

THE CALIFORNIAN

A blend of West Coast model products, designing skill, and construction trends produced this top Free-flight

by Conley P. Moody



"Lucky" Moody with his original ship. Californian modellers use plenty of dope on their ships. It preserves the models, adding very little weight.

● The "Californian" is a combination of many tested ideas and construction methods used by west coast modellers. This includes every feature down to the engine and timer—also Californian. The engine is Bob Holland's "Hornet" and the "Tick-Off" timer is the brainchild of Johnny Tatone—both excellent.

The "Hornet" is a beautiful blend

of metal and modern design which develops consistently high r.p.m. and steady thrust. Its shape blends smoothly into the tank and timer making for clean lines at the nose section and mount. This also provides rugged construction.

The "Tick-Off" is a fine accurate method of shutting off the fuel to a split second and it can be mounted in

any number of positions. Since it is a clockwork timer, it provides reliable and consistent timing. It is also not affected by humidity or fuels.

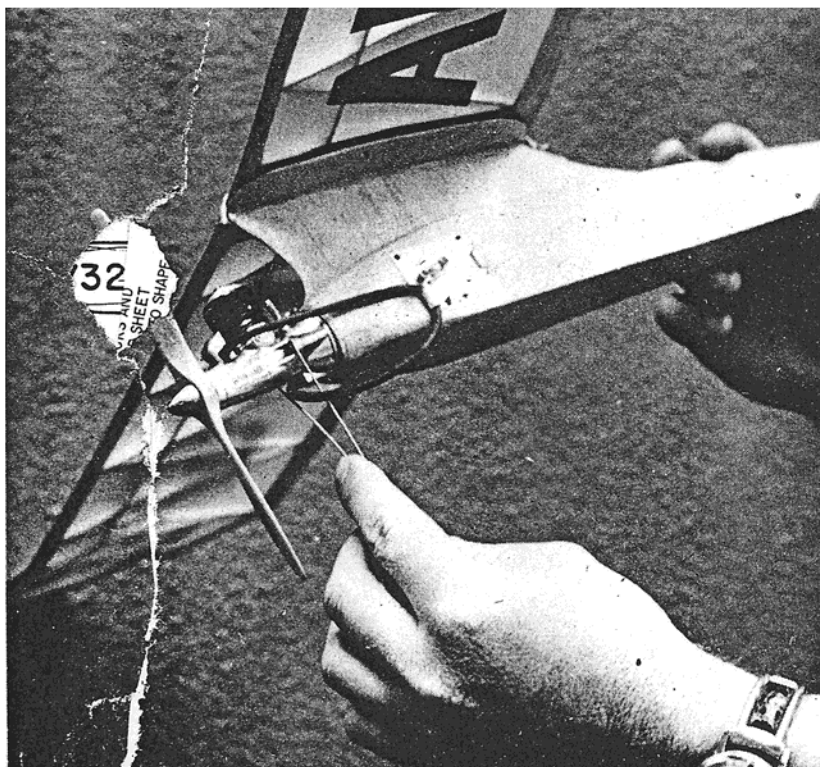
Our ship varies somewhat from the Californian concept in that it doesn't follow the usual school of large lightweight design. This ship is relatively small by west coast standards but it's a power-packed fury that will get up there and rack up time with the best.

The ship's VTO take-offs are spectacular in that it jumps straight up for 8 feet before levelling off slightly in a near vertical climb. The full climb is made within 1½ turns and the transition is to the right making for an efficient right-right pattern. Gliding is flat as the Californian desert and the ship has good penetration in the wind.

FUSELAGE: This is built along conventional lines with the exception of the nose section. Construction is simple since the bottom is flat making alignment easy. Cut out the fuselage sides and cement the fuselage stiffeners at the rear. These are on the inside of the fuselage and strengthen the stab mount. While these parts are drying, cut out the pylon and the nose blocks. Note that the pylon is sandwiched between the blocks to make a solid front assembly back to 3" behind the firewall. On completion of these parts, cement the fuselage sides to the sides of the blocks and mount the formers in place. Work on a flat board to assure proper alignment.

The top and bottom sheeting is applied at a 45° angle to the sides. Reverse the top and bottom angles to get maximum fuselage strength.

Having done this you can finish up the pylon and stab mount. Streamline



streamline the contour of the new Holland "Hornet" fits easily into the rounded nose-section of the "Californian." A Tatone "Tick Off" timer accurately controls engine runs.

the pylon and then add the platform. Cement the sub-rudder and the firewall in place. Make sure that you gouge out a small area to allow for mounting the nut plate and be sure to secure the engine nut plate to the firewall. The "Hornet" comes with a nut plate and retaining screw making this mounting simple.

The fuselage is finished by carving the nose section so that it fits in with the round firewall. Work carefully and do not cut back further than the blocks. Sand the entire fuselage smooth. It will be necessary to cut out a recess for mounting the timer. This can be done now or later.

Cover the fuselage with Japanese tissue and apply 10 coats of clear dope to seal and finish it. Complete the finish by applying 1 to 2 coats of a good grade fuel-proofer

WING: We selected single-spar construction such as that employed by Bob Holland—1947 Nationals Champion. The spar is assembled before construction from straight-grained hard balsa. Note the angles carefully.

Construction of the wing is conventional. Put $\frac{3}{32}$ " packing under the spar and build the wing in sections. Make one inboard panel, then the tip. Then, make the other inboard panel and the other tip. The wing is finished by making the center section. Put a small strip of $\frac{1}{32}$ " sheet under the front edge of the trailing edge strip to obtain the proper undercamber curve.

TAIL: The stabilizer and rudder leave little to explain. However, for those who have never made a stab of this type, we will point up a few things. After pinning the leading and trailing edges in place, cement strips of $\frac{1}{16}$ " x $\frac{1}{4}$ " strip in place for the ribs. These should be very soft stock since the airfoil is sanded into them after the assembly has dried. Use a flat block and medium-weight paper to work the ribs into an airfoil shape. The rudder is cut from sheet stock and shaped.

FINISHING: The flying surfaces are covered with Japanese tissue and 10 coats of clear dope are applied. The last two coats should contain plasticiser to keep the covering from getting too brittle or tight. Use Tricresyl Phosphate or castor oil to do this. Add enough plasticiser to slacken the covering as too tight a covering will produce warps. Keep in mind that the covering will tighten more when the model is out on the flying field and being heated by the sun. Some modelers put small pin holes into the covering, at the trailing edge, to let the heated air out of the wing.

FLYING: Hand glide the model until you have it adjusted for a slight stall. Rather than change incidence at

first, add small amounts of ballast until you obtain the proper glide. Should you find that you need large amounts of ballast, change the angles of rigging.

Put the prop on backwards and make first flights with short engine runs. The power-on flight should be adjusted to the right as is the glide. Use some left thrust to overcome the tight right turn under power. You can also use a slight amount of left turn, applied by cutting a very small tab into the rudder. Tilt the stab so that the left side is high to produce the right gliding turn. Careful adjustment will produce a very hot climb with the prop on the right way. Experiment with adjustments until you are satisfied that you are getting the best possible climb and glide. Remember to keep the glide right on the edge of stalling for maximum float and soaring duration. If you enjoy your "Californian," drop us a note here at FLYING MODELS.

BILL OF MATERIALS (Balsa unless otherwise specified)

2- $\frac{1}{16}$ " x $\frac{1}{4}$ " x 36"	Wing spar
1- $\frac{3}{32}$ " x $\frac{5}{8}$ " x 36"	Stabilizer trailing edge
1- $\frac{1}{8}$ " x $\frac{3}{8}$ " x 36"	Stabilizer leading edge
2- $\frac{1}{8}$ " x $\frac{5}{8}$ " x 36"	Wing trailing edge
2- $\frac{1}{16}$ " x $\frac{3}{16}$ " x 36"	Wing leading edge
3- $\frac{1}{16}$ " x 3" x 36"	Wing and stabilizer ribs, fuselage formers and sides, fuselage stiffener, sheet covering
2- $\frac{3}{32}$ " x 3" x 36"	Wing and stabilizer saddles, wing ribs and tip plates, rudder and sub-rudder
1- $\frac{3}{16}$ " x 3" x 36"	Pylon

Holland Hornet or similar .049 engine; propeller and tank to suit engine; Tatone Tick Off timer; $\frac{3}{16}$ " x $1\frac{3}{8}$ " x 3" balsa; $\frac{3}{32}$ " dowel; Japanese tissue; clear dope; cement; fuel-proofer.