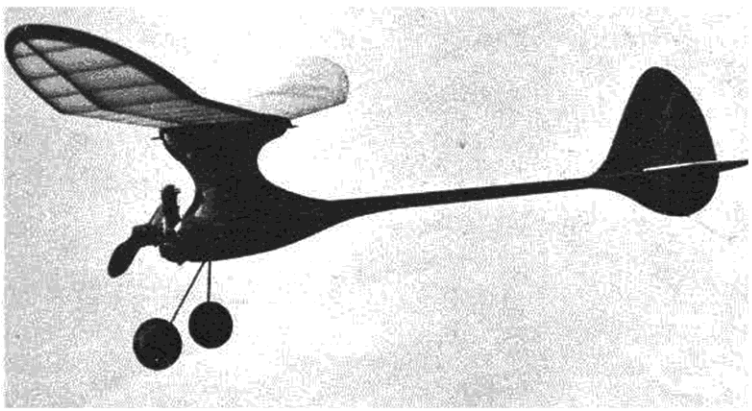
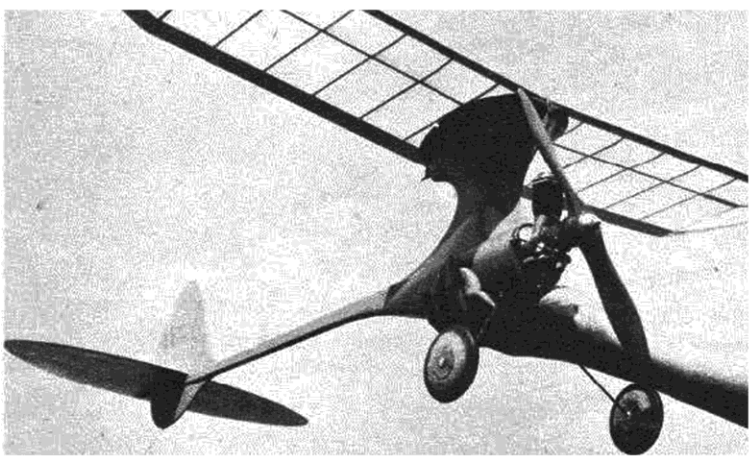
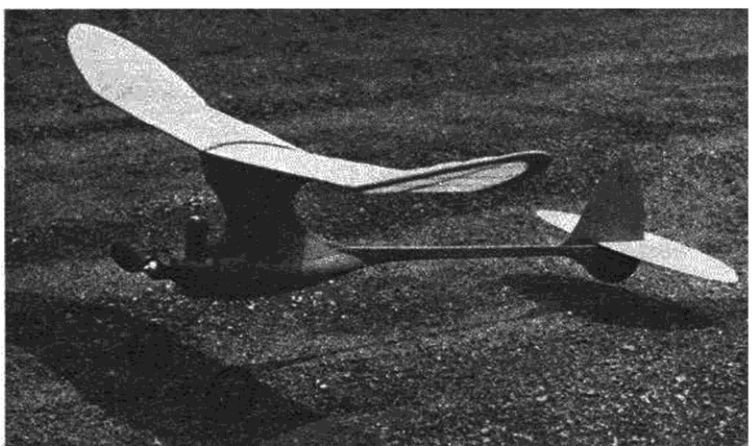
SKIPPER

by PAUL PLECAN







HERE'S a model that literally "flies off the workbench." About 12 hours of work is all that is needed to get *Skipper* airborne. Designed for any .099 engine, this 30" job will really go places due to its slick, simple design. Conforming with A.M.A. regulations, *Skipper* is a real threat in any contest if given half a chance. Tested with every conceivable type of adjustment, the plans show the happy medium arrived at after numerous flights with different sized wings and tail areas. The dieselized *Arden* engine used in the original model has behaved perfectly, considering the author's brief experience with ignition-less engines. With the dieselized *Arden*, or with a *Mite*, weight will have to be added to bring the model up to weight rule for contest work. More about that later. Interested in building *Skipper?* Well, grab a razor blade and . . .

Cut out the necessary ribs from medium 1/16" balsa sheet. This should be no trouble at all, considering the full sized outlines given on the plans. All four panels can be built simultaneously, then joined after the cement is dry through the addition of dihedral braces W-9 and W-10. While waiting for the cement to dry, get a piece of 1/4 x 3/4 *hard* balsa. Taper it to 3/16x3/8 at one end, round the corners off with sandpaper, and there you have the completed tail boom. The pod is simplicity itself, so we won't gab about it too much. If a battery, coil and condenser contraption is desired, you'll have to modify it to your needs, maybe enlarging it to hold all these old-fashioned items. The method of mounting the landing gear is optional. As shown on the plans, the struts are set at a rakish angle, but if you are in a hurry, simply cement the gear to the rear of the firewall or nose bulkhead.

Now you can tackle the pylon. Five outlines are needed—make it any way you want, but laminate the different layers crossgrained, obtaining a pylon 5/8" thick. (Never thought of *carving* it from solid 5/8" stock!). Oh well, once it has been sanded, cement it in place on the pod. The simple sheet balsa tail surfaces will take no time at all to make, but don't forget to make some provision for a trim tab on the rudder. Several coats of clear dope on the rudder, stabilizer, pod and boom, and you're ready to slap things together. Just be sure the pylon, landing gear and tail surfaces line up while cementing said parts together. A wing platform of 1/8" sheet goes on top of the pylon, set at the same dihedral angle as the wing center (use dihedral brace W-10 for this).

The bristol board fillets add quite a bit of strength and are aerodynamically clean. (I've been plugging these fillets for years 'n years but have never seen anyone else use 'em—honest fellas, they're *simple!)* Since these diesel engines spray oil all over the land-

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scape, be sure that the *entire* ship is doped sufficiently to be really oil-proof. That means *at least four* coats of dope. We trust that somewhere along the line a friend has come to visit you and that you've been able to inveigle him into covering the wing. If not, call up somebody good at covering jobs (and tell him to bring the Silkspan). Or else do it yourself, the hard way.

Ready to fly *Skipper*? With the model balancing halfway between the leading and trailing edges, glide-testing should be attempted from shoulder height. If the model follows a relatively straight path, try higher launchings from overhead. Point it *down* at the ground about 30 ft. ahead of you, so that you won't stall it purposely. Since a small amount of incidence is built into the wing you should have no troubles so far. If the model dives or stalls, make adjustments on the wing incidence. To correct the diving tendency, add sheet balsa under the leading edge. For a stall cure, add sheet balsa under the trailing edge. The rudder tab should be offset to get a slight circle to the right.

Now for some power flights. For some undetermined reason the author's engine runs for only 30 sec. on a full tank, adjusted for a rich feed. By holding the model and monkeying with the fuel adjustment for 10 sec., an engine run of 20 sec. is had. (I don't ask questions—I just have fun). In any event, don't risk losing the model by using too *long* an engine run. If necessary, use a timer to cut off fuel or to close the air intake completely.

Well, to get back to flight-testing. Make power flight adjustments with *thrust* offset. Once your wing and tail surfaces have been adjusted in glide-testing, leave them be! For flights with the model circling to the right under power and in the glide, about 3° downthrust is needed. Adjust for a tighter circle with the rudder tab, if you want to, but use a little left thrust to compensate; the model should not be made to circle tightly under power, as the net result is a waste of power. A tight circle in the glide won't hurt, since the model will remain in small thermals.

For those interested in contest work, the weight of *Skipper* should be at least 10 oz. to conform with the 100 oz. per cubic inch rule. If it is necessary to add weight to bring the model up to specs, put the weight in the approximate center of the pod; as too high or low a center of gravity will make the model harder to adjust for power flight.

Don't be lackadaisical about putting your name and address on the model—those things do get lost you know.