The Tri-Traveler

by DAN LUTZ

You can't ride in it, but this "trike" Champion, is as close to big plane realism as you can get. Fine performer on those .049's.

Over 200 successful flights in all kinds of weather made the author happy with the results of time well spent on detail and paint job.

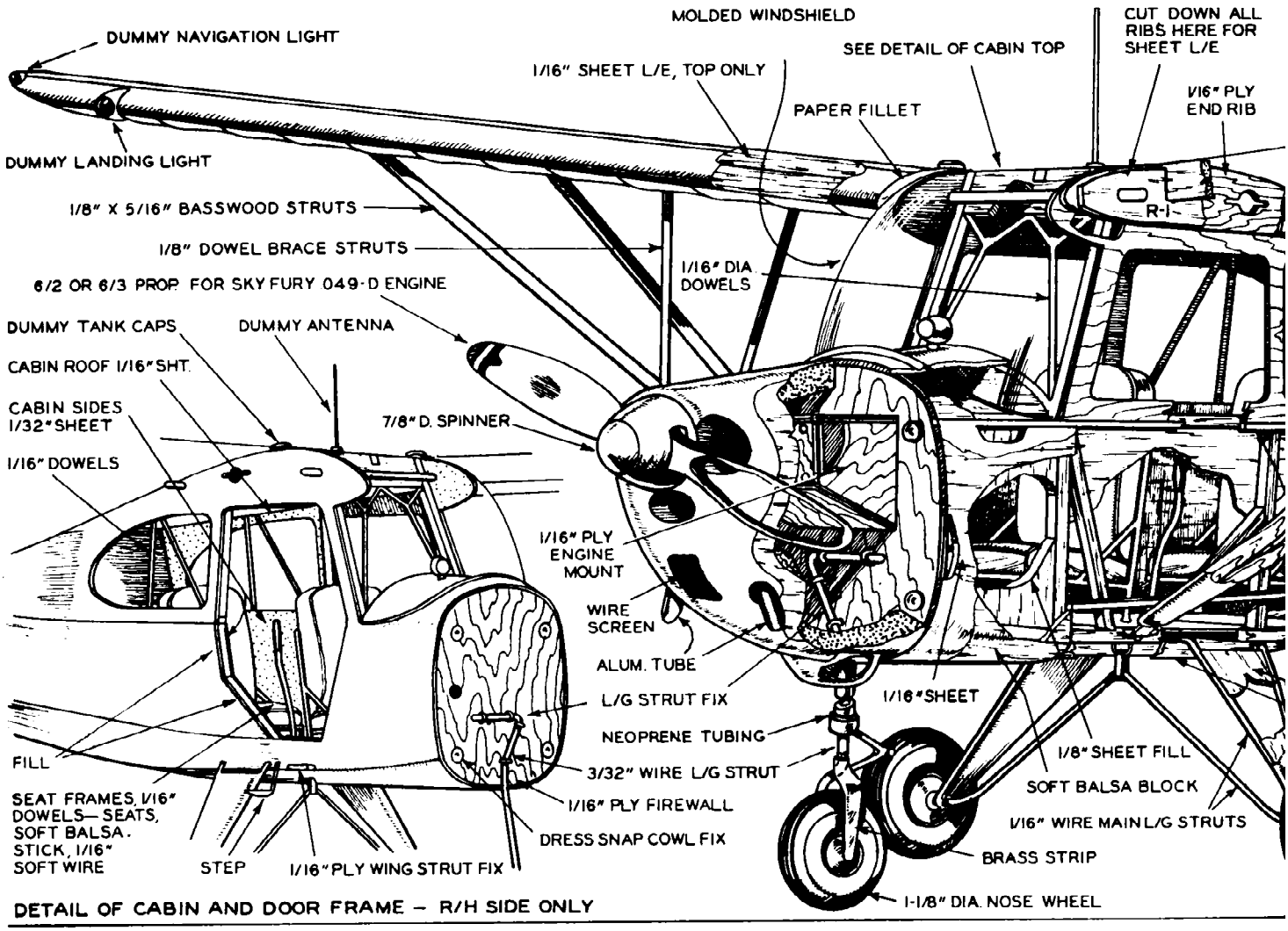
Scale tail surfaces and near-scale dihedral make Lutz's Champion exceptionally accurate free-flight scale. Yep, the door works!

► Descended from the famous Aeronca Champion, the new Champion Traveler is manufactured by the Champion Aircraft Corp., Osceola, Wis. The new Champions have increased horsepower, new oleo-type shock-absorbing landing gear, completely upholstered interiors and a flashy new paint and trim combination. This outstanding airplane makes a rewarding model.

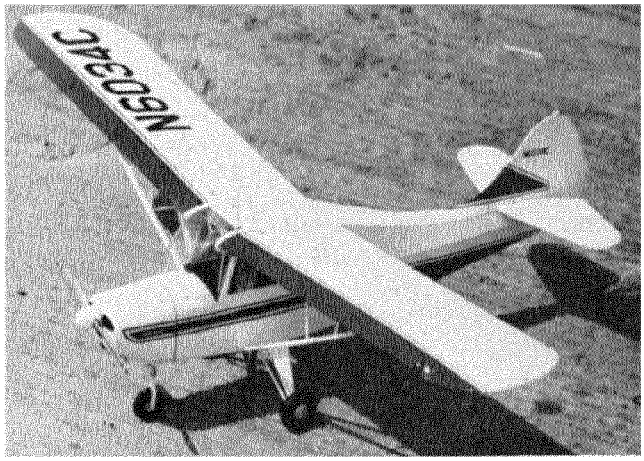
At the 1958 Nationals, the model was relatively new and not well tested, but later in the season took second in the Ninth Annual Flightmasters Scale Contest, Inglewood (Calif.) being beaten out by a ship with two-speed motor permitting full-power take-off and throttled-back descent to power-on landing. At the time of writing the Tri-Traveler has logged over 200 flights in all kinds of weather. Scale tail area and near-scale dihedral don't seem to affect performance adversely.

The box-type fuselage is constructed from ⅜" sq. balsa with the nose portion planked with 1/16" sheet balsa. Cut out the two upper cabin side frames from 1/16" plywood. Drill the wing dowel holes in the right and left frames at the same time. This assures both wings have the same angle of incidence which is very important. Add the bulkheads, 1/16" balsa rudder keel and stringers. Don't forget the 1/16" x 1/32" balsa cap strip on the bottom longerons which will serve as a covering ledge to keep the covering from sticking to the fuselage upright braces when doped.

The main landing gear mount is cut from 1/16" plywood. Sew the 1/16" piano *(Continued on next page)*



DETAIL OF CABIN AND DOOR FRAME – R/H SIDE ONLY



Wing lights, gas caps, antenna, typify details that make a stand-out craft. Cabin side slope automatically provides the dihedral.

The Tri-Traveler . . . *Continued*

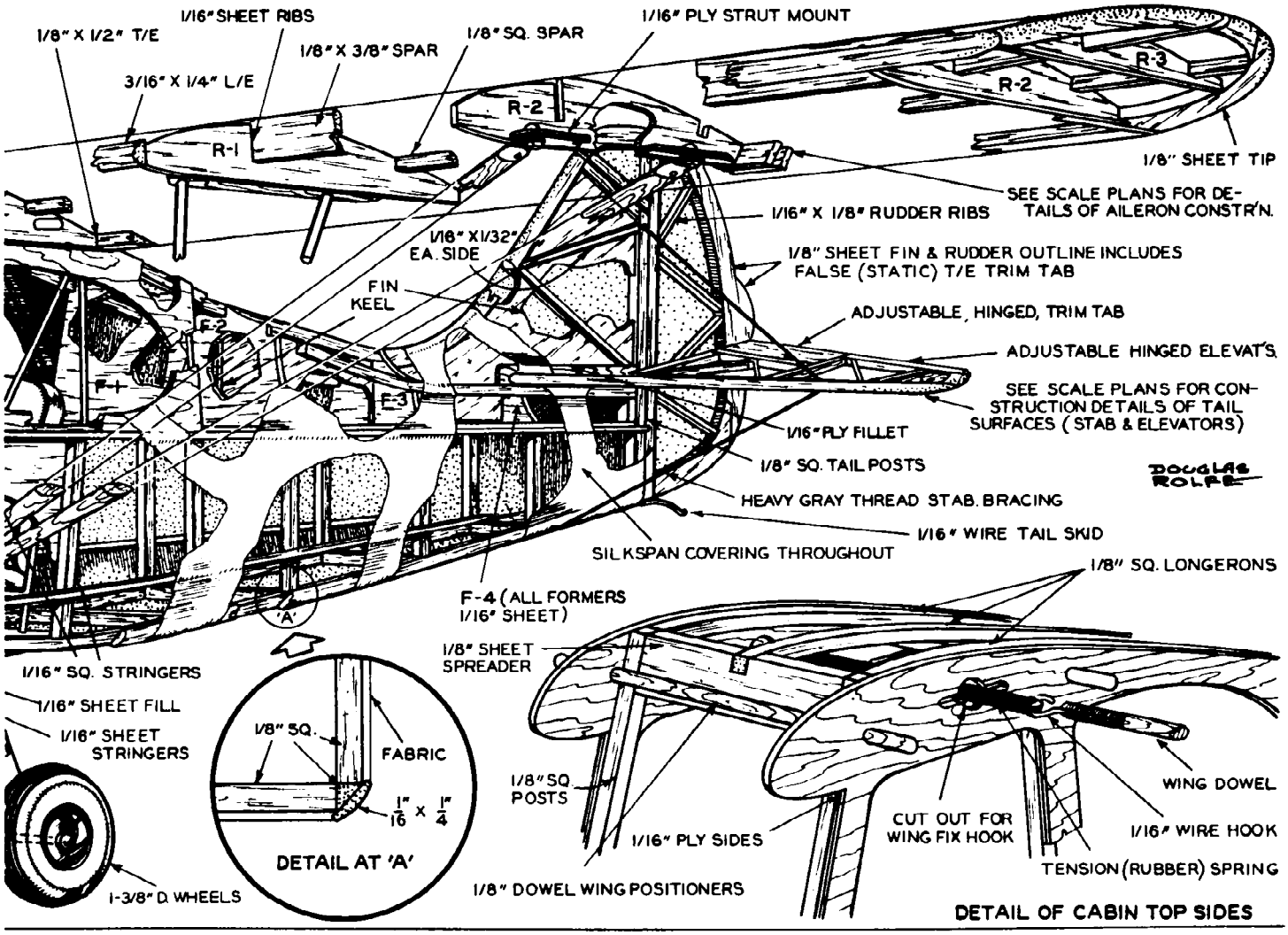
wire gear to this mount and glue several times. The nose gear is bent from 3/32" piano wire and held to the firewall by J-bolts. The firewall and engine mount box are also cut from 1/16" plywood. When building up the engine mount box, which may be altered to fit any 1/2A engine, make certain that at least four degrees of downthrust are built in.

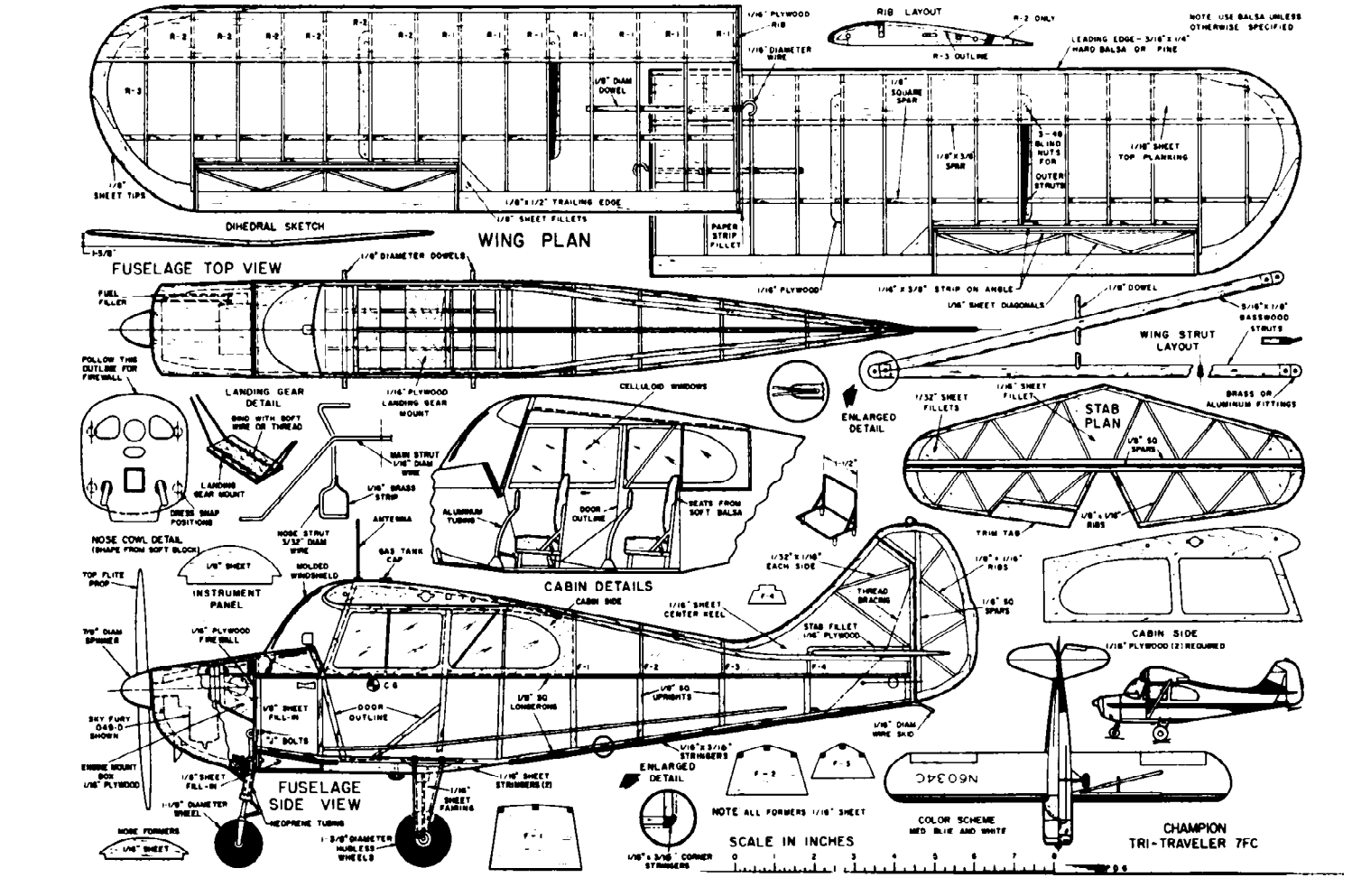
Install the operating cabin door on the right side of the fuselage if you intend to add the interior details to your model. The seats are built from 1/16" dowel with soft balsa cushions. The cabin floor is 1/16" sheet balsa with the sides and top being 1/32" sheet balsa. To simulate the upholstered panels and seat cushions, colored flock is used. This flocking compound can be purchased from any arts and crafts store. It is very light and easy to apply.

A trip to your local airport will give you unlimited ideas for the numerous small details. The cowl is built up from balsa blocks, then hollowed out. Use four large dress snaps to hold the cowl to the firewall. A small piece of wire screen and a length of 3/16" dia. aluminum tubing will make the details for the cowl.

The wing tips and tail outlines of the original model were formed over a template cut from ¼" sheet, with the inside contours as a guide when cutting out the templates; the strips of wood were boiled for ten minutes before bending them around the templates. The plans show sheet balsa edges for simplicity. The 28 wing ribs are cut out, pinned together and sanded to the correct airfoil shape. While the wing ribs are still pinned together, drill a ⅛" hole through them where the rear spar is located. Cut out the ⅛ x ⅜" notch for the main spar, allowing an added 1/16" depth for the 1/16" balsa leading edge sheeting. Install the 1/16" wire hooks and add the 1/16" plywood end ribs which extend the full chord of the wing. Drill the two ⅛" holes in the end ribs to match the two ⅛" dowels on the fuselage. Make certain that both wings are mounted at the same angle.

All control surfaces are attached with soft iron wire as hinging material. The wing struts are constructed from 5/16 x ⅜" basswood or hard balsa. Use thin brass or aluminum to make the fittings. Use 1/16" dowel pegs to help hold the fittings in place. The length of the wing struts controls the amount of dihedral, which should be 1-⅜" at each tip. Follow the plans closely when assembling the wing struts, making *(Continued on page 36)*


1/16" SHEET RIBS
1/8" X 1/2" T/E
1/8" X 3/8" SPAR
1/8" SQ. SPAR
1/16" PLY STRUT MOUNT
3/16" X 1/4" L/E
R-1
R-2
R-3
1/8" SHEET TIP
SEE SCALE PLANS FOR DETAILS OF AILERON CONSTR'N.
1/16" X 1/8" RUDDER RIBS
1/16" X 1/32" EA. SIDE
1/8" SHEET FIN & RUDDER OUTLINE INCLUDES FALSE (STATIC) T/E TRIM TAB
FIN
KEEL
ADJUSTABLE, HINGED, TRIM TAB
ADJUSTABLE HINGED ELEVAT'S
F-2
F-1
F-3
SEE SCALE PLANS FOR CONSTRUCTION DETAILS OF TAIL SURFACES (STAB & ELEVATORS)
1/16" PLY FILLET
1/8" SQ. TAIL POSTS
DOUGLAS ROLFE
HEAVY GRAY THREAD STAB. BRACING
1/16" WIRE TAIL SKID
SILKSPAN COVERING THROUGHOUT
1/8" SQ. LONGERONS
F-4 (ALL FORMERS 1/16" SHEET)
'A'
1/8" SHEET SPREADER
1/16" SQ. STRINGERS
1/16" SHEET FILL
1/16" SHEET STRINGERS
1/8" SQ.
FABRIC
1/16" X 1/4"
DETAIL AT 'A'
1/8" SQ POSTS
WING DOWEL
CUT OUT FOR WING FIX HOOK
1/16" PLY SIDES
1/16" WIRE HOOK
TENSION (RUBBER) SPRING
1-3/8" D. WHEELS
1/8" DOWEL WING POSITIONERS
DETAIL OF CABIN TOP SIDES


RIB LAYOUT
R-2 ONLY
R-3 OUTLINE
NOTE USE BALSA UNLESS OTHERWISE SPECIFIED
LEADING EDGE - 3/16" X 1/4" HARD BALSA OR PINE
1/16" PLYWOOD RIB
1/16" DIAMETER WIRE
1/8" DIAM DOWEL
1/8" SQUARE SPAR
1/8" SHEET TIPS
1/8" X 1/2" TRAILING EDGE
1/8" SHEET FILLETS
DIHEDRAL SKETCH
WING PLAN
PAPER STRIP FILLET
1/16" PLYWOOD
1/16" X 3/8" STRIP ON ANGLE
1/8" SHEET DIAGONALS
1/8" DOWEL
3/16" X 1/8" BASSWOOD STRUTS
WING STRUT LAYOUT
FUSELAGE TOP VIEW
1/8" DIAMETER DOWELS
FUEL FILLER
FOLLOW THIS OUTLINE FOR FIREWALL
LANDING GEAR DETAIL
1/16" PLYWOOD LANDING GEAR MOUNT
BIND WITH SOFT WIRE OR THREAD
LANDING GEAR MOUNT
CELLULOID WINDOWS
ENLARGED DETAIL
1/32" SHEET FILLETS
1/16" SHEET FILLETS
STAB PLAN
BRASS OR ALUMINUM FITTINGS
1/8" SQ SPARS
TRIM TAB
1/8" X 1/16" RIBS
MAIN STRUT 1/16" DIAM WIRE
1/16" BRASS STRIP
ALUMINUM TUBING
DOOR OUTLINE
SEATS FROM SOFT BALSA
1-1/2"
NOSE COWL DETAIL (SHAPE FROM SOFT BLOCK)
NOSE STRUT 3/32" DIAM WIRE
ANTENNA
GAS TANK CAP
1/32" X 1/16" EACH SIDE
CABIN DETAILS
CABIN SIDE
1/16" SHEET CENTER REEL
THREAD BRACING
STAB FILLET 1/16" PLYWOOD
1/16" SQ SPARS
CABIN SIDE
1/16" PLYWOOD (2) REQUIRED
INSTRUMENT PANEL
1/8" SHEET
MOLDED WINDSHIELD
TOP FLITE PROP
1/8" DIAM SPINNER
1/16" PLYWOOD FIREWALL
C.G.
1/8" SQ UPRIGHTS
1/8" SQ LONGERONS
1/8" SHEET FILL-IN
DOOR OUTLINE
1/4" BOLTS
SKY FURY 046-D SHOWN
ENGINE MOUNT BOX 1/16" PLYWOOD
1/16" SHEET FILL-IN
1/16" DIAM WIRE SKID
1/16" X 3/16" STRINGERS
ENLARGED DETAIL
FUSELAGE SIDE VIEW
1/16" SHEET STRINGERS (2)
1/16" SHEET FAIRING
NEOPRENE TUBING
1-3/8" DIAMETER HUBLESS WHEELS
NOSE FORMERS
1/16" SHEET
NOTE ALL FORMERS 1/16" SHEET
1/16" X 3/16" CORNER STRINGERS
SCALE IN INCHES
0 1 2 3 4 5 6 7 8
COLOR SCHEME MED BLUE AND WHITE
N6034C
CHAMPION TRI-TRAVELER 7FC

The Tri-Traveler

(*Continued from page* 10)

a right and left set. The wing struts are held to the bottom of the wings by means of 3-48 bolts and blind nuts. The wing struts are held to the fuselage tabs by a small cottor pin which will enable the struts to pivot at this point. Before covering your model, we suggest that you scallop bulkheads B and C between the stringers so that the covering will not stick to them when doped.

The original model was covered with light weight Silkspan, which smooths out with four coats of thin, clear dope. All the surfaces can be covered in a normal manner except for the vertical fin and the top of the fuselage. To cover this portion of your model, we suggest that you cover one side of the vertical fin and half of the top of the fuselage with one piece of wet Silkspan. This should form a graceful fillet which is a distinguishing feature of the Champion Travelers. The cowl and wing struts are also covered; this will enable you to fill the wood grain much faster when doping. The tank is made from a lipstick holder.

The original model is white with blue trim. Use wood filler on cowl, struts, and planked portions. If white or other light color, keep colored dope fairly thick. A very light sanding between coats with #400 wet-or-dry paper removes most of the brush marks left by thick dope. Thin the last colored coat for added smoothness.

To form the windshield, carve a mold from a block of sugar pine and sand it very smooth. Take a piece of .030 thick celluloid and heat it until it becomes pliant—be careful not to overheat it. Pull the heated celluloid over the sugar pine mold until it forms a graceful canopy. Trim off the excess material from around the edges and fit it to your model.

Add the windshield and side windows after the second coat of colored dope. Mask off the portion of the windows which do not get doped and then proceed with the finish. To add the trim color, start by masking a border stripe 1/16" wide. Apply two coats of the trim color. When this has dried thoroughly, remove the masking tape. Add the solid fill-in trim, by masking off another border 1/16" in from the original stripe. Apply two coats of the trim color and carefully remove the masking tape, leaving the base color for the pin stripe.

Your finished model should balance where shown on the plan. It should also be free of any warps. The original model was stable in both right and left power turns. However, we recommend a left-hand power flight pattern. A slight amount of right thrust may be required along with the downthrust. Do not attempt to control the power pattern of your model by turning the rudder. The little Champion Tri-Traveler should ROG and climb at a very slight angle to the left at half-power with a 6-2 or 6-3 propeller.