

PVC Launcher Notes

1. The exact size and dimensions of the PVC launcher aren't ~that~ important. What is important is that there is enough volume (at least about 3' of 2" PVC pipe). You can do a straight pipe, an L shape, a U shape, a square, or a rectangle. The plans are for a square, but a U may be easier and just as effective. The only reason for the U or square is to keep the launch tube sticking straight up.
2. The 2" PVC pipe **MUST** be solid core, not foam core. Solid core is 280 PSI, giving us a big safety margin.
3. You generally launch at 50 – 60 PSI, but I have launched up to 100 PSI on my own. 80 PSI is the highest I go at a BSA event.
4. When launching, you hold the switch while the boy puts his rocket on the launcher, then give the switch to him to launch, then get it back from him right afterwards. You don't want a boy getting hit with a rocket as it comes off the launcher.
5. The sprinkler valve you want is a 1" valve and is threaded in both ends. A 3/4" valve would work fine, it just may restrict airflow and therefore height.
6. The easiest launch tube is 1/2" PVC, with a 3/4" PVC or 5/8" wooden dowel used to roll the rocket. You want the rocket to fit loosely on the launch tube. Too much resistance will cause it to blow up about 1/3 the time and wear out quicker. Done right you can get 3 – 5+ launches per rocket.
7. The brass coupler is so you can hook your aircompressor hose right onto the launcher, using the regulator built into the compressor to regulate the pressure. My original design had a bicycle valve, which worked, but it was a pain to fill. You could also get a 5 gallon tank (about \$40 at Checker or Home Depot, and a cheap 12 volt pump to fill it, then use the tank to launch. Far from ideal, but doable if you don't have a compressor (\$120 at Checker).
8. The brass coupler (#13 on the plans) is right by the the air compressor couplers (#14 on the plans) at Home Depot or Lowes. It's threaded in and out.
9. To wire up the switch, wire up the power pack (designed specifically for the sprinkler valve you're using, they're about \$13 at Home Depot) to the sprinkler valve. Now disconnect one of those connections and put the switch in between it (so one of the power lines goes through the switch on its way to the sprinkler valve).

If you have questions or ideas, email me: Brian, brian@winchesterhills.com