RCM TWIN SCOOTER

BY DICK TICHENOR

TYPE AIRCRAFT
Twin 1/2A Sport
WINGSPAN
40 Inches
WING CHORD
6¼ Inches
TOTAL WING AREA
240 Square Inches
WING LOCATION
High Wing
AIRFOIL
Flat Bottom
WING PLANFORM
Constant Chord
DIHEDRAL, EACH TIP
1½ Inches

O.A. FUSELAGE LENGTH
26½ Inches
RADIO COMPARTMENT AREA
(L) 10" X (W) 2-3/16" X (H) 3"
STABILIZER SPAN
16 Inches
STABILIZER CHORD (incl. elev.)
3⅞" (Avg.)
STABILIZER AREA
62.8 Square Inches
STAB AIRFOIL SECTION
Flat
STABILIZER LOCATION
Top of Tail Boom
VERTICAL FIN HEIGHT
5⅞ Inches

REC. ENGINE SIZE
.049 QRC (2 req'd.)
FUEL TANK SIZE
Cox Engine Tank
LANDING GEAR
Tricycle
REC. NO. OF CHANNELS
2
CONTROL FUNCTIONS
Rudder and Elevator
BASIC MATERIALS USED IN CONSTRUCTION
Fuselage ..... Balsa and Ply
Wing ..... Balsa and Ply
Empennage ..... Balsa
Weight Ready-To-Fly ..... 26 Oz.
Wing Loading ..... 15.66 Oz./Sq. Ft.

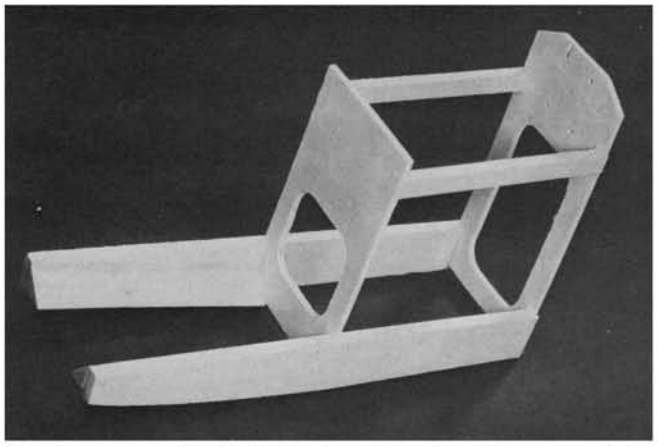
One of the most popular airplanes ever presented by RCM, The Scooter, reappears as a poor man's twin engine aircraft that is rich in enjoyment.

● A one hour drive twice a day on Southern California's freeways provides too much time for day dreaming. Those day dreams get me in trouble because I'm continually dreaming up projects. The Twin Scooter is one of those projects. I am in the dog house with my Fearless Leader because I built it and didn't bother to shoot construction photos.

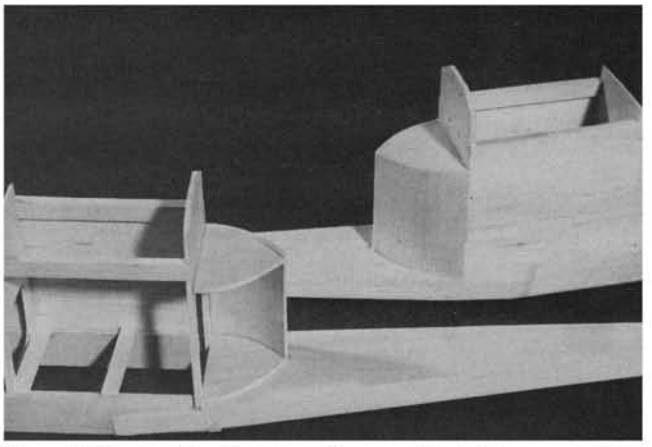
We ran a construction article on the RCM Scooter Mk .049 in our December 1975 issue. The plan sales for that design were one of the largest in RCM's history. For the original construction photos, I built one model to completion and partially completed a second. That second one is the source of my problems because I wondered how it would work if I mounted an engine in the nose, in addition to the pusher installation.

Changing the fuselage nose to accept an engine was a simple task. The only other change was to add a 1/16" x 2" balsa sheet to the upper leading edge of each wing panel. The sheeting was for extra strength that might be needed with the use of the second engine.

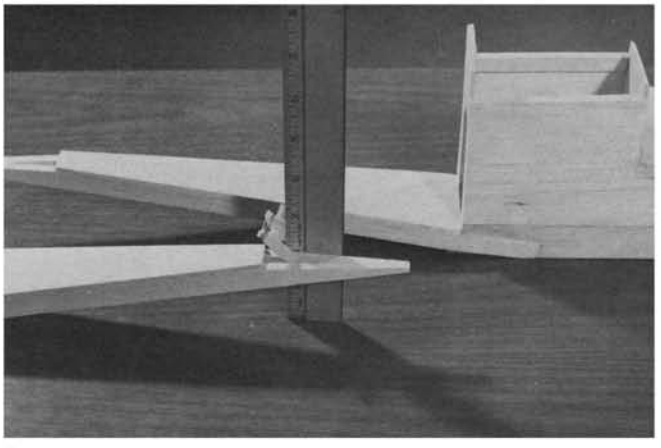
I used a pair of Cox .049 QRC engines that feature really effective silencers. This was a good choice as the noise level is very low while retaining the fascinating beat associated with multi-engined models. The push-pull arrangement eliminates the asymmetrical thrust problems of single engine operation usually found in twins - - - in fact, it flies just about as well with either engine running as it does on both.



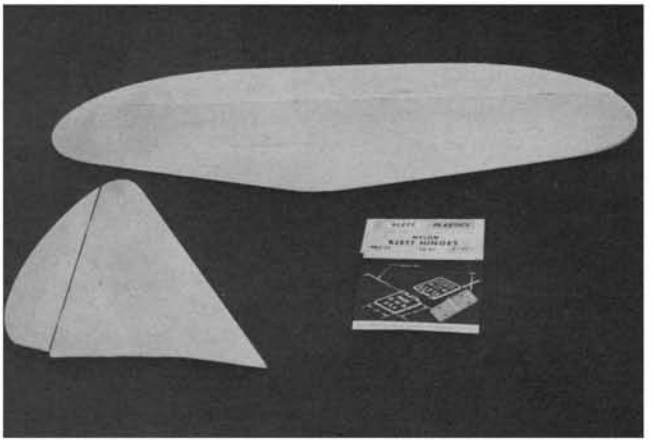
Fuselage assembly is started by gluing the triangular strips to the sheet beams followed by the beams, bulkheads and side rails.



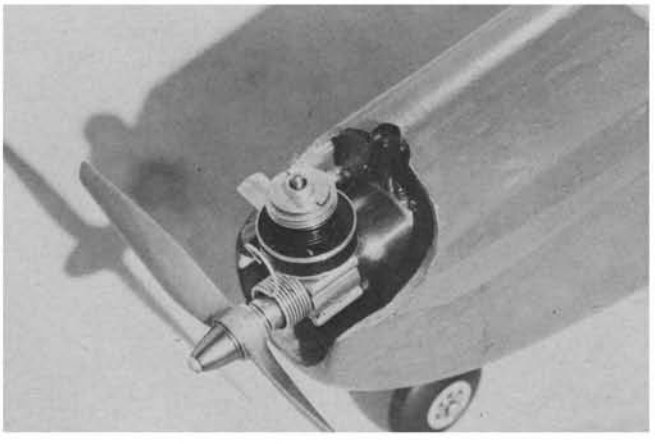
The 3/32" sheet sides are then added. The remaining structure is a series of simple cut-and-glue operations.



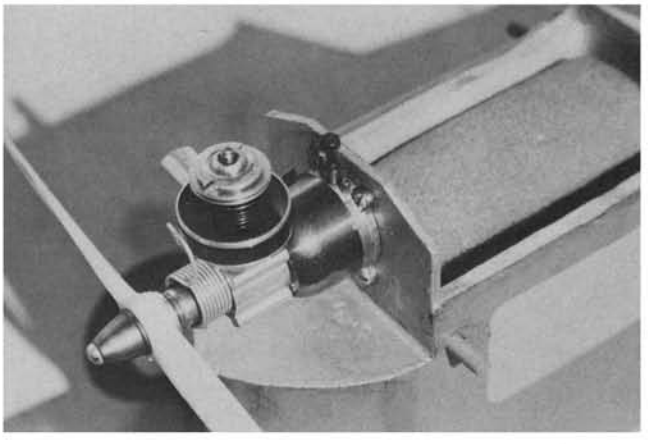
Be sure when attaching the tail boom that the stabilizer mount surface is parallel to the fuselage bottom below the wing.



The tail surfaces are cut and sanded from soft 1/8" sheet balsa. Small Klett hinges were used on our prototypes.



This is a view of the muffled Cox .049 installed in the nose. The spring starters are a big help in getting the engines started.

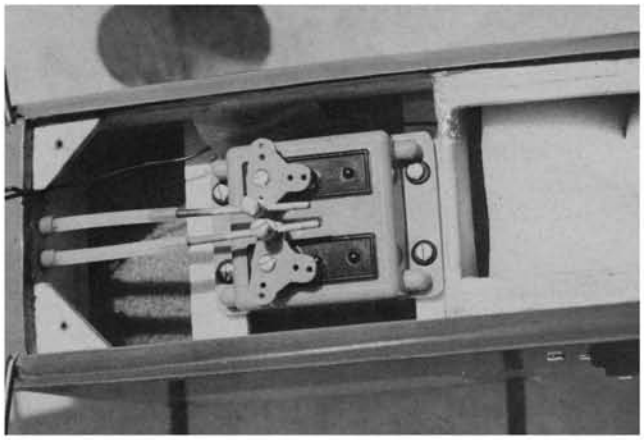


The rear engine is mounted in the conventional tank mount manner. The Twin Scooter simply slows down when either engine quits.

This little twin probably has well over a hundred flights on it. Dick Kidd and I wrung it out thoroughly in the beginning. Our soaring columnist, Al Kindrick, borrowed it and for six weekends he and his friends were continually refuelling and getting it back in the air. Many of the flights found people who had never flown before operating the transmitter and several of them are now into RC. While this speaks well of its gentleness, it is also very maneuverable.

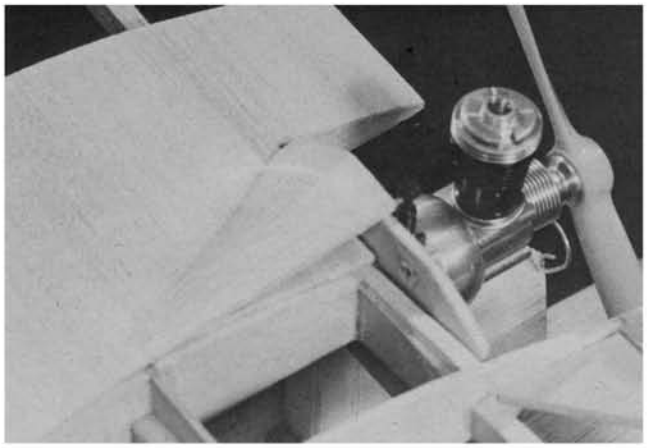
Since I didn't photograph the construction sequence, I will make reference to the December 1975 issue of RCM. Except for the front engine, shape of the nose and wing leading edge sheeting, the construction is the same as the single engine machine. The drawings should be self-explanatory, but if additional information is desired, the December 1975 issue can be ordered from RCM.

Fuselage assembly is started by gluing the 1/2" triangular strips to the 1/4" sheet beams. Next, assemble the beams, bulkheads and side rails. The 3/32" sheet sides are then added. The remaining structure is a series of simple cut-and-glue operations. A couple of words of caution - - - when attaching the tail boom, make sure the stabilizer mount surface is parallel to the fuselage bottom below the wing. Also, use an ample amount of white glue or epoxy to

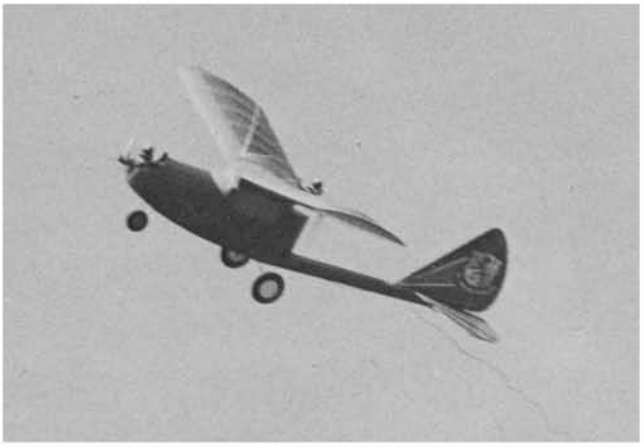


A close-up of the two channel radio installation. An RS Systems propo used. Note Gold'N-Rod installation.

The other end of the Gold'N-Rod pushrods showing the rudder and elevator linkages.



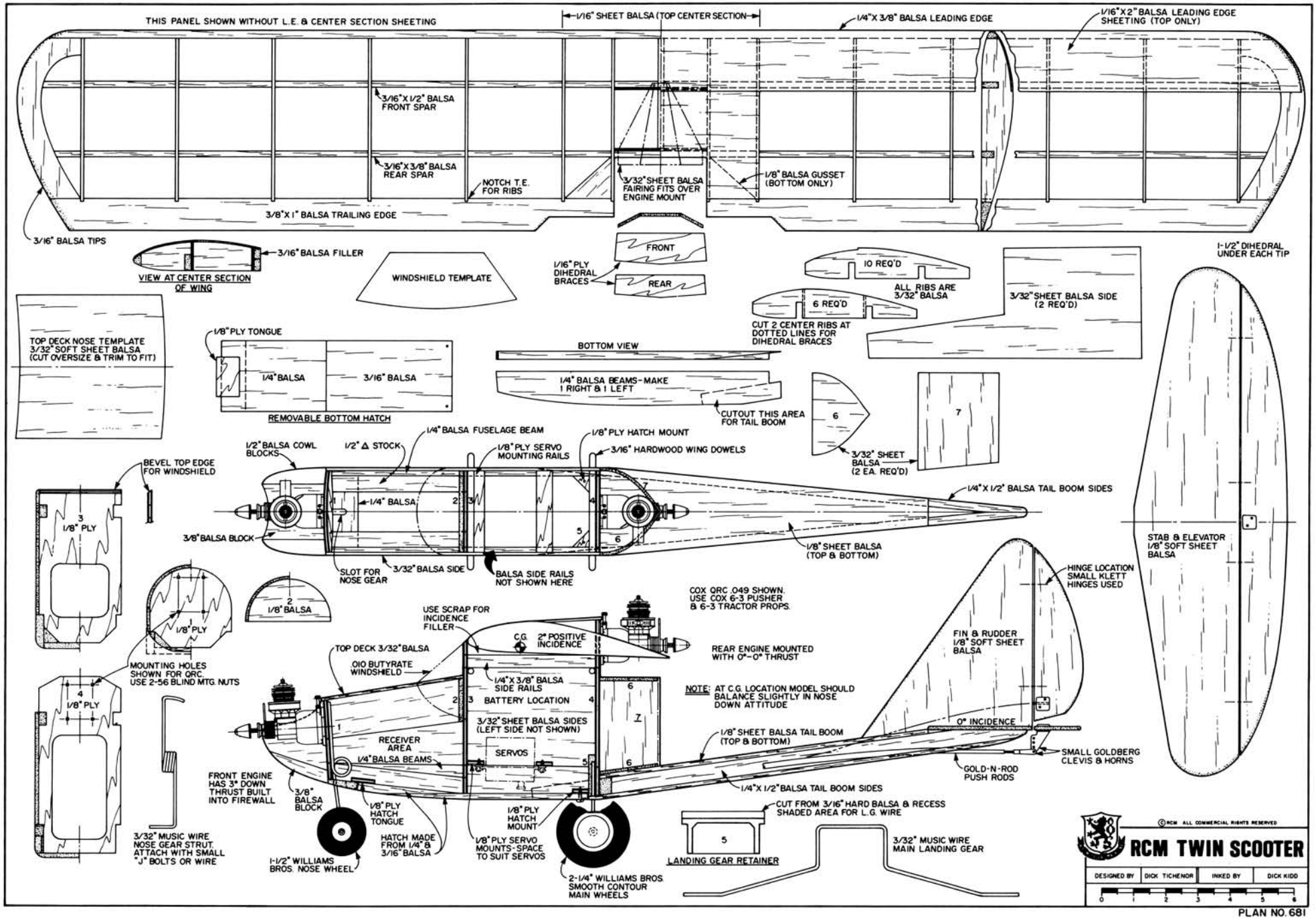
A construction view of the pusher motor illustrating Cox tank mount and blind mounting nuts.



The Twin Scooter is sheer pleasure to fly - - - and, there's no problems at all if either engine quits.

The original RCM Scooter in the background with one of the RCM Twin Scooter prototypes in the foreground.

FULL SIZE PLANS AVAILABLE — SEE PAGE 190



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secure the landing gear retainer.

The nose gear strut was made of 3/32" diameter music wire. Two loops were bent around a 1/4" diameter rod held in a vise and then the bends were formed for the axle and for mounting.

The tail surfaces are cut and sanded from soft 1/8" sheet balsa. I used small Klett hinges, but any of the other popular hinging methods will work as well.

The wing panels were assembled on a flat board. After sheeting the top leading edge and center section, join the panels with the 1/16" plywood spar splices. With one panel flat on the building board, block up the opposite panel tip 3" for dihedral. This will give 1½" dihedral under each tip when installed on the fuselage. The 3/32" sheet balsa fairing is most easily assembled with the wing in position on the fuselage. Be careful not to glue the fairing to the bulkhead.

I used an RS Systems 2 channel radio in this bird. The battery pack was installed in the cabin above the servos and the receiver was placed in the nose section to obtain the proper CG location. Both the battery and receiver were wrapped in foam. The Goldberg pushrod connectors on the servo arms made adjustments quick and easy. Gold'N-Rod pushrods were used with small Goldberg clevis and horns at the control surface.

As with any 1/2A model, watch the weight very carefully. Use lightweight balsa and accessories. Any of the heat shrink plastic covering material will work very well.

The spring starters on the Cox QRC are a big help in getting the engines started. If you have an Astro Flite Mini-Starter, you are really in business.

Our Twin Scooter has given a lot of flying pleasure to a lot of people. Give it a try and ENJOY!! □