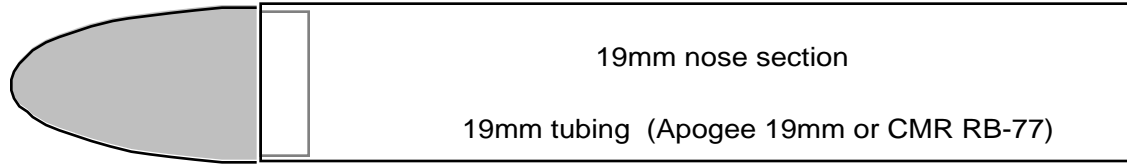
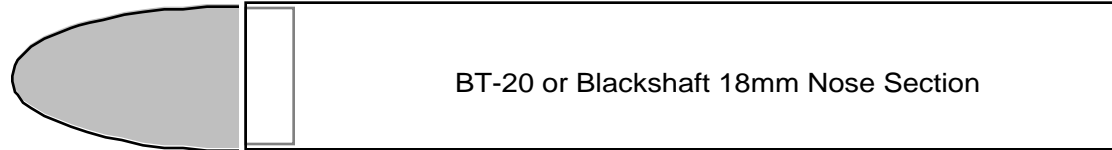
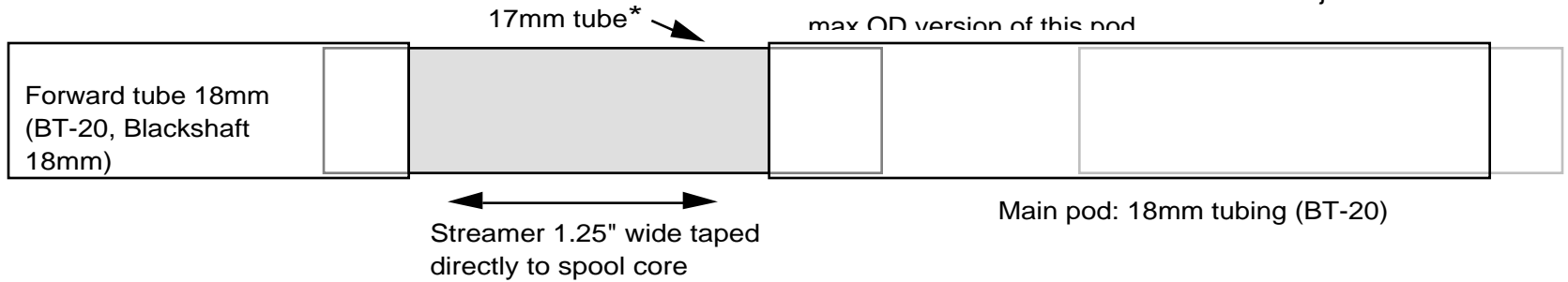


Spooler Prototype

Original June 1990 version

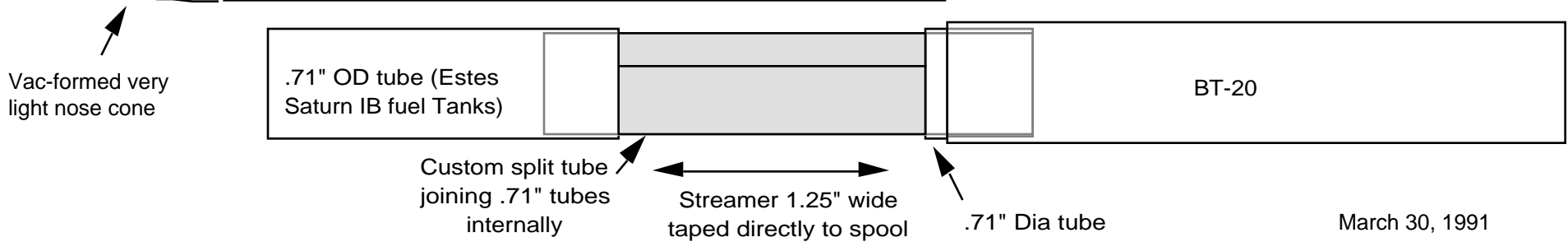


* The 17 mm joiner tube for this can be made from BT-20, or possibly substituted by the .71" dia fuel tank tubing in the new Estes Saturn-IB kit. If using BT-20, cut out a 1/8" gap strip so the BT-20 can fit as a coupler inside another piece of BT-20. Use the 1/8" gap strip on the inside to glue the gap edges together to make what is in effect a very long coupler tube. Same method can be used to make joiner for the BT-20 max OD version of this pod



Updated Version of SPOOLER prototype.

This version deletes the 19mm tubing, so the maximum diameter is BT-20. Also requires fuel tank tubing from Estes Saturn IB and custom diameter joiner tube.



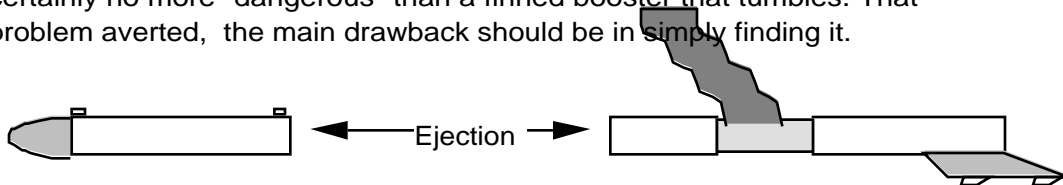
March 30, 1991

Nose section free-falls. Preferably use a vac-formed or other very light nose cone for slower descent rate. Paint fluorescent red or orange for easier location on landing.

Alert RSO pre-flight on how pod works, to potentially prevent a surprise DQ just because the nose section falls separately. Unless it plummets at an incredible rate it should be legal, certainly no more "dangerous" than a finned booster that tumbles. That problem averted, the main drawback should be in simply finding it.

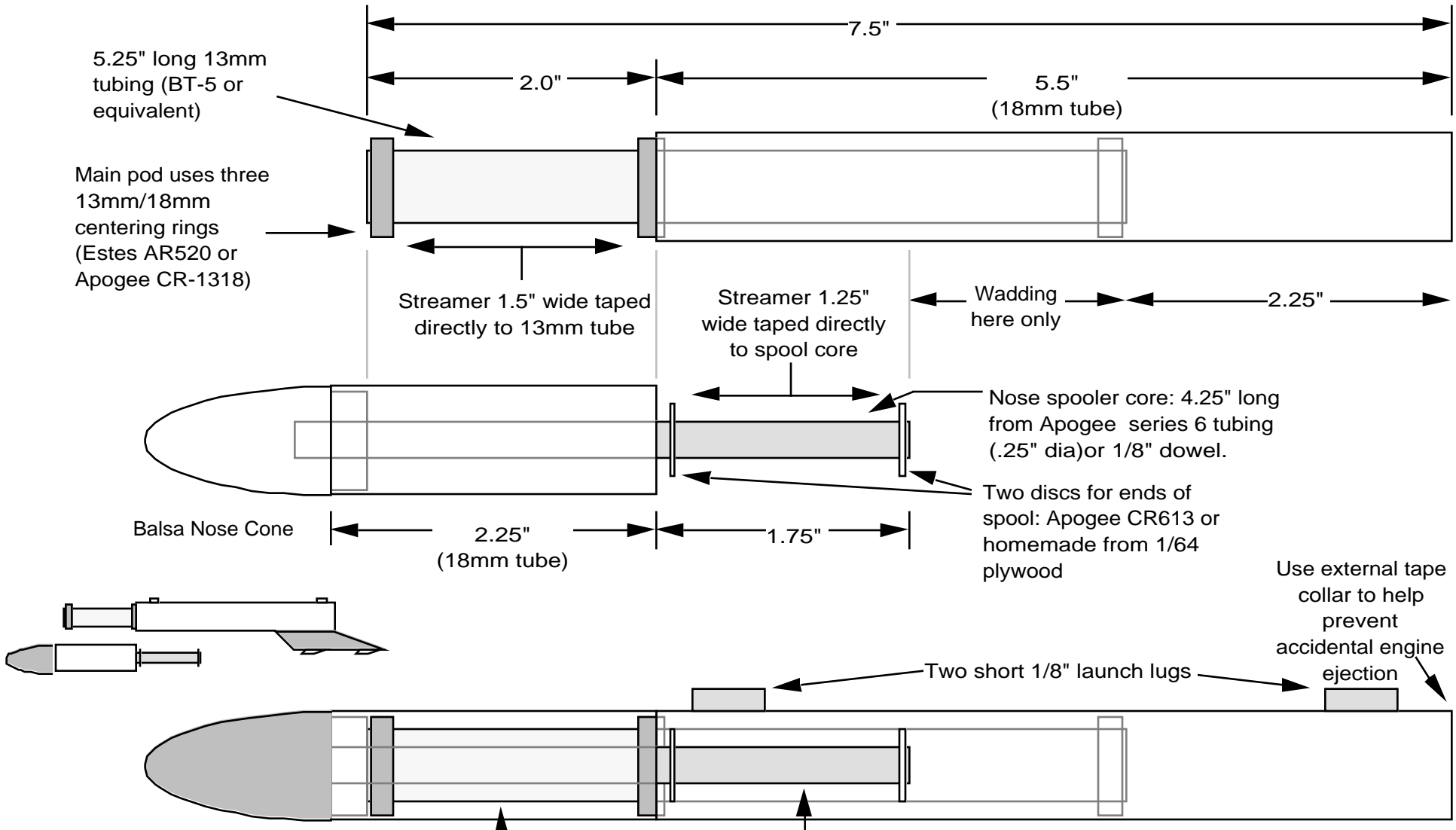
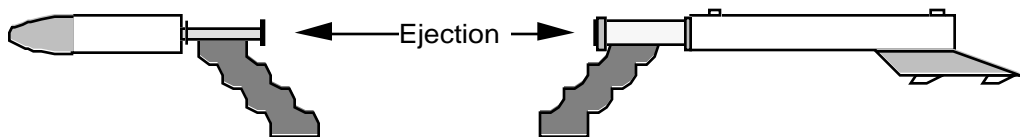
Flight prepping: Put small amount of wadding into main pod. There are no internal recovery devices, but the wadding reduces burn damage to the pod over time. Wrap streamer around 17mm tube, being sure it is free to open up when the 19mm tube is popped off. Slip 19mm nose section into place and it's ready to fly.

In operation, the nose section pops far away at ejection due to the piston effect, and falls down using featherweight recovery. The main pod unspools its streamer.



SPOOLER Pop-Pod system to prevent Red Barons

By George Gassaway Oct 22, 1990



Joined view (Exaggerated)

Note: One drawback to the SPOOLER pod is mass. Typical mass of pod is 11 grams without pylon. It may affect boost altitude, but may also straighten boost.

Streamer for Main Pod: 1.5" wide, 12" long from material which cannot melt together. Rolled up for easy clearance inside of 18mm tube. Check for jamming and easy unfurling

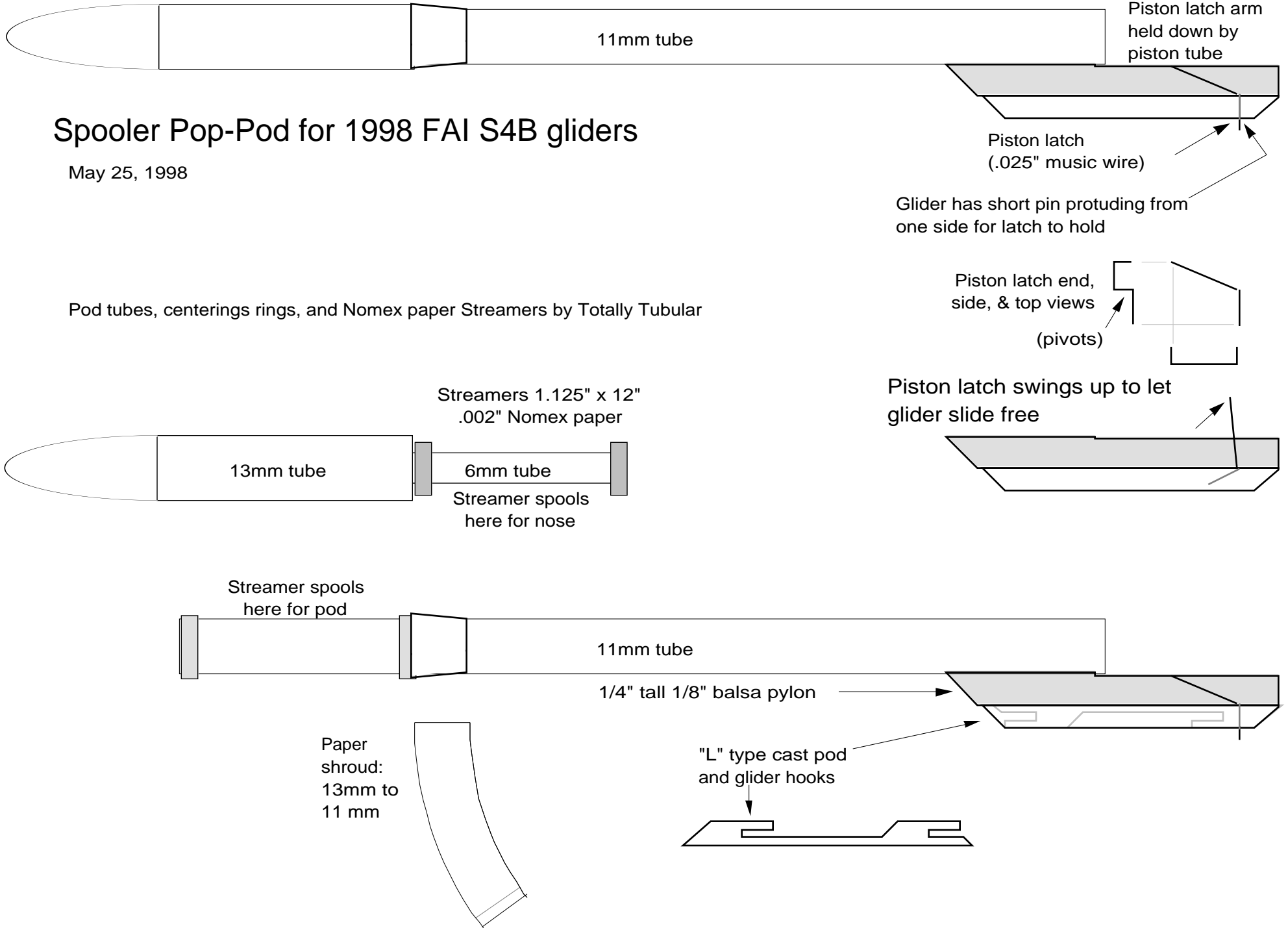
Streamer for Nose: 1.25" wide, 24" long from 1/4 mil mylar rolled up for easy clearance inside of 13mm tube. Check for jamming and easy unfurling

Pylon and glider attachment design not critical, adapt from what has worked for you well before. However, attachment should allow glider and pod to separate easily at ejection.

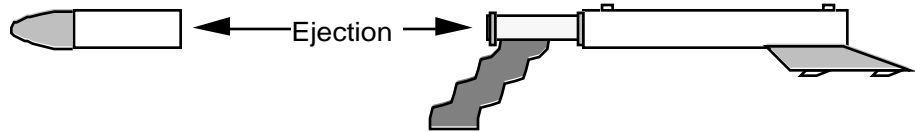
Spooler Pop-Pod for 1998 FAI S4B gliders

May 25, 1998

Pod tubes, centerings rings, and Nomex paper Streamers by Totally Tubular

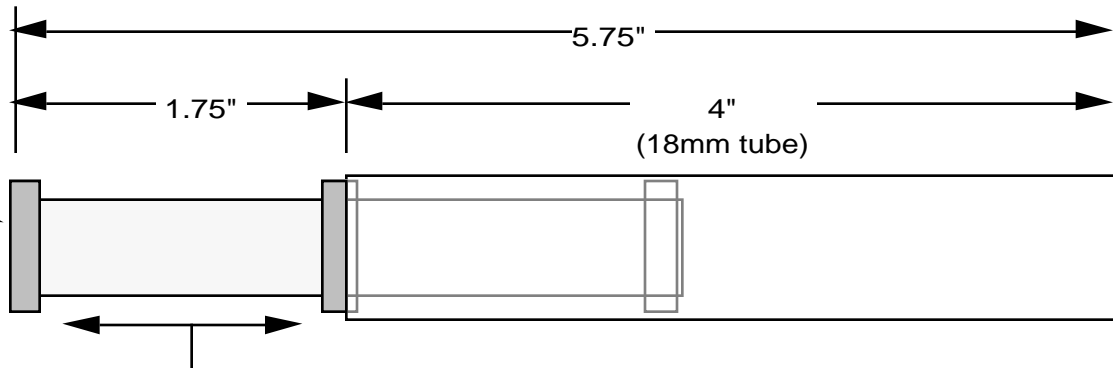


18mm Spooler Pod



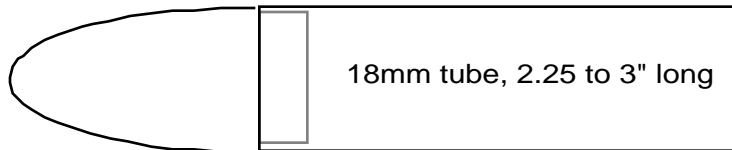
3.5" long 13mm tubing (BT-5 or equivalent)

Main pod uses three 13mm/18mm centering rings (Estes AR520 or Apogee CR-1318)



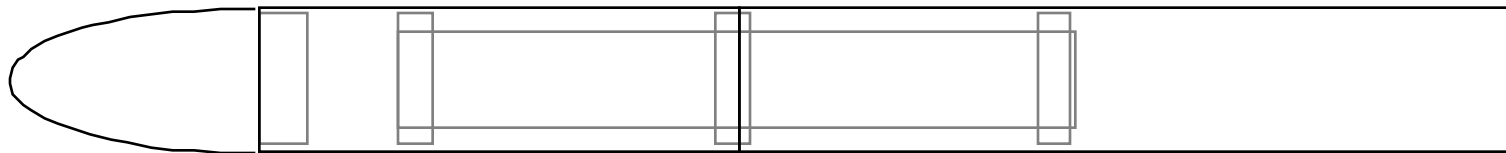
.002" Nomex Paper Streamer 1.25" wide taped directly to 13mm tube

Paint nose a bright Fluorescent Color



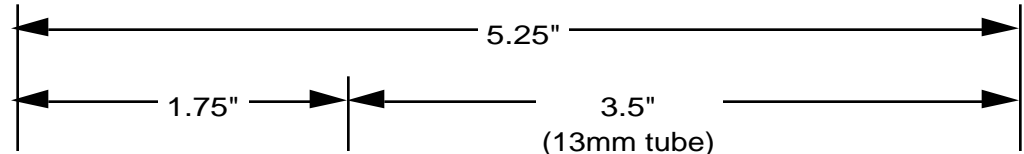
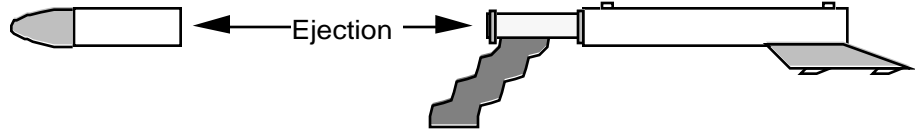
For good slip-fit, either peel inside of 18mm tube, or sand down outer diameter of the front and middle centering rings

Lightweight Balsa Nose Cone
Or Vac-formed nose cone with balsa bulkhead



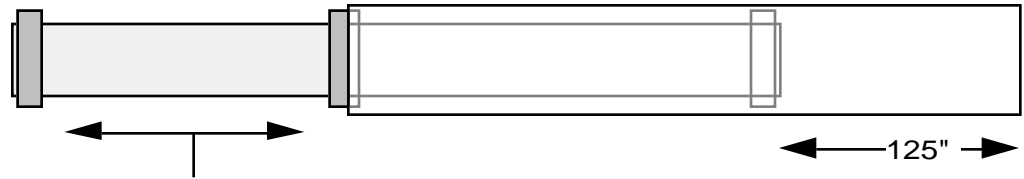
Spooler pod in Boost Configuration

13mm Spooler Pod



4" long 11mm tubing

Main pod uses three 11mm/13mm centering rings



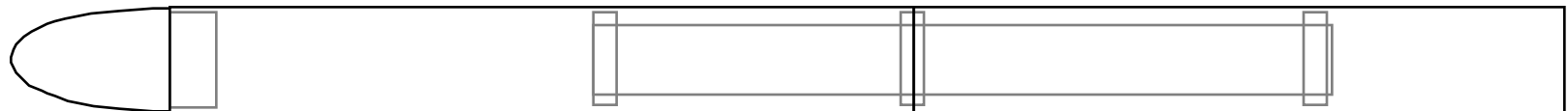
.002" Nomex Paper Streamer 1.25" wide taped directly to 11mm tube

Paint nose a bright Fluorescent Color



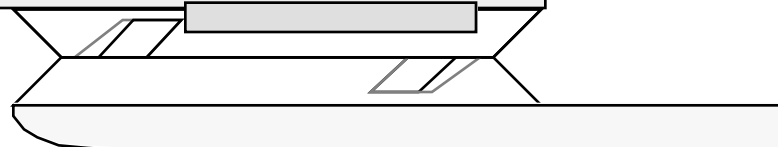
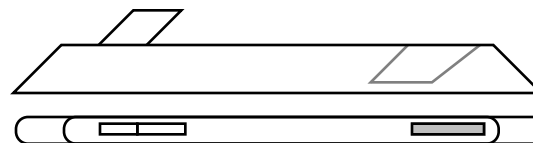
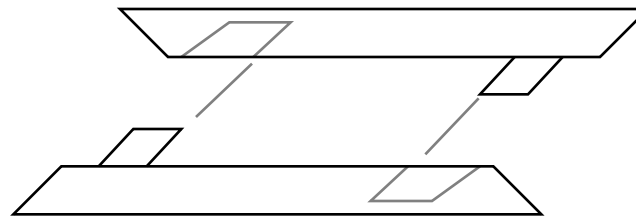
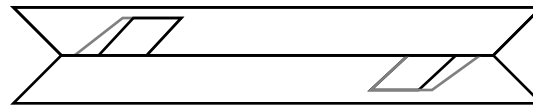
For good slip-fit, either peel inside of 18mm tube, or sand down outer diameter of the front and middle centering rings

Lightweight Balsa Nose Cone
Or Vac-formed nose cone with balsa bulkhead



Spooler pod in Boost Configuration

Final Version of Apogee
Universal Glider Hooks
October, 1993



"L" Hook B/G pod attachment system

Apr 16, 1998

Shown actual size for 1/4A thru B2 powered gliders

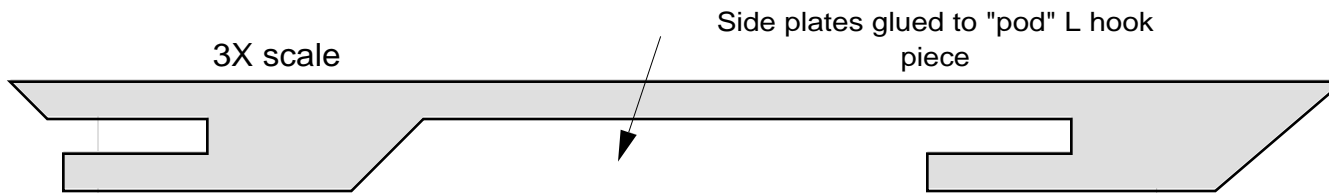
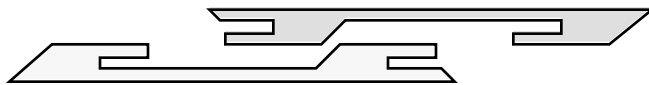
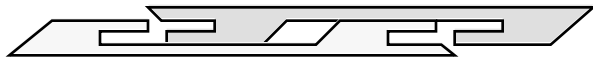
Master part for cast hook pieces built up of .06" thick x .125" wide plastic strip.



Multiple copies made from master part by creating RTV mold and casting with Alumilite resin



1/4" tall when both engaged, so for total of 1/2" from pod to boom the pod pylon needs to be 1/4" tall



Lower edge of hook master part sanded down to something between .050-.055" tall to allow some clearance when fit inside of the slot of corresponding