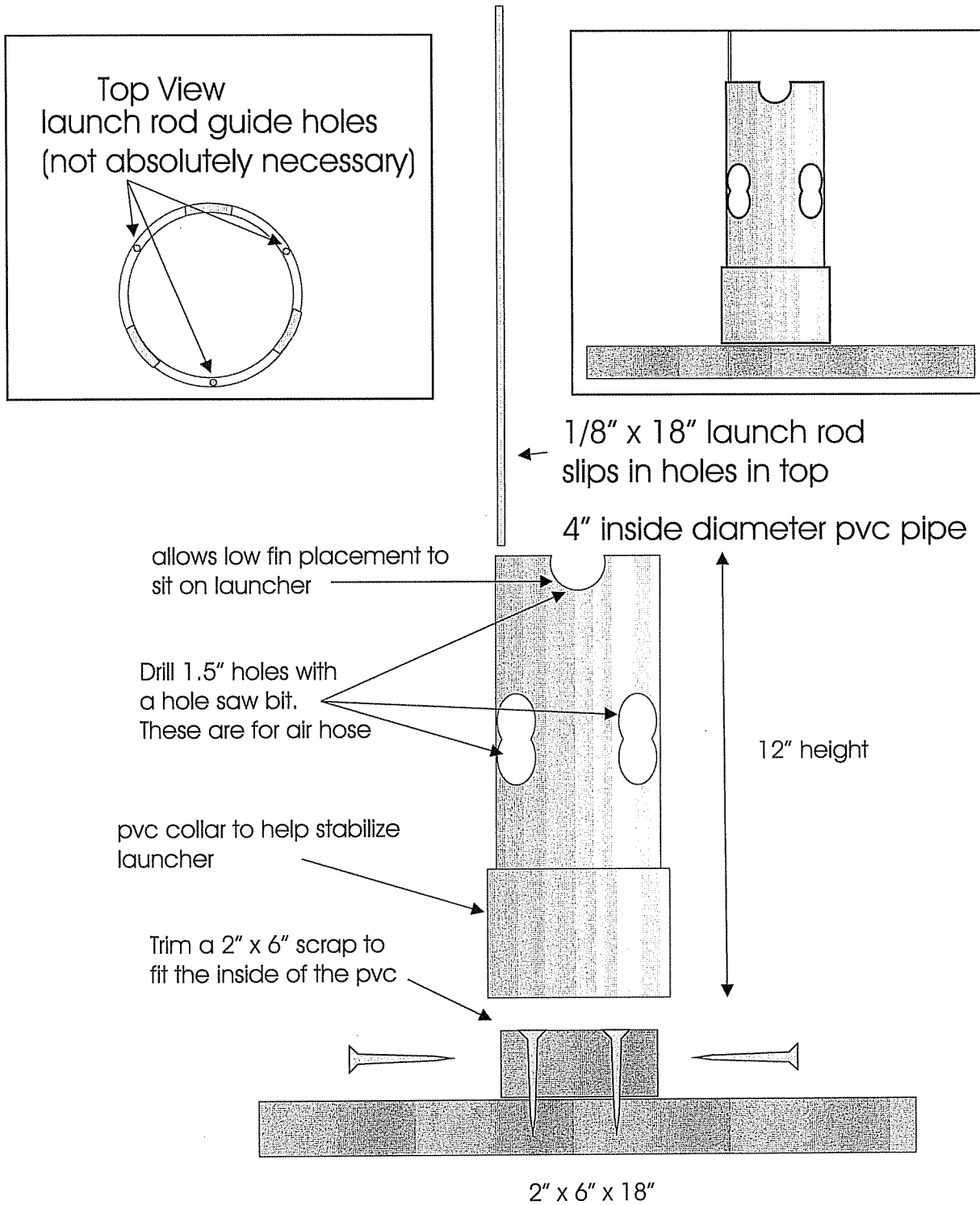
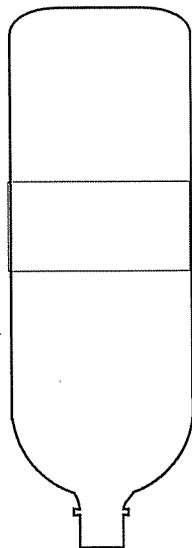


Launch Platform



Rocket

You will need a standard 2 liter soda bottle. The kind or color does not matter and a small water bottle(500 mL works well)



Wrap tape around the center of the bottle at least 1.5 times before applying fins

ADULTS ONLY WHEN CUTTING TENNIS BALL!
Cut an x in a tennis ball and push down over the cap (yes, you need the cap) the ball will look like a mushroom when properly applied. Oh yes, drink the water first.

Tape fins and small water bottle with clear packaging tape Use duct tape if you do not have clear tape

The more smoothly you apply the tape the better your rocket will work

You may want to use a section of a Bic pen tube as a guiding launch lug. This is not necessary though. Attach it with tape.

place bottom of fins at curve of bottle

Remove plastic collar

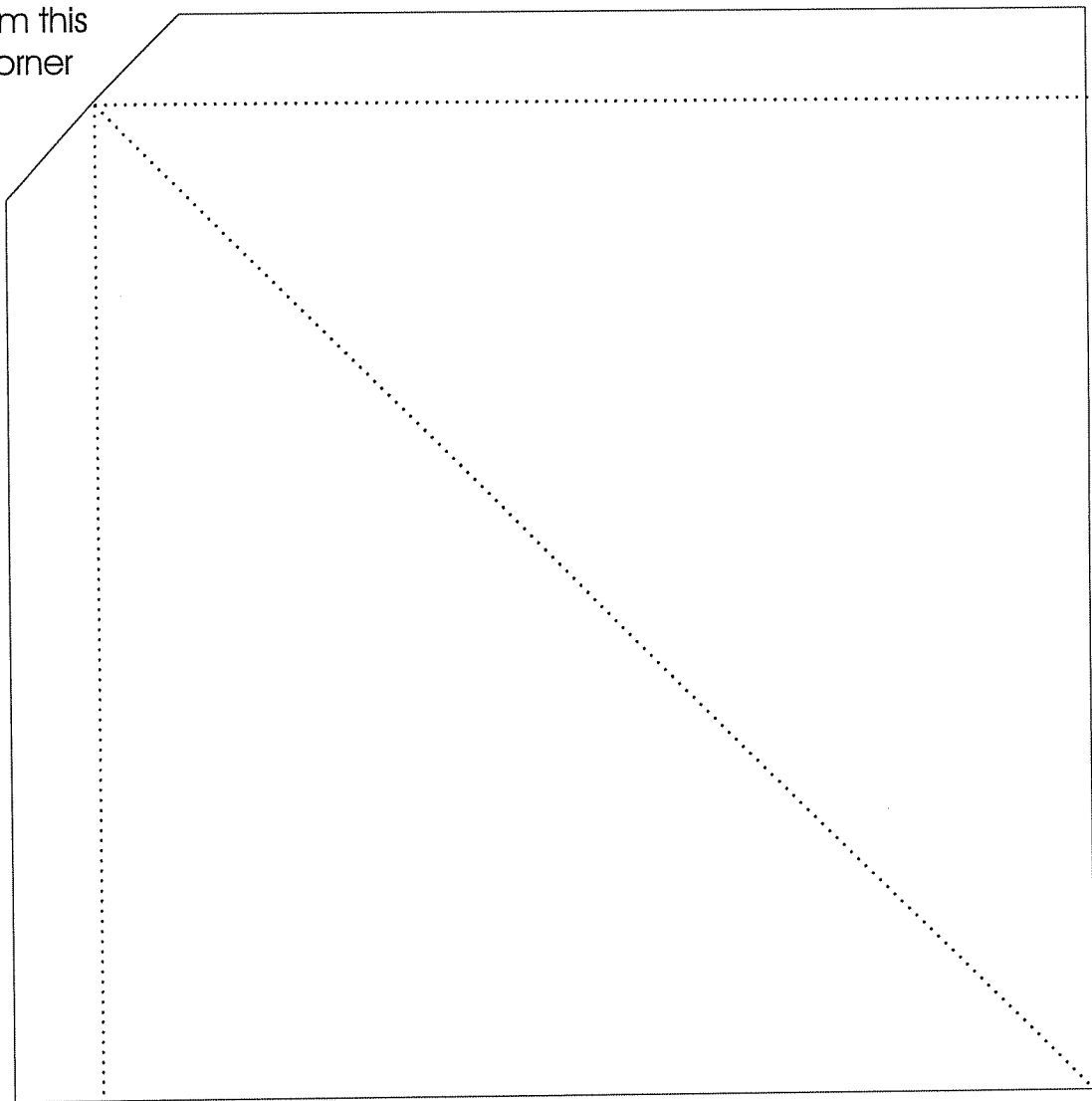
Rocky Alvey
Vanderbilt Dyer Observatory
www.vanderbilt.dyer.edu

Fin Template

6" x 6" poster board

dotted lines are the fold lines

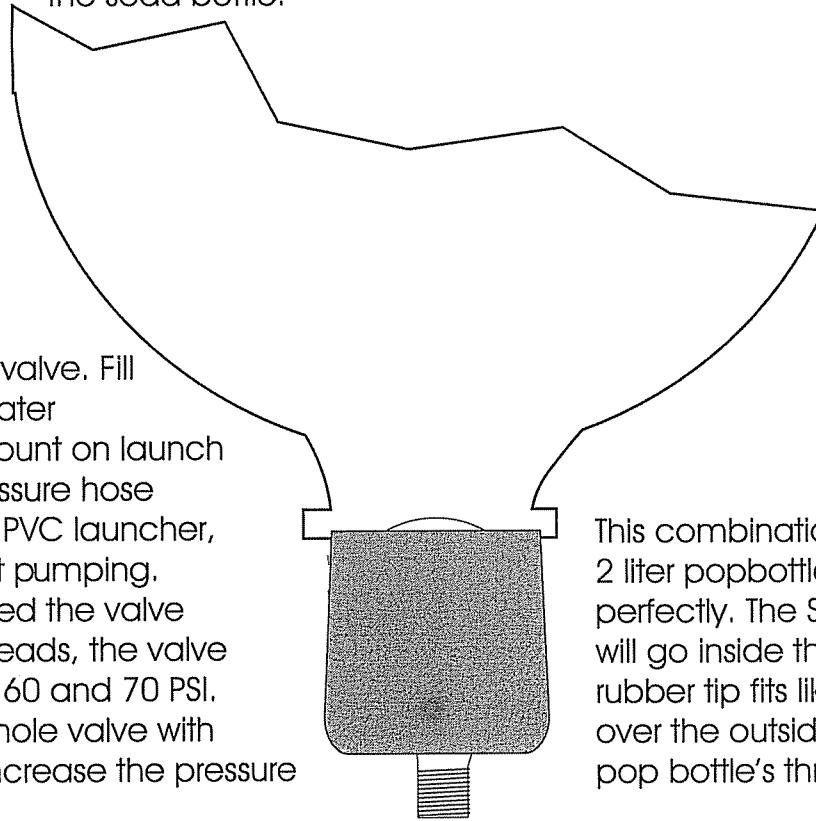
trim this
corner



Rocky's Quick Valve Solution

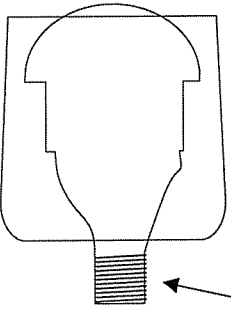
Warning, Always use eye protection. Stand as far away as possible when pumping pressure into the soda bottle.

Before applying valve. Fill with 400mL of water attach valve, mount on launch pad, attach pressure hose through holes in PVC launcher, seat rocket. Start pumping. If you have seated the valve tightly on the threads, the valve will fail between 60 and 70 PSI. Wrapping the whole valve with duct tape, will increase the pressure to 80PSI.



This combination fits the 2 liter popbottle stem perfectly. The Snap-In valve will go inside the hole, the rubber tip fits like a cap over the outside of the pop bottle's threads.

ACE Hardware
#51241
Rubber Tips
7/8" (22mm)
for chair legs
Punch a small hole
in the bottom
and stick the
stem of the snap-in valve through

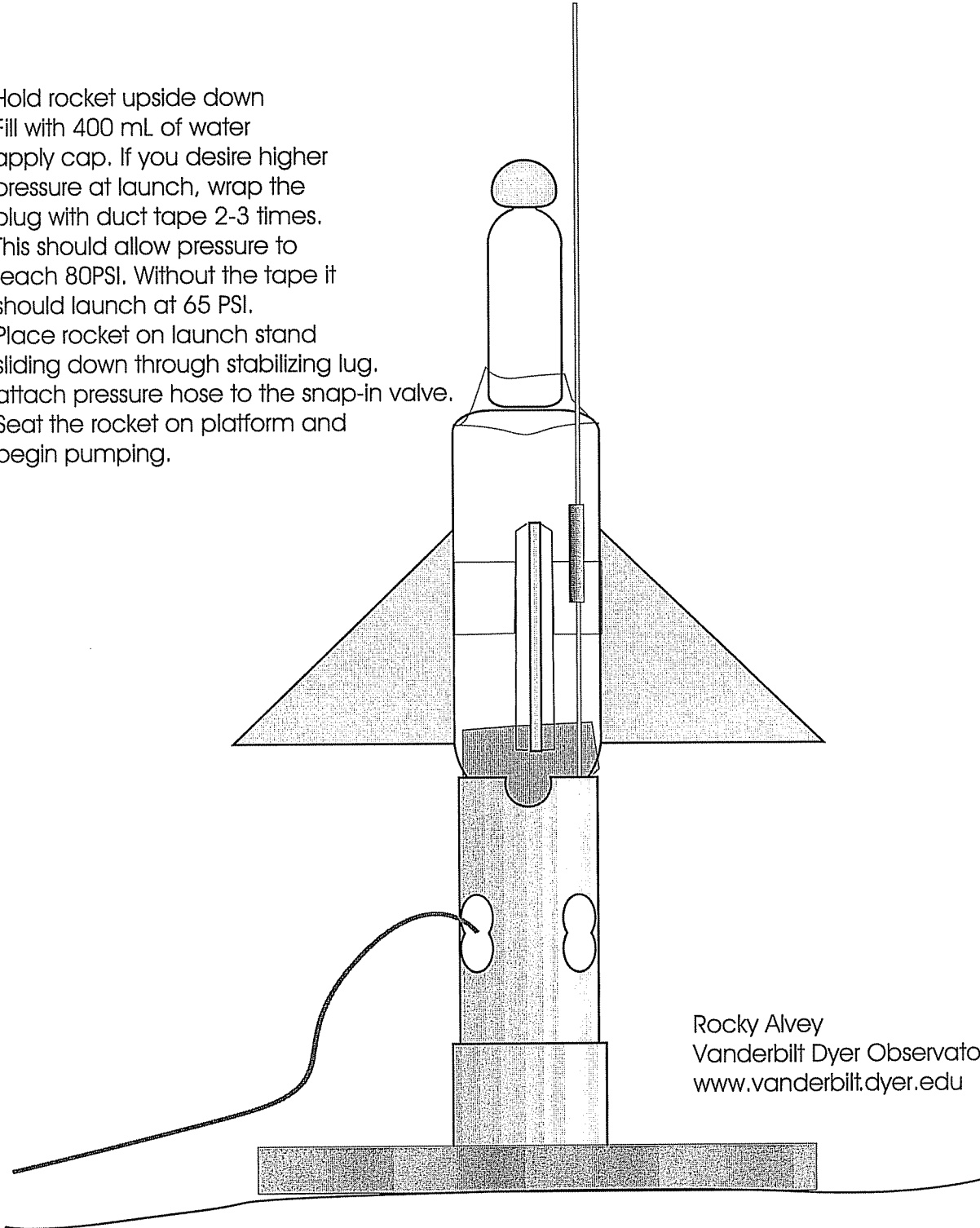


ACE Hardware
Camel Brand
#30-415-2
Snap-In Valve TR 415
1-1/4" eff. length
fits .625 rim hole

Ready To Launch

Warning, Always use eye protection. Stand as far away as possible when pumping pressure into the soda bottle.

Hold rocket upside down
Fill with 400 mL of water
apply cap. If you desire higher pressure at launch, wrap the plug with duct tape 2-3 times.
This should allow pressure to reach 80PSI. Without the tape it should launch at 65 PSI.
Place rocket on launch stand sliding down through stabilizing lug, attach pressure hose to the snap-in valve. Seat the rocket on platform and begin pumping.



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