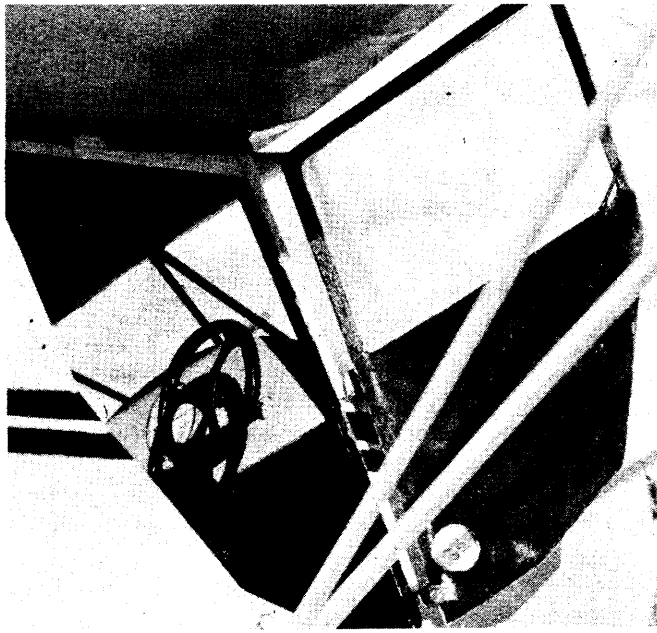


Emphasis on flying ability did not compromise appearance, so contest fans can expect to pile up points on both scale and flight performance.



Hinged cabin doors as on real ship allow such gingerbread as control wheels and instruments. Scale bugs usually look over the real job.

"C.O." releases his Taylorcraft at the 1954 Nationals. Long, fast take-off run, nice realistic circle to the left. Is good in a wind, too.



# the T-craft

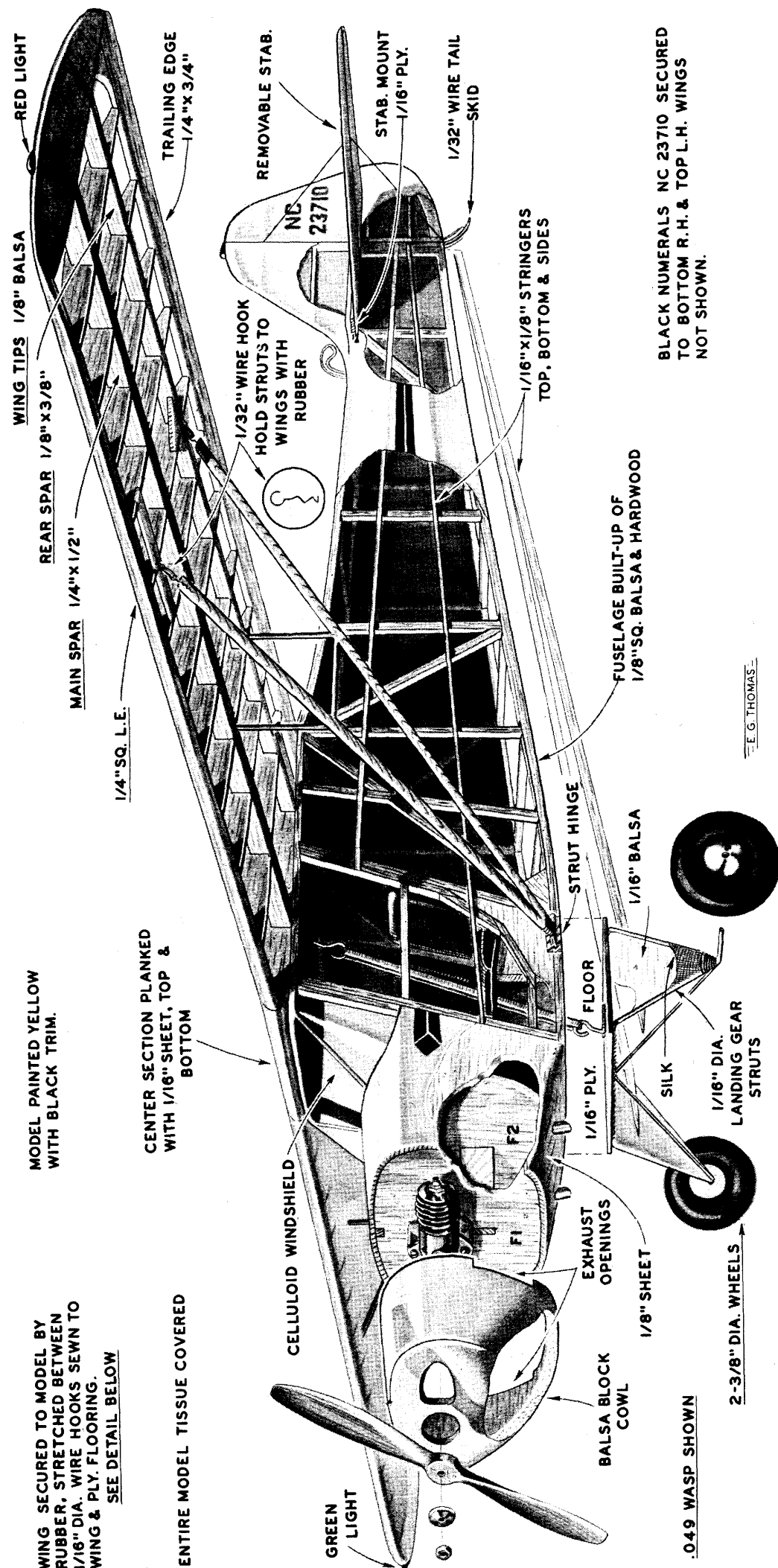
*Flying scale models should be bigger, states this builder. The performance of his Taylorcraft on Half-A to .075 engines certainly backs him up.*

by C. O. WRIGHT

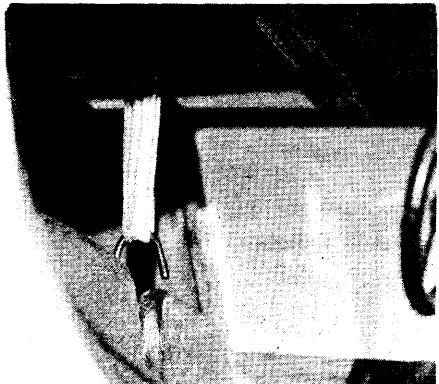
► When flying scale was limited to .05 engines, the models of small private ships were commonly scaled 1 in. to the foot. Results were generally not too successful with small spans and heavily loaded wings on Cubs, Cessnas and similar ships. The inch scale jobs proved tricky at best and difficult to adjust and fly. Nose-overs, stalls, loops and spins were common. This prompted the building of the Taylorcraft described on a scale of 1½ in. to the foot.

The early Taylorcraft of 1941 was selected because of its balanced design and simplicity. Span is 36 ft. which, at 1½ in., figures 54 in. Scale elevator span would be 15 in., but was enlarged 4 in. for stability. Accordingly, the 1° dihedral of the ship was increased to measure 3 in. at the top surface of the wing tips. The experimentally minded might build a smaller elevator, approaching scale, and monkey with the dihedral, pulling it down an inch or so. This would raise the scale points if it could be done. However, a bird with plumage or a bird for flight is the choice forced on the scale builder. I take the flight.

Flying results of the 1½ in. to a foot T-Craft exceeded expectations. With an .049 Atwood, weight of 14 oz. and 54 in. wing, it flew off the board and required only some wing incidence. It has inherent stability and realistic flight characteristics. Entered in the Nationals at Chicago in 1954, it placed fifth. At Dallas that year at the Labor Day meet, it placed first. At the Texas meet, the T-Craft rose ROG from a rather rough dirt runaway in a 25 to 30 mile gusty wind. Take-off is straight and leisurely with climb and circle to the left. With larger power permissible now in scale, the ship may be tried with an .07 motor. This would permit larger prop, approaching scale, and cut the blanking-out (Continued on page 10)



BLACK NUMERALS NC 23710 SECURED TO BOTTOM R.H. & TOP L.H. WINGS NOT SHOWN.



Rubber bands hold on wing. Later, made more accessible, indicated on the plan and cutaway.

effect of the large nose.  
Special Arrangement on Tail

New, as far as I know, on scale jobs, is the arrangement for the removable elevator and rudder. These are alined in simple slots and notches which make incident adjustments possible on the elevator. An inconspicuous 1 in. rubber band is all that is needed to hold the two units on the fuselage. The slots and notches must be in perfect alignment but this is not too difficult with use of 1/16 plywood mount as indicated, and careful, unhurried work. The elevator is placed *below* the mount.

The larger the ship, the more convenient it is to disassemble the units for transportation. However, the chief reason for the detachable elevator and rudder is to permit their storage on a "press board" to prevent warping. This board may preferably be made by cementing 1/2 x 2 balsa stock to form a board. Outlines of 1/8 balsa square are cemented to fence the units on the board—the elevator on one side, the rudder on the other—and strong corrugated paper boards (from a grocery box) are hinged for covers. Rubber bands bind the "sandwich" together for safe storage and transportation. This idea for the tail arrangement may well be copied for other scale jobs.

It will be noted also that the wing has an unconventional attachment. The 1/16 steel wire hooks as shown permit connecting with rubber bands through the one door on the ship. The hook at the bottom is anchored to the cabin plywood floor which also carries the landing gear. The hooks must be securely installed and cemented in place. One-eighth sheet balsa triangular blocks cemented under the center of the wing align the unit at the cabin corners, all out of sight. The one door on the right must be placed to permit full opening and closing with the wing in position.

Use Light Balsa

Soft balsa should be used in most ribs and sheeting. Soft, thick sheeting is preferable to the thin, hard kind and it will sand more easily to form. Spars, leading and trailing edges should be medium to soft. Use hard 1/8 square on longerons and hard stock on the 1/8 to 1/16 stringers. Cabin main framework that supports the wing may be 1/8 square bass or white pine, as may the spar on the elevator. Make the ship light, using very soft balsa where stress is easy. The 14 oz. weight of the original may be cut an ounce or two with judicious selection of soft wood.

Construction is conventional. Build the fuse sides one on top of the other, lining the longerons with small blocks held to the board with pins. The fuse is formed with rectangular cross-section. Exact lengths of cross-pieces are shown. Nose of ship must be constructed "in the air." Temporary stringers can be extended

(Continued on Page 46)

MODEL PAINTED YELLOW WITH BLACK TRIM.

WING SECURED TO MODEL BY RUBBER, STRETCHED BETWEEN 1/16" DIA. WIRE HOOKS SEWN TO WING & PLY. FLOORING. SEE DETAIL BELOW

ENTIRE MODEL TISSUE COVERED

CENTER SECTION PLYANKED WITH 1/16" SHEET, TOP & BOTTOM

049 WASP SHOWN

2-3/8" DIA. WHEELS

1/16" DIA. LANDING GEAR STRUTS

1/16" Balsa

STRUT HINGE

FLOOR

EXHAUST OPENINGS

BALSA BLOCK COWL

CELLULOID WINDSHIELD

GREEN LIGHT

1/4" SQ. L.E.

MAIN SPAR 1/4" x 1/2"

REAR SPAR 1/8" x 3/8"

WING TIPS 1/8" Balsa

TRAILING EDGE 1/4" x 3/4"

REMOVABLE STAB.

STAB. MOUNT 1/16" PLY.

1/32" WIRE TAIL SKID

1/16" x 1/8" STRINGERS TOP, BOTTOM & SIDES

FUSELAGE BUILT-UP OF 1/8" SQ. Balsa & HARDWOOD

1/32" WIRE HOOK HOLD STRUTS TO WINGS WITH RUBBER

E. G. THOMAS

# FULL-SIZE PLANS

## EACH SET OF PLANS FOR 25c

- JENNY: Free flight scale, .049.  
MARS: Bob Palmer stunter, .29-.35.
- WINNIE MAE: Lockheed Vega ukie, .049.  
PELICAN: Willard flying boat, .049.
- VICTOR SCOUT: Scale control, .075.  
SUPERMARINE: Ducted fan job for .09.
- THE SPACER: Class AB free flight.  
STUMPY: .09 combat U-control.
- THE CHAMP: Profile free flight .049.  
THE TWELVE: .29 - .35 stunter.
- MAYBE: .09 sport free flight.  
SCRAMBLER: .29 team racer.
- WIMPY: .049 scale free flight.  
HIGGINS CABIN CRUISER: .09 - .19 boat.
- BEAVER: .19 - .35 scale.  
ZENITH: Taibi A free flight.
- SNIPE: Half-A stunt.  
STRATOHAWK: Limited rubber.
- SHEIK: .29 team racer.  
DRIFTWOOD: .049 free flight.
- FOXY: Aldrich .29 combat.  
BIG TIME: Large towliner.
- SPOOKY: .09 stunter.  
SLOWPOKE: .09 sport free flight.
- EL DIABLO: .19-.35 stunter.  
TRI-PACER: Scale ukie Piper.  
PLAY PLANE: All-balsa FF, .049.
- HOT FOOT: Stunt biplane, .29 - .35.  
DOUBLE FEATURE: Rubber - .049 combo.
- LONG TOM: .29 - .35 free flight.  
SIDEWINDER: .049 profile ukie.
- GYRATOR: .29 - .35 stunter.  
AERONUT: .19 free flight.
- BOUNDER: Record .29 speed.  
ZEPHYR: .049 free flight.
- NOBLER: Aldrich .29 stunt.  
FUNSTER: Hot .049 free flight.
- SKY WING: .049 flying wing.  
CHALLENGER: .29 team racer.

### MAILING INSTRUCTIONS. IMPORTANT!

Add 5c for postage and packaging on orders mailed 3rd Class. For First Class add 10c for postage and packaging and for Air Mail add 15c for postage and packaging, for EACH set of plans. Plans available only in groups as listed.

## MODEL AIRPLANE NEWS

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

Enclosed is.....for which send me the sets of plans which I have checked. 1st class & air mail postage being extra.

Name Please print

Address

City Zone State

from the dock. Incidentally, this job uses two electric motors for drive. This is just the kind of model that will welcome the new Babcock Electric Motor Reversing Switch.

### NEW ITEMS

By the end of the year, every individual and club should have a fairly good library started. The latest book of interest to the RC fan is the publication by Raytheon Manufacturing Co., 55 Chapel St., Newton, Mass. entitled *Transistor Applications*. Selling for 50c, this is a down-to-earth coverage with how-to-do-it instructions on more than 50 practical circuits, using the CK-722 transistor. While not all items pertain directly to RC work, we think you'll find enough information in this book to keep you going through the coming winter months. Check your local Raytheon distributor for the book and various transistors.

Those of you who are just starting radio control work may wonder where to get some of the rather unusual gadgets and parts. Besides the regular RC supply houses such as ESSCO, Gyro, Control Research, Box 9, Hampton, Va. and Ace Radio Control, Higginsville, Mo., we now have one of the largest radio supply houses in the country entering the field. Lafayette Radio (100 Sixth Ave, New York City; 110 Federal St., Boston, Mass. and 24 Central Ave., Newark, N. J.) offers quite a few items aimed toward the RC field. Refer to Dept. ST-23 and ask for their flier on transistor transformers and circuits. This bulletin gives quite a bit of information on various sub-miniature transformers, circuits, books on transistors and sub-miniature components. These components include sub-miniature tubes at a substantial savings, sub-miniature pots, switches and plug-jack sets. Catalogues 9-54 and 3-55 also give their complete line of radio parts which are needed for general transmitter, receiver and gadget building.

Now available from your local hobby distributor is the new Babcock Electric Motor Speed Control and Sequence Reversing Relay. This appears to be the answer to the RC boat or cat fan's prayers; in fact, it can even be used in a plane. Measuring 1 1/2 x 1 3/4 x 1 1/8 in. and weighing but 1 1/2 oz., this self-contained unit provides eight-position control, allowing you to obtain start, stop, reverse and two speed forward. The contacts will handle 10 amps at 6 volts, which is adequate for almost any RC application. Now there is no need to put up with bulky makeshift devices or uncertain and unreliable homemade gadgets to achieve all of these functions when you can get this unit for only \$12.95. A set of speed control resistors for all popular size motors is also included and the current-carrying elements of the printed wiring switch are rhodium plated, just like guided missile rotary switches.

A transistor circuit which would work directly into a relay-actuator has been originated by NEWX Products of Union, N. Y. This company is offering a model T700 NEWX escapement, which works directly from the collector circuit of a GE 2N43 or GE 2N45 transistor. This is the first step in this country to produce miniature equipment and at the same time eliminate the "unnecessary" relay. This will cut cost, weight and fussin' time.

CTC, Cambridge Thermionic Corp. of Cambridge, Mass., has come up with a new coil form, specifically designed for printed wiring applications. However, it may also be used in the conventional way. Two sizes, measuring .219 and .285 in. in diameter, are both about 3/4 in. long and the slug may be adjusted from either end. They are available with either two, three or four terminal lugs for fastening the coil windings. Inexpensive, they should be available through any radio supply house carrying CTC products. The .219 in. size is model SPC-1 and the .285 in. size is model SPC-2.

## The T-craft

(Continued from page 10)

forward of cabin as "scaffolding" to locate formers, firewall, etc. Cowl can be of pie sections of 3/16 soft balsa or carved from soft blocks. Dowels align cowl on firewall.

The original was covered with yellow Sky-sail, 75 weight. Two coats of thin clear and one coat of Aerogloss, T-Craft yellow did well on the wing and tail. Fuselage had an extra color coat and cowl several more. Numerals and aileron markings were cut-out black paper; a tapered black stripe, with diamond detached head, ran down the center of each side of the fuse.

Motor is mounted with moderate down and right thrust. The balance is placed exactly as shown on fuselage with wing and tail in place. Vents at cowl should be fairly large, say at bottom, sides and top, 3/16 x 1 1/2 in. Leads can be run outside on firewall for booster, using an old ignition cable clip at the glow plug. Put plugs in the tank to allow motor run of 40 seconds to cover starting and to allow 30 seconds in the air.

Try for left circle on power and glide using more or less right thrust if needed. Raise front of the wing experimentally with 1/32 sheets of balsa until a slight galloping stall is apparent in glide and then remove a sheet or so to level the glide to its minimum sinking speed.

## Contest Calendar

### SEPTEMBER

- 3—*Morgan City, La.*: Class AA Louisiana Shrimp Festival Model Airplane Meet for CL, CLS, CLC. Elmer J. Griffin, C.D., 814 Third St., Morgan City, La.
- 3 & 4—*Dallas, Tex.*: Class AAA Southwest Model Airplane Championships for all controlline events, FFG, PL. Maurice Teter, C.D., 2025 Abrams Rd., Dallas, Tex.
- 4—*Lancaster, O.*: Class AA Lancaster Sky-larks' Club Meet for CL, CLC, CLS. Paul McGrew, C.D., 331 E. Main St., Lancaster, O.
- 4—*Inglewood, Calif.*: Skywolves' Record Trials for CL. Don C. Crystal, C.D., 805 E. Palmer Ave., Compton, Calif.
- 4—*Goodland, Kan.*: Class AA Northwest Kansas Gashoppers' Meet for FFG, RC. Kenneth Armstrong, C.D., Goodland, Kan.
- 4—*Bloomington, Ind.*: Class AA Annual Bloomington Model Plane Championships for FFG, RC, CLC, CLS. Robert R. Davis, C.D., 218 N. Walnut, Bloomington, Ind.
- 4—*Washington, D. C.*: Class AA Washington Area model meet for CLS, CLC, TR, FFG, RC. Bob Kirwan, C.D., 4305 16th St. S., Apt. 2, Arlington 4, Va. Pending.
- 4—*Boise, Idaho*: Class AA Boise Model Airplane Contest for OHLG, TLG, OR, FFG, RC, CL, CLS, CLC, scale. Richard A. Burrell & Vern Clements, C.D.'s, Box 608, Caldwell, Idaho. Pending.
- 4—*Wilmington, N. C.*: Class AA SENC Land Model Plane Meet for CLS, CLC, RC. W. M. Peck, Jr., C.D., 2409 1/2 Country Club Rd., Wilmington, N. C.
- 4-5—*Monticello, Minn.*: Class AAA 7th Upper Midwest PAA-Load Meet for PL, RC, Jetex. Walt Billett, C.D., 2541 Nicollet Ave., Minneapolis, Minn.

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