

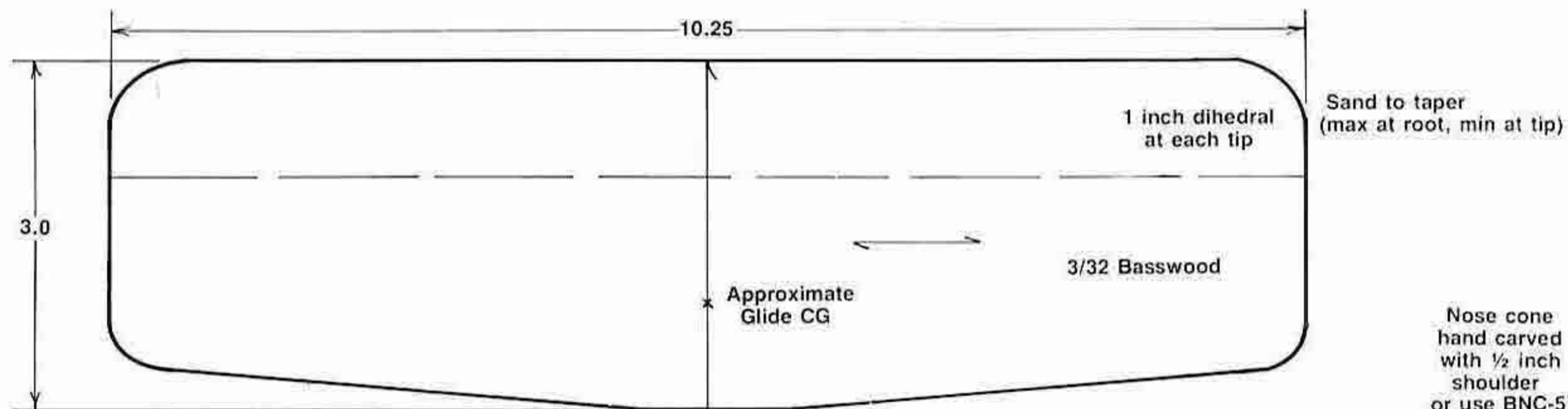
THE SYLPH

A No-Moving-Parts design for Rocket Glide

by Paul D. Vandall, NAR 21208

In classical ballet, a sylph is an illusionary night-time forest sprite of a girl who disappears when you think you've caught her. In other words, something of the mind that plays "hard-to-get."

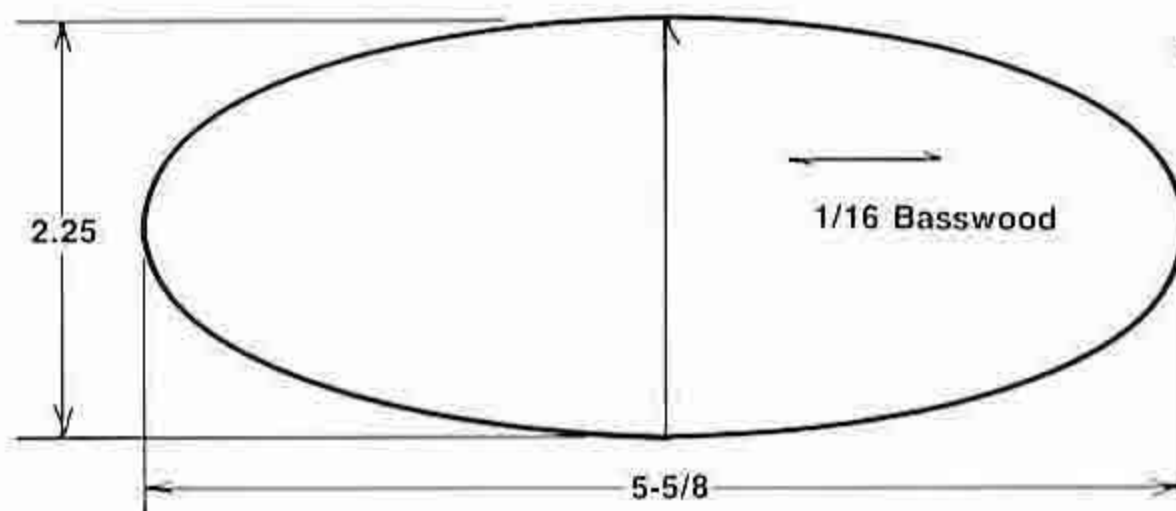
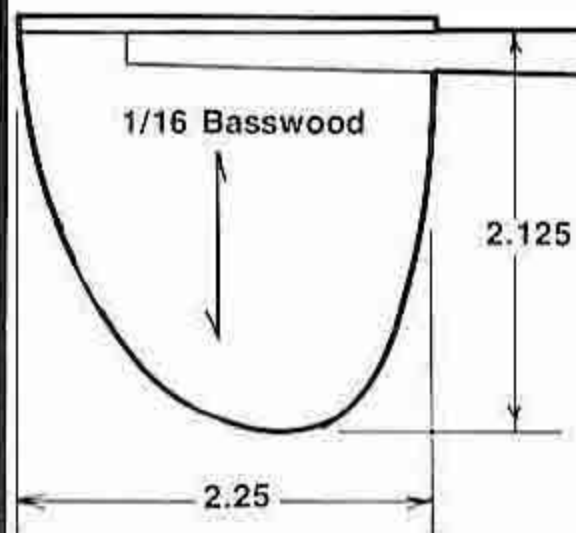
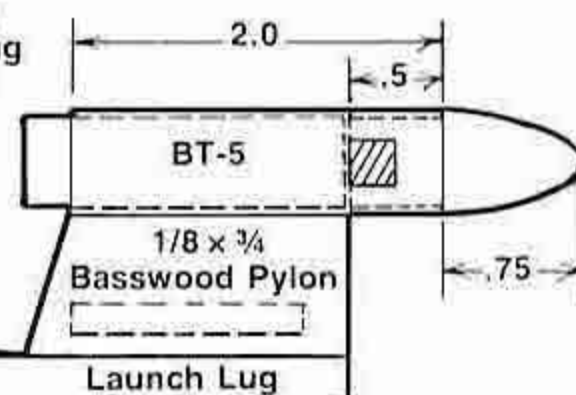
That's exactly what "no-moving-parts" rocket gliders are: hard to get! Hence the name of this R/G, the "Sylph." This type of R/G must boost fairly straight, transition at burn-out and settle into a glide without moving any part of its construction. The **Continued page 9**



Engines
A3-2T
A3-4T

Drawing 62% actual size.
Enlarge 160% for full size plans.

Rear of engine must align with wing leading edge when installed



SYLPH
No-Moving-Parts Rocket Glider

by Paul Vandall
drawn by Spring Smith
American Spacemodeling, March 1989

(Sylph from page 8)

balance point for boost is ahead of the balance point for glide. The center of gravity shift happens as the A3-2T motor burns out from full to empty. Once the engine casing is empty, the CG moves to the rear, usually about 3/4 of an inch. It is the loss of the weight of the fuel that allows the transition to glide.

The Sylph is built as illustrated, 8 parts in all, including the launch lug on the left side of the pod/pylon joint. Round the edges of the stab and rudder as well as the bottom of the boom and the front and rear of the pylon. The nose cone shoulder serves as the engine block. Cut a "U" notch in it to match the right and left exhaust vents cuts from the body tube as shown. Sand the wing tips to a taper. Apply one coat of clear dope to the model and lightly sand all surfaces smooth. Color the bottom of the wing, the stab, and both sides of the rudder with black magic marker so that the glider can be seen in flight.

The model is balanced for glide pre-flight with an empty A3-2T casing in the pod. A little trim clay was used under the leading edge of the wing/boom joint on each side. Another bit of clay was placed under the right wing tip to produce a right hand turn during glide. Performance may vary from model to model due to slight differences in wood weights. Balancing a glider of this type is a fine art in itself. Be patient. Before contest use, wring out the glide with a couple of test flights with A3-2T's, adjusting the clay as needed. Total weight, balanced and empty (without empty casing in place) should be about 16.8 grams. Fly the "Sylph" on a calm day. With a bit of luck in a thermal, she'll dance away true to her name!

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Right, Mr. Reynolds

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(Reynolds continues page 14)

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