Snowball Machine Gun Build Instructions

Making a snowball machine gun is fairly straightforward. Start with a landscaping leaf blower, like the one pictured below. It will come with a majority of the parts you are looking for. The more horsepower the better. Plug in leaf blowers don’t really work as there’s not enough power. You can use either 2” or 3” ABS for the entire set up, in this step by step; we will be using 2”.

![Leaf Blower](image-url)
**Step 1.** Attach the flexible corrugated pipe to the actual blower using a pipe clamp. Be cognizant that you thread the throttle cable through the pipe clamp keeping it out of the way.
Step 2. The diameter of the corrugated arm as well as the rigid extension in this Echo backpack tapers down from about 2.5” to 2.25”. In order to better support the overall system, wrap duct tape around one end of a 2” diameter ABS pipe that in the end will be 1” longer than the rigid extension. Wrap enough duct tape to create a tight seal in the extension.
**Step 3.** Duct tape the corrugated arm to the rigid extension. Shove the ABS with the duct tape at one end up the rigid tapered extension until it gets tight. You should have a 2” diameter ABS pipe extending 1” from the rigid extension.
Step 4. Attach the throttle at the exact intersection of the corrugated are and rigid pipe. Clamp down and tighten arm until it becomes very tight. At this point you should now be able to put on the backpack, and hold the arm by the throttle. It should swing freely due to the corrugated arm and it should feel solid on the end.
**Step 5.** Attach the 45 degree 2” ABS Y joint onto the arm. Duct tape it to the rigid extension piece. Then attach the barrel. We found a 36” barrel provided the fastest velocity snowball with the best maneuverability. A longer barrel gives you more velocity, but also less maneuverability. At this point you can load in a snowball into the Y joint as the backpack is on and begin your fun. Note, you will feel a solid amount of air coming out the Y joint.
Step 6. Creating the magazine. Cut a 30” piece of 2” ABS. Using a table saw, or jig saw, cut a long straight line down the ABS, leaving 1” at each end. Rotate it 1” and cut another long straight line, again leaving 1” at the end. Using a hacksaw finish off the cuts vertically so the section can be removed. Cut a 3” piece of a 1 ¾ dowel and drill a hole at towards the edge of one end. Load the dowel into the 30” piece of ABS and then insert a 1” piece of aluminum into the dowel. The plunger (dowel plus aluminum pin) should now slide up and down the magazine, but not fall out.

Step 7. It’s important to make snowballs that are exactly the right diameter. You can use a 3D printed mold we’ve made that can be ordered printed yourself or ordered online from Shapeways. Also, depending on your snow conditions, you may find that leaving the snowballs out in the below freezing weather or in the freezer for a few minutes will help them stick together.
Files for your own printing:

- 2” - LINKS COMING SOON. PLEASE CHECK BACK IN A COUPLE DAYS
- 3” - LINKS COMING SOON. PLEASE CHECK BACK IN A COUPLE DAYS

Order one from Shapeways online:

- 2” - LINKS COMING SOON. PLEASE CHECK BACK IN A COUPLE DAYS
- 3” - LINKS COMING SOON. PLEASE CHECK BACK IN A COUPLE DAYS