

ASME Design Competition

October 5th, 2009

Compressed Air Powered Projectile

Goal: Create a nozzle from a 2L bottle cap which will be fastened to a 2L bottle, then create a projectile that can be launched from the nozzle you've created. Your goal is to launch the projectile the farthest by compressing the 2L bottle and sending your projectile wayward.

Regulations:

Your projectile can travel on the ground or through the air.

The 2L bottle will be placed on the ground but can be launched from any angle.

The bottle can be compressed any way you want. Questions have already come up about creating chemical reactions inside the bottle to create a more pressurized launch, this type of compression will be allowed, just use caution and common sense when doing so. (No works bombs, Diet Coke and Mentos, or any other explosive reactions) If you are unsure whether your idea will be allowed, contact the vice president (hobsonp@msoe.edu) for approval.

Competition:

Designs will be tested at the next meeting (October 5th). If your projectile flies through the air, the spot where it hits the ground will be the distance traveled. If your projectile has wheels or rolls on the ground, the distance it travels will be where the vehicle stops moving (given the surface is level). The winner(s) of this design competition will receive a \$10 Chipotle gift card (assuming that the winner(s) is/are registered member(s) of MSOE ASME)

Side Notes:

Right now there is a limited amount of 2L bottles, I will try and have enough available for everyone on competition day (expecting about 20 teams), however, it would not be a bad idea to have your own 2L bottle ahead of time (that way you can test your apparatus). 2L bottle caps may be provided pending limited resources. If you are in need of a 2L bottle cap, email hobsonp@msoe.edu and we will arrange to get your team a cap. Nozzles and projectiles can be made from any materials at your disposal.

If you have comments or questions please feel free to email Peter Hobson.