

Faint resemblance to a fighter, oh, maybe the Spitfire, lends a realistic air to a thoroughly orthodox stunter. Why should stunters look boxy?

Construction is the same old tried and true sheeted fuselage, with strong D-sectioned leading edge assembly. No design formula was ever better.

# Coquette

By DICK CARLSON

**Big ship performance in .09-powered stunter resulted from this designer's need for an "apartment-sized model." Mac Diesel does it.**

► When the McCoy "9" Diesel was marketed, we saw the possibility of using the motor to good advantage in an "apartment-sized" model. Since our interest is primarily with stunt flying and space restrictions prohibit the building of a large stunter, the Diesel seemed to be the ideal answer to our problem.

If the Mac Diesel lived up to its power-size claims, we felt that it should be able to pull a good sized design capable of big model performance. Consequently, we made our model considerably larger than the average .09 stunt job—the end result being a ship that turned out to be a full-pattern flier.

Our first few flights were with the Diesel running rich and the model flew all but overhead eights. When the motor had had sufficient running time, we leaned the needle out and found that we had a superb stunter which flew everything as well as a big job, which speaks well of the smaller 230 sq. in. wing.

The model goes together very easily, since fairly standard construction is used throughout.

## Fuselage

Cut the sides and F3-F6 formers from medium 1/16 and 3/32 in. sheet. Cut the nose doublers from 1/32 in. plywood, join them to the inside faces of the balsa sides, then cement the 3/8 in. sq. hardwood motor bearers to the doublers (flush with the top edges). Cut out the 3/32 in. ply formers (F1 and F2) and attach the landing gear to F2 with small machine screws and tin straps. Join the two sides at the nose with F1 and F2, then add the remaining F3-F6 formers.

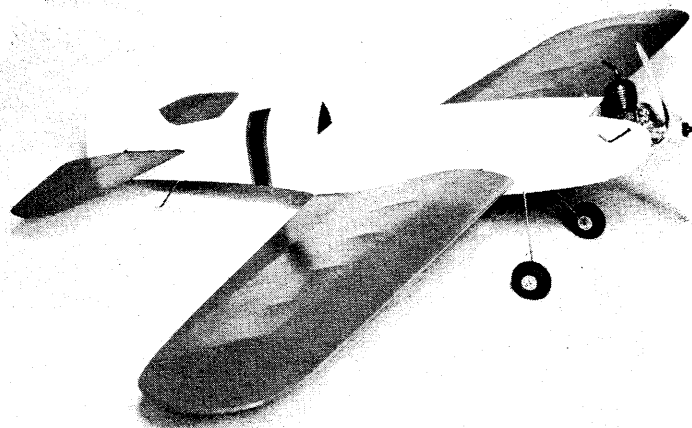
## Wing and Stab

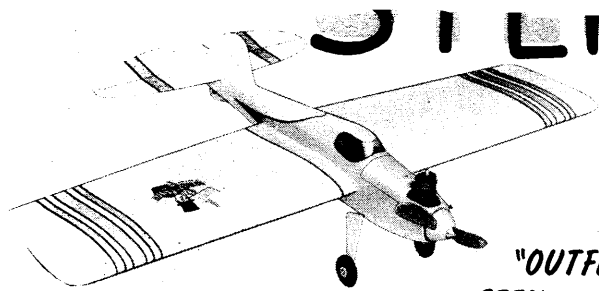
First join the plan drawings at XX to give the full wing layout. Cut out and cement all ribs (med. 1/16 in. sheet) to the lower hard 3/16 in. sq. spar, noting that the left wing panel is longer than the right. Now block up the rib ends and cement the top spar in place. Cut out and cement the med. hard 3/16 in. sheet trailing edge in place. Add the hard 3/16 in. sq. leading edge and the med. soft 1/16 in. sheet top LE covering, dampening the latter if necessary.

Be careful at this point to keep the wing structure in alignment. Next add tip support W4; tip pieces W5, W6, W7; tip sheeting and the upper and lower cap strips. Install the 3/32 in. plywood bellcrank mount (W8), support W9 and the 2 in. bellcrank. Thread 1/32 in. dia. leadout wires through the holes in the left wing panel and anchor the root ends to the bellcrank. Now install the 1/16 in. dia. pushrod and cover the wing center section. Shape the LE, TE and tips to the sections indicated. Sand wing quite smooth.

Cut out the stab and elevators from med. 3/32 in. sheet and sand them to shape. Cement the elevators to a length of 3/32 in. dia. dowel, then hinge this assembly to the stab with 1/2 in. wide strips of cloth and bolt the elevator horn in place. Cement the stab to the fuselage sides, then add the front portion of the rudder (R1) followed by R2. Note that the latter is offset 1/8 to the right. *(Continued on page 47.)*

Compare this picture with the plan for such things as the wing cross-section—again one of the niceties of stunt design. Go for that profile?





Kit C-6—Span 42" for engines from .19 to 60

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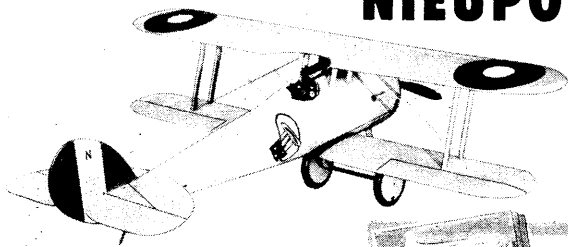
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tone and the idling B current was only 1 ma. His Live Wire Champion was complete with rudder and trimmable elevator and engine control was provided for. Hal claims that two channels should give you everything you want. This means, of course, that you must use multi-servos or compound escapements. You probably have gotten into discussions as to whether an RC job should be light or heavy or whether it just doesn't matter. Here again, Hal brought out his new 7 ft. job, which had a wing loading of 10 oz. Ruggedly built, however, it was capable of very tight maneuvers and the contention was that the lower the wing loading, the better. Enough from the Mirror Meet, we'll have to wait and see what the Nats prove.

From Jean L. DeNeufize, 22 Avenue Friedland, Paris 8, France, came word recently of his success and troubles with a kit version of our two-tuber. It worked fine, right out of box, the first time it was tried at a distance of 300 ft. on a crowded Paris boulevard. The only trouble is that the French "free" band is on 72 mc. The RK-61 has an upper frequency limit of about 75 mc, so that means it'll be pushed in order to operate on 72 mc. However, it can be done. The French builders may also operate in the 27 mc band, provided they use a crystal-controlled transmitter.

The Pacific Northwest Regional Model Airplane meet, held about the end of May, had an RC event which was won by Charles Hollinger and Jim Lackey. Charles took first place in the multi-channel class, flying a scale Cub and using a Babcock BCR-3 receiver and transmitter to give him rudder, elevator and engine control. Jim Lackey took first in the single-channel event, also using a Babcock BCR-3 outfit.

The Lakeland RC'ers, LARCS for short, of the Waukesha, Wis. area have no flying field problem, since they have over 2,000 acres at their disposal. This should make some of you drool, all that space. This is not a club but a real live wire group interested in RC work. Get-togethers of a technical nature are held

once a month, with Tuesdays and Sundays being the big flying days. They claim they have enough room in a new 7 ft. pusher for a small boy. There is considerable interest in boats and work is being carried on with amphibians and other float jobs. Contact Bill Deffner, c/o The Hobby Horse, 839 Gaspar St., Waukesha, Wis. and you might be in time to get in on their late summer contest.

### Coquette

(Continued from page 22)

#### Assembly

Hook up the pushrod to the elevator horn and firmly cement the wing to the fuselage. Adjust the pushrod-horn connection so that equal up and down movement is obtained.

Now go back to the fuselage and cement med. 1/8 in. sq. stringer in the upper notches in F4-F6. Cover the decking behind the cabin with medium soft 1/16 in. sheet, trimming to butt against the stringer, and fit against the fin sides.

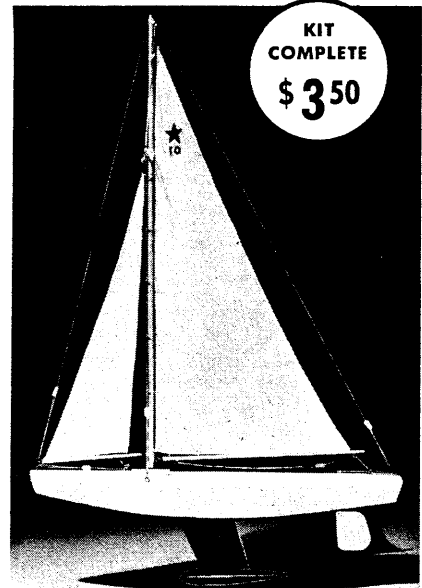
Install the fuel tank at this stage (a Froom T-24-D or C fits nicely with a little trimming). Cement the med. 1/8 in. sq. front decking supports to the sides, flush with the top edges, then add the soft 1/4 in. sheet front decking. Shape and sand the decking to the sections indicated on the plan.

Add 1/2 oz. of wing weight to the right tip, install the tailskid assembly and cover the fuselage underside (at nose and behind wing) with med. 1/16 in. sheet running cross-wise.

#### Covering and Finish

Cover the wings with Silkspan or silk. Silk results in a practically indestructible wing. Give all sheet surfaces two coats of clear dope and two coats of talc-dope filler. Sand well with a light sandpaper and give the wing enough coats of clear dope to seal the pores of

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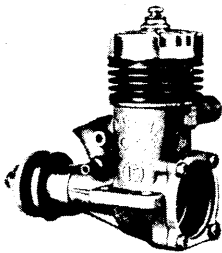
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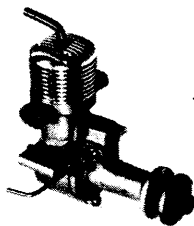
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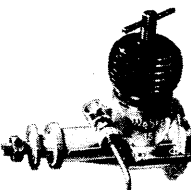
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**WORLD ENGINES**  
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the covering (lightly sand with a very fine paper).

Our model has five coats of yellow dope on the fuselage and rudder and two coats of blue on the wing and stabilizer. Diesel operation cuts out the need for fuelproofing, so any dope may be used. Paint the cockpit area black and add the thin celluloid canopy which is wrapped over bulkhead F4.

Loop and solder the leadout wires, fit on the wheels and solder washers to the axles as shown. Mount the motor with 2° right thrust and hook up the tank to the venturi with medium sized fuel tubing. Drill a hole in the right nose sheet to clear the needle valve.

### Flying

Fly the model on 40-45 ft. long .006 wires, using a small light handle for maximum feel. The McCoy "9" pulls best with an 8 x 5 in. wide blade prop. Feel out the airplane with a couple of rich-setting flights, then lean out the motor and start snapping that handle. You'll be pleasantly surprised.

You can safely fly in any winds you'd normally restrict to bigger craft. Finally, the big advantage with using Diesels, apart from their good power-weight ratio, is the fact that they don't require glow plugs and heavy starting batteries. In fact, you'll find that with Coquette, you have big plane performance plus very low operating costs.

### Engine Review

(Continued from page 30)

It appears that the unit was originally designed for a four lobe petal valve which must have proved unsatisfactory, since it was replaced at the last moment by the present arrangement.

The air intake stands up vertically behind the crankcase and is part of the backplate casting. The spraybar is situated at the elbow where the intake joins the induction chest behind the valve ports. Two pieces of neoprene tube are supplied with the engine which form expansions of two different bore sizes for the intake and thus act as restrictors for different suction requirements. Longer pieces may be substituted in order to extend the intake outside a cowling. The needle valve frictioning device is simple, novel and very effective as it prevents any leakage around the needle which in some engines is the cause of erratic running. It consists of a small piece of plastic tubing which is a tight press fit on the spraybar boss and a push fit on the needle shank. In operation it provides just the right amount of friction and positively damps vibration.

The fuel tank, which has four taped holes into which the crankcase bolts screw, is enormous and has one up, one down vents for stunt use with the pick-up tube terminating in the bottom left hand corner looking from the front. The front of the tank is recessed for intake, fuel line and jet needle clearance and the back is sealed by a resin bonded plate. Four radial mounting lugs are provided on a large diameter, equally spaced bolt circle which offsets the considerable overhang between firewall and prop. The plastic fuel line from tank to spraybar is provided with an external coil spring which positively prevents kinks and binds the two line connections. Where the tank is not required, direct mounting is accomplished by means of four cranked brackets which provide clearance for the rear intake and also adapt the mounting bolt circle to match holes that may already have been drilled to suit the tank lugs.

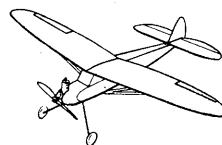
A wrench is supplied which engages with the exhaust ports for cylinder removal and also fits the glow plug.

A machined aluminum spinner, prop retaining screw and steel cable type needle extension with knurled aluminum knob complete the assembly.

In summarizing the outstanding features of this engine, it is fair to say that many of the most potent are extreme developments of ideas

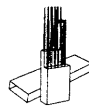
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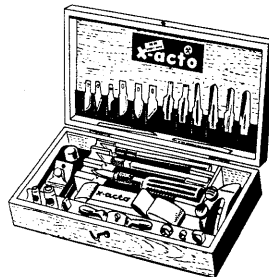


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