Standard ROTAROC

Plans page 1 (Design & assembly)

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

PARTS: light 3/32" balsa (fins & rotor supports), Medium light stiff 3/32" balsa or very light 1/8" for rotors), 18" and 4.5" BT-20, tube coupler, BT-20 nose cone, Klett RK2 model plane hinges (3), pins or model railroad spikes, rubber bands

Rotors are 1.5" wide (chord), 18" long. Made from medium-light stiff 3/32" or light 1/8" 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.

Layout for shaping and cutting 3 rotors plus spare from one sheet of balsa.

Sand trailing edges to shape before cutting apart at middle.

How to tie elastic thread to hold rotors for boost

Pull snug, then tie knot.

3/16" by 1.5" slot to vent ejection charge (not facing a rubber band)

Klett RK2 hinge halves glued to tube & wrapped with thread, with glue applied to thread last

Balsa BT-20 nose cone

Hinge line location and tube joint

Rubber band size and strength as necessary for proper deployment tension

18" to end of tube

18" BT-20

Launch rod goes between blades, fin, and body. No launch lug is used.

Two holes for burning thread, 1/16" diameter

How to tie elastic thread to hold rotors for boost

Pull snug, then tie knot.
Standard ROTAROC
Plans page 2 (with full size templates & details)
Power: B4-2, B6-2, C6-3

**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.

**Full size fin (three) 3/32” light balsa**

**Double size airfoil shape (3” chord)**

**Actual size airfoil**

**Perpendicular hinge mount**
Blade flat at root, must be angled down out towards tip to rotate

**Skewed hinge mount**
Blade angled at root, will rotate fine without any additional work.

**Optional Rotor tip shape**
(Full size, top view)

**BOOST FRONT VIEW OF MAJOR PARTS (NOT TO SCALE)**

**Full size rubber band standoff & dihedral angle support (3 from 3/32” hard balsa, note grain)**

**Split segment of 1/8” launch lug**

**Root - Glue to rotor**

**Pin or model R.R. spike to anchor rubber band**

**To Tip**

**Down angle achieved by twisting outer portion of blade**

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