

3/16" sheet

0.8 oz Kevlar or  
2 oz glass hinge,  
sheared bias,  
glued into slits

15mm rudder horn  
10mm servo horn

HT21 5%

1/4" medium-hard sheet

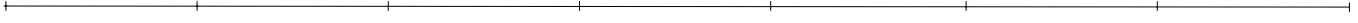
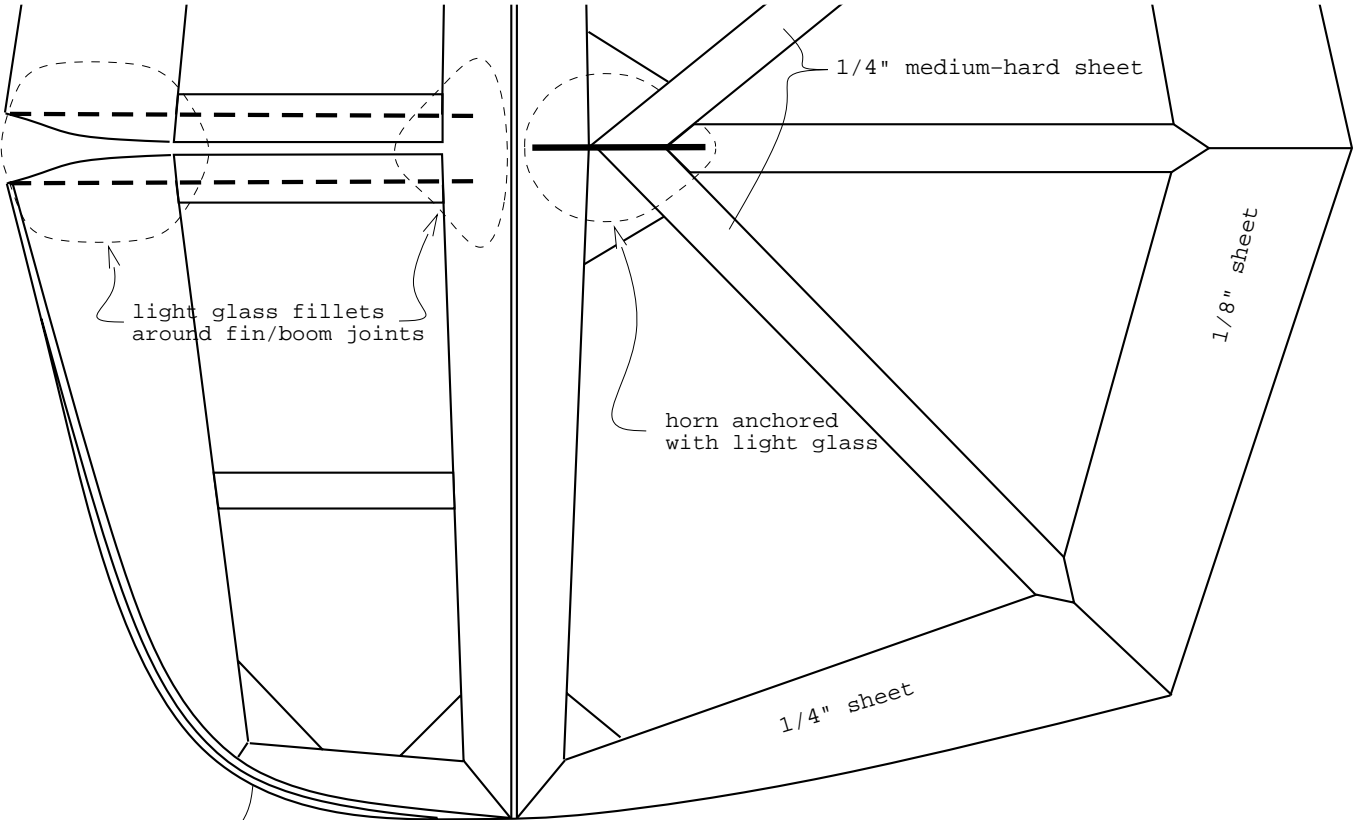
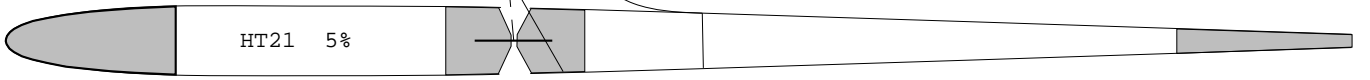
1/8" sheet

light glass fillets  
around fin/boom joints

horn anchored  
with light glass

1/4" sheet

laminated  
very hard 1/32" balsa  
or 0.020" basswood



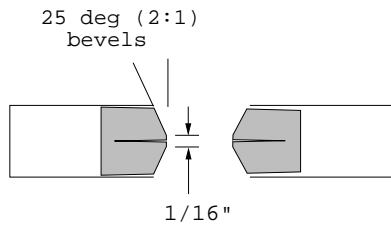
# Bubble Dancer

Vertical Tail  
MD 30 Nov 01

## Design (never-exceed) Loads

vert. tail load	10 lb @ 90 mph, CL=1.0
root bend.mom.	33 lb-in
root bend.Ixx	6.4e-3 in <sup>4</sup>
root stress	900 psi
hinge mom.	4 lb-in
rib stress	250 psi

hinge mom.	10 lb-in (ground strike, est.)
rib stress	500 psi



6-8 lb balsa throughout,  
unless noted otherwise

### Hinge spar construction:

- 1) Sand bevels in 3/8" sheet stock
- 2) Cut slits and join by installing hinge
- 3) Trim hinge spar and LE widths, taper to 5% chord thickness (0.28" bottom, 0.35" root, 0.15" top)

