

Mini-ROTAROC

By George Gassaway

Plans page 1 (Design & assembly)

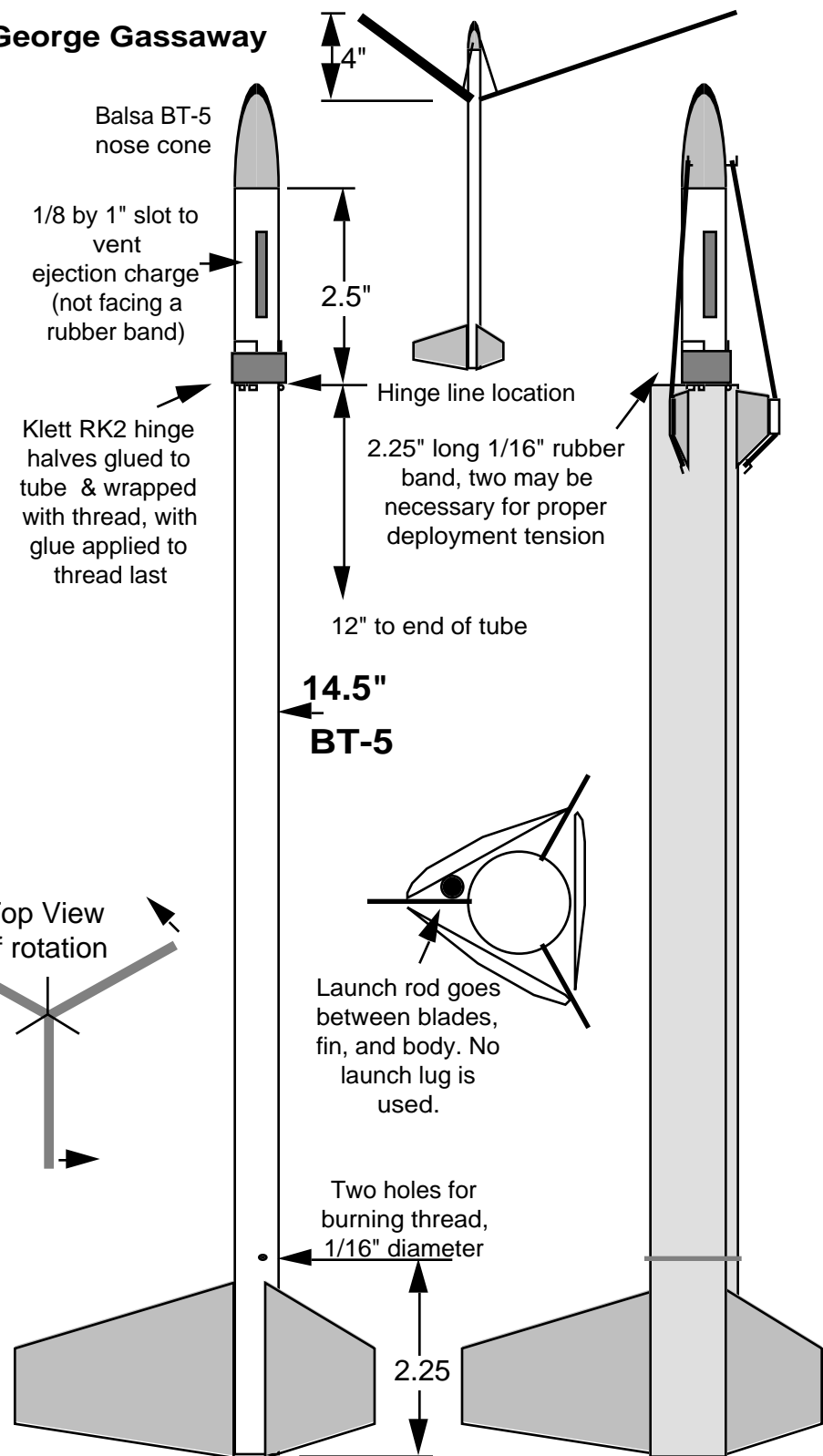
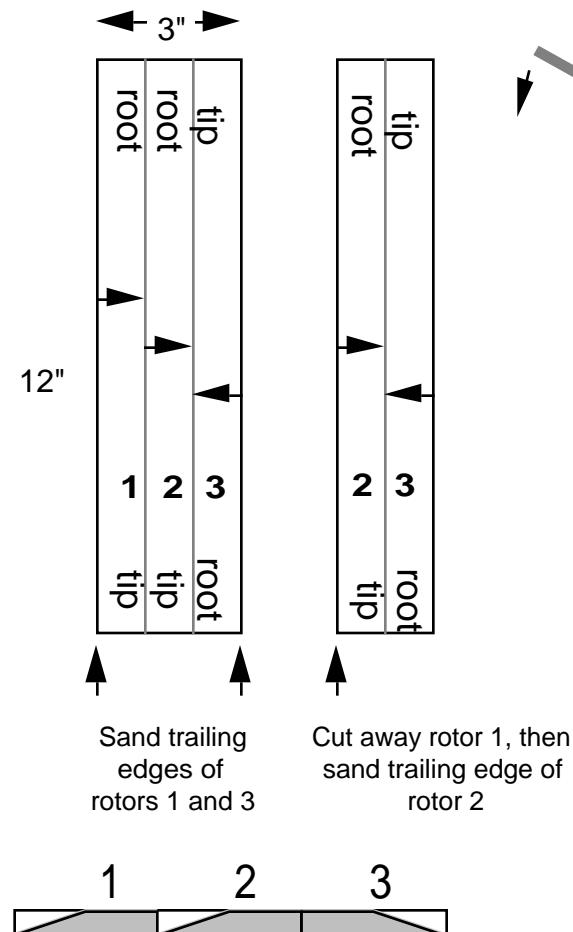
Drawings show model which would rotate counter-clockwise as viewed from above.

PARTS: light 1/16" balsa (fins & rotor supports), Med-light stiff 1/16" balsa (rotors), 14.5" BT-5, BT-5 nose cone, Klett RK2 model plane hinges (3), pins or model railroad spikes, 1/16" by 2.25" rubber bands.

Rotors are 1" wide (chord), 12" long. Made from medium-light 1/16" balsa. Balsa should be somewhat stiff so it will not bow outward much when folded for boost.

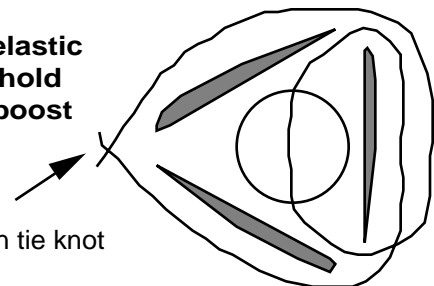
Rotors are fragile and easy to damage or break while sanding the trailing edge. Below is how to sand the trailing edge of all rotors before cutting out from balsa sheet.

Middle arrows point in direction of leading edge. Top view for models rotating counter-clockwise



How to tie elastic thread to hold rotors for boost

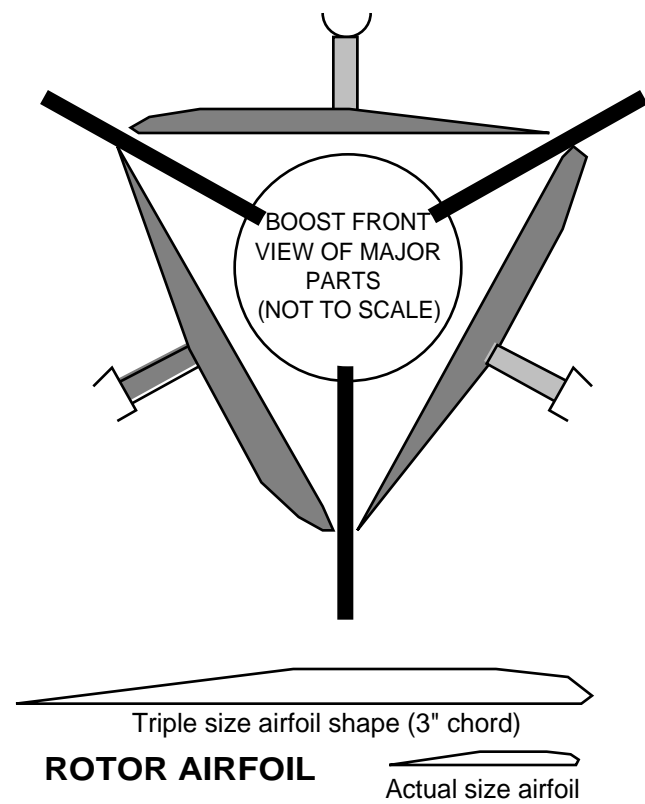
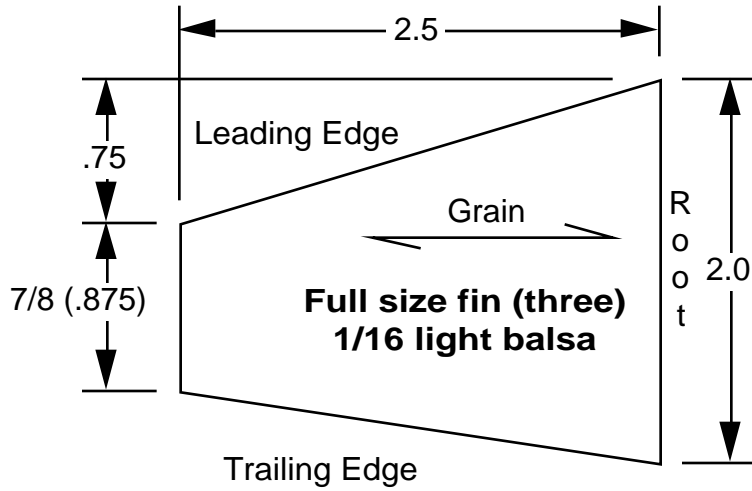
Pull snug, then tie knot



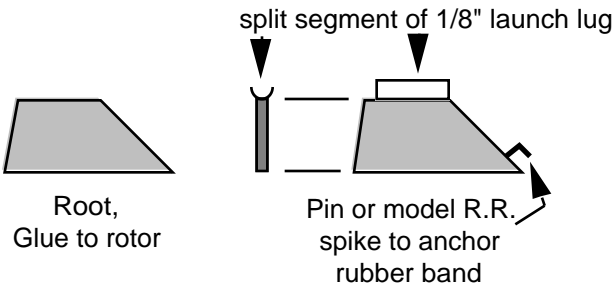
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Plans page 2 (with full size templates & details)

Power: 1/2A3-2T, A3-2T, A3-4T

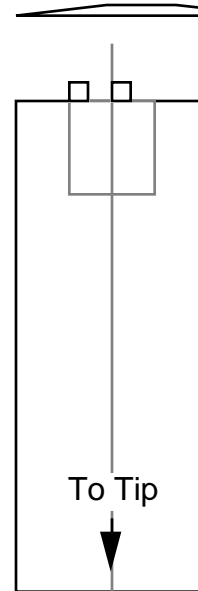


Full size rubber band standoff & dihedral angle support (3 from 1/16" balsa, note grain)



Perpendicular hinge mount

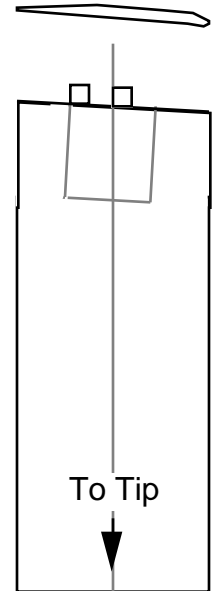
Blade flat at root, must be angled down out towards tip to rotate



Down angle achieved by twisting outer portion of blade

New Skewed hinge mount

Blade angled at root, will rotate fine without any additional work.



Twist tip of blade up nearly horizontal for more efficiency, but will work OK if blade is same angle all across

Construction:

For best performance, build model carefully so that parts are not grossly out of alignment and so it will deploy and rotate properly.

Keep model lightweight in selection of parts, wood, and in construction. Use Cyanoacrylate glue.

For finish, use only 1 coat of thinned clear dope on fins and nose cone, 1-2 coats of clear thin dope on rotors. Do not use any paint. For coloring, use magic marker.

Optional Rotor tip shape (Full size, top view)

