

# T-shirt Launcher Assembly Tutorial



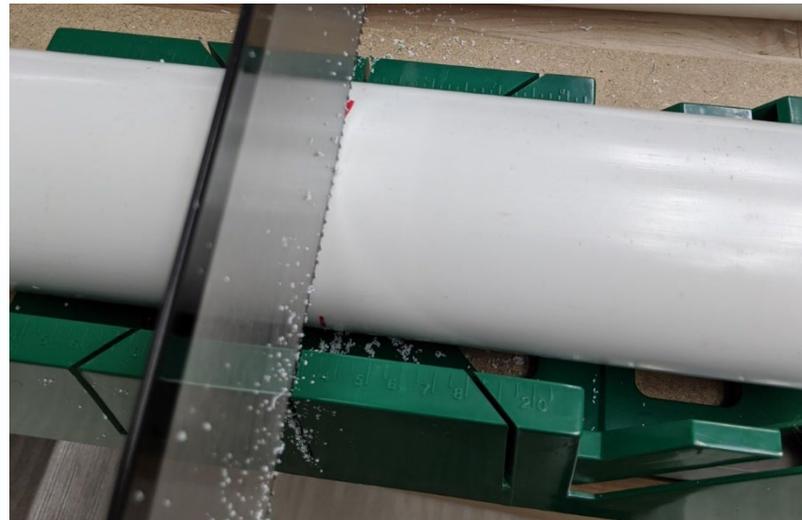
## Measuring Pipe

- Align end of pipe with zero end of ruler
- Hold both pipe and ruler steady
- Mark where desired



## Cutting PVC

- ❑ Match up blade with mark measured
- ❑ Whatever cutting tool or equipment you are using, it is important to make straight vertical cuts.



### Priming and Gluing: Pipe to Joint

- Dry fit pieces together, double checking to be sure components fit together correctly. It is important that the pipe goes as deep into each fitting as possible
  - ▣ Mark the pipe with a sharpie. This allows you to see how far the pipe is in the fitting
  - ▣ Take apart, lightly smear primer on both pipe and joint
  - ▣ Lightly smear cement on both pipe and joint. It is recommended to cement only a couple joints at a time, due to the cements set time.
  - ▣ Fit together by twisting and pushing at the same time. Be sure sharpie marks on pipe go as deep as originally fitted. Do this in a timely manner, as the glue sets quickly.
  - ▣ Hold joints together with pressure for 20-30 seconds to allow for proper adhesion

# PVC Pipe

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The following PVC pipe are needed for assembling the t-shirt launcher

#1 - (2) 3" Diameter x 24"

#2 - (1) 2" Diameter x 4"

#3 - (2) 1" Diameter x 4"



# PVC Fittings

The following fittings are needed for assembling the t-shirt launcher.

- (A)- (2) 3" to 2" reducer
- (B)- (1) 2" 90 degree elbow
- (C)- (2) 2" to 1" reducer
- (D)- (2) 1" male adapter
- (E)- (1) 3" Cap



## Step by Step Assembly Guide

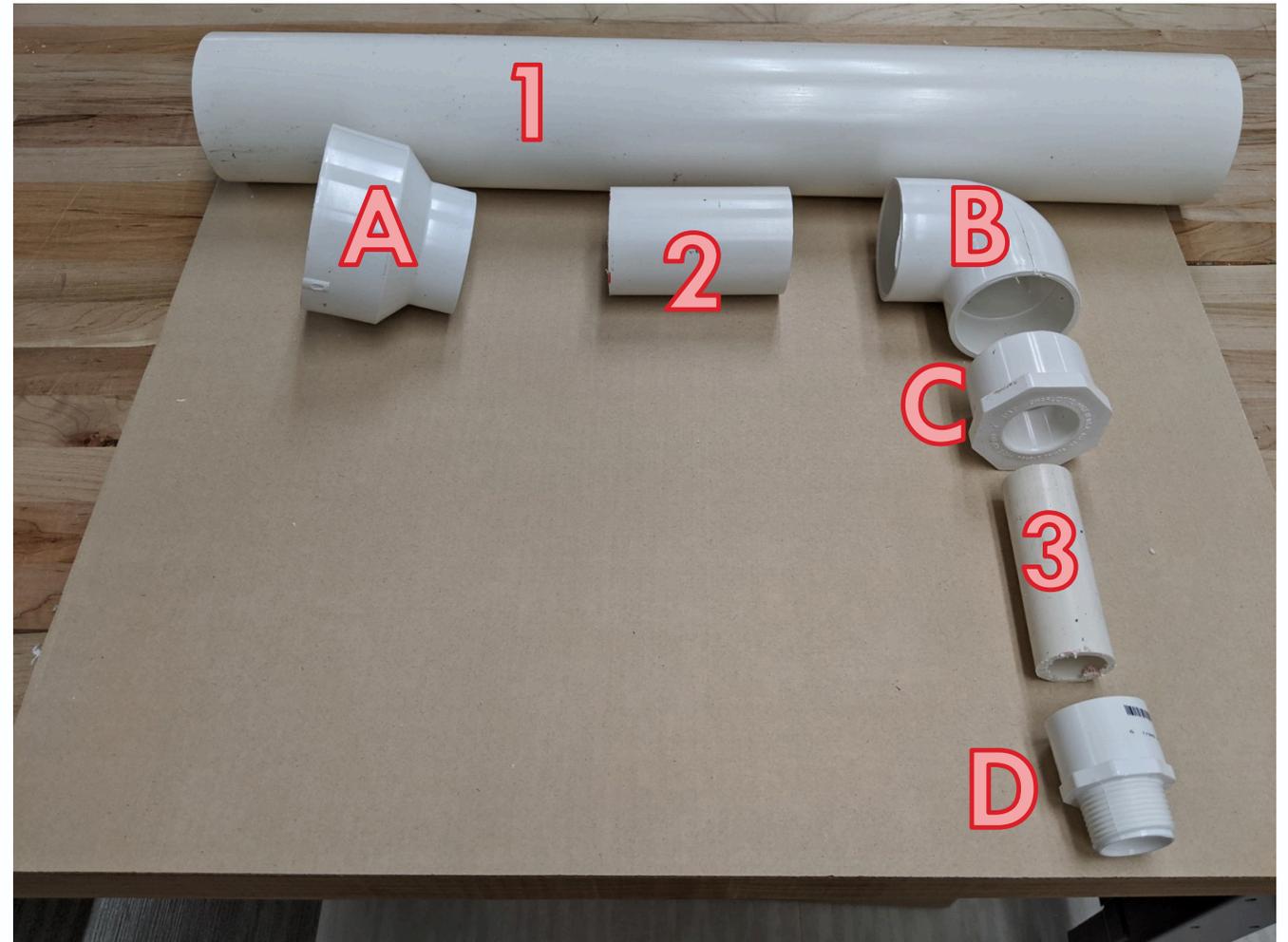
# Barrel Assembly

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Note: The following parts list is for the barrel.

- Pipe Fittings:
  - ▣ (A) 3" to 2" reducer
  - ▣ (B) 2" 90 degree elbow
  - ▣ (C) 2" to 1" reducer
  - ▣ (D) 1" male adapter
- Pipe:
  - ▣ #1- 3" Diameter x 24"
  - ▣ #2- 2" Diameter x 4"
  - ▣ #3- 1" Diameter x 4"



## □ Step 1:

### ▣ Prime all pipe and fittings

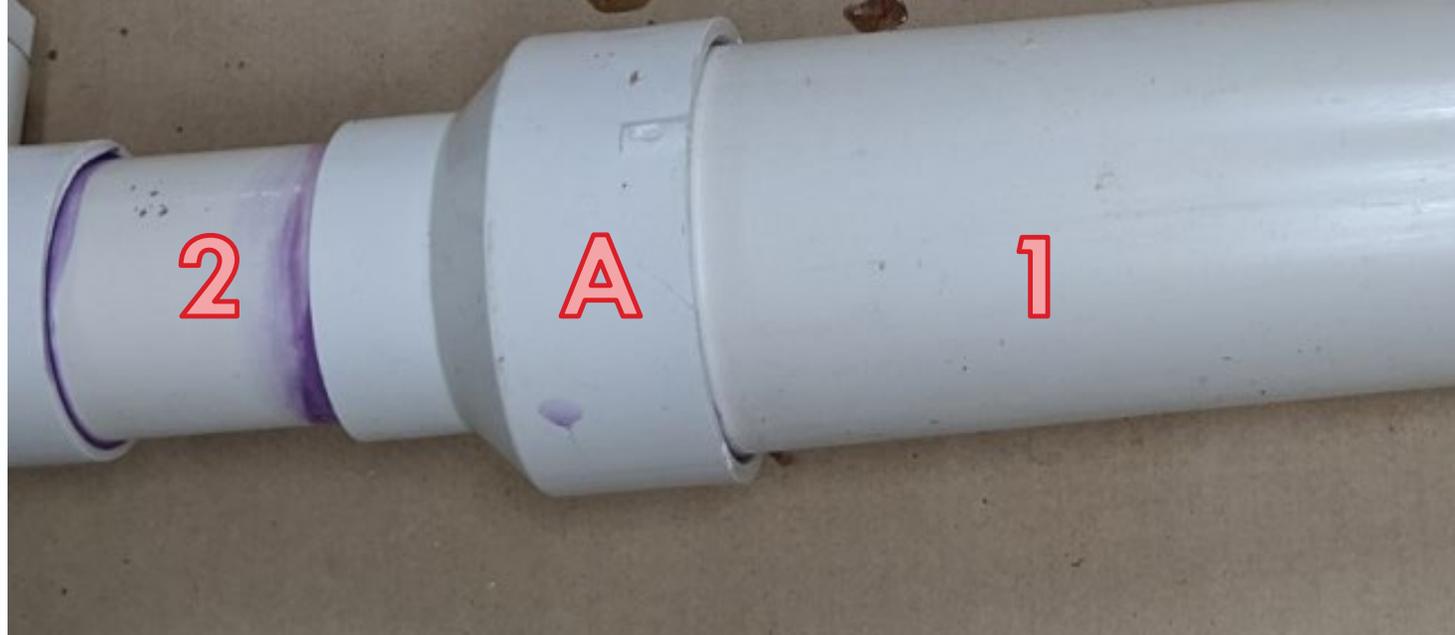
- Place a piece of cardboard on your table to avoid stains
- Lightly smear purple primer on both pipe and joint



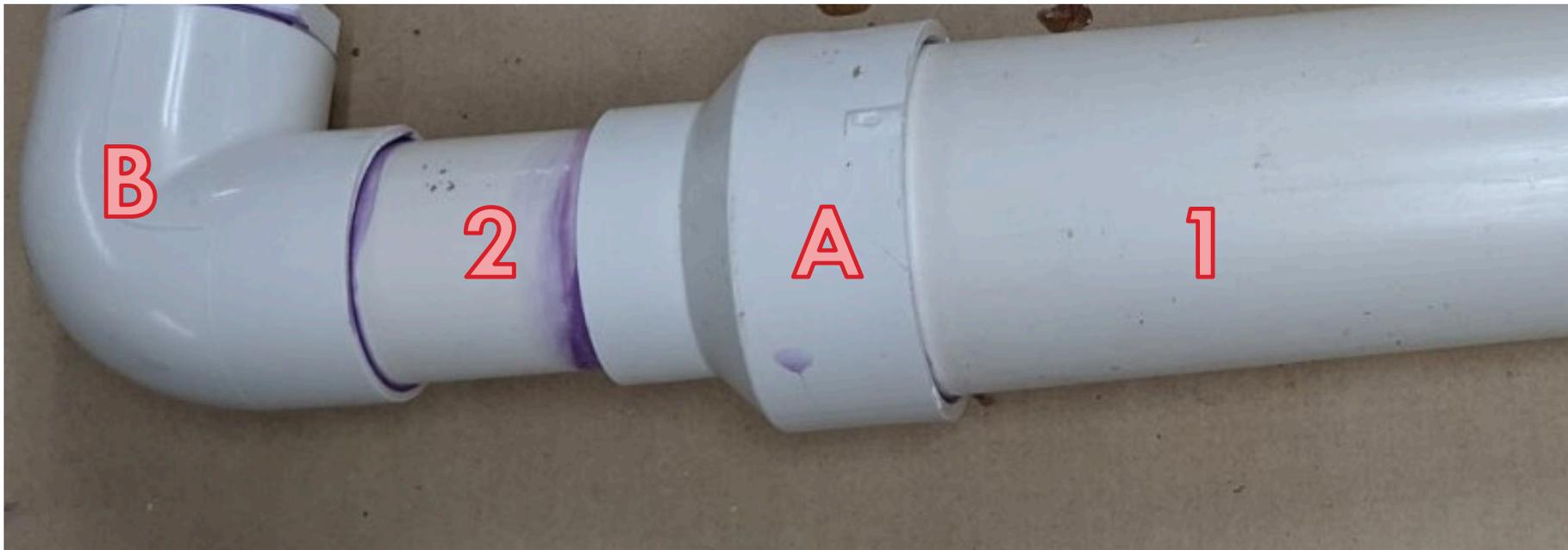
- Step 2:
  - ▣ **Glue the 2' Long piece of 3" Diameter PVC (1) to the 3" side of the 3" to 2" reducer (A)**
  - **Refer to slide 4 for proper gluing technique**



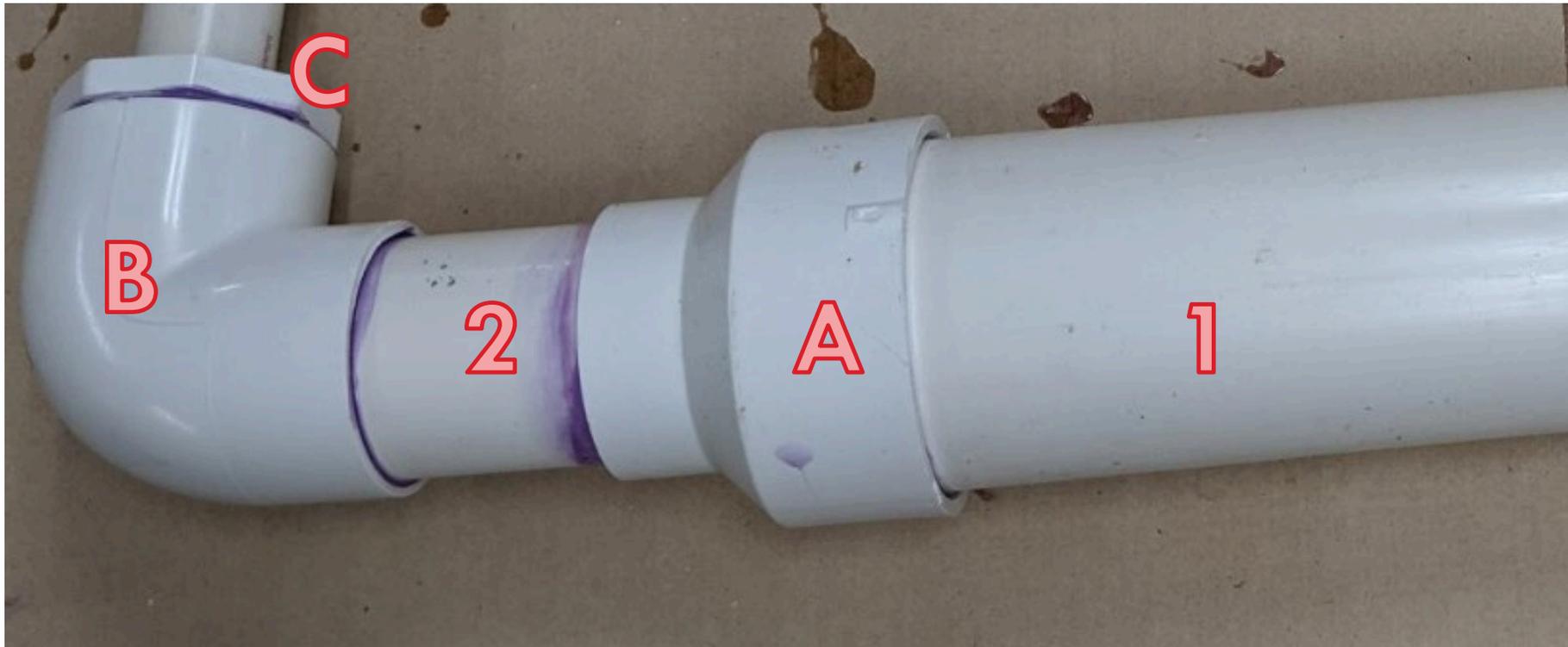
- Step 3:
  - ▣ **Glue the 4" section of the 2" Diameter PVC (2) to the 2" side of the 3" to 2" reducer (A)**



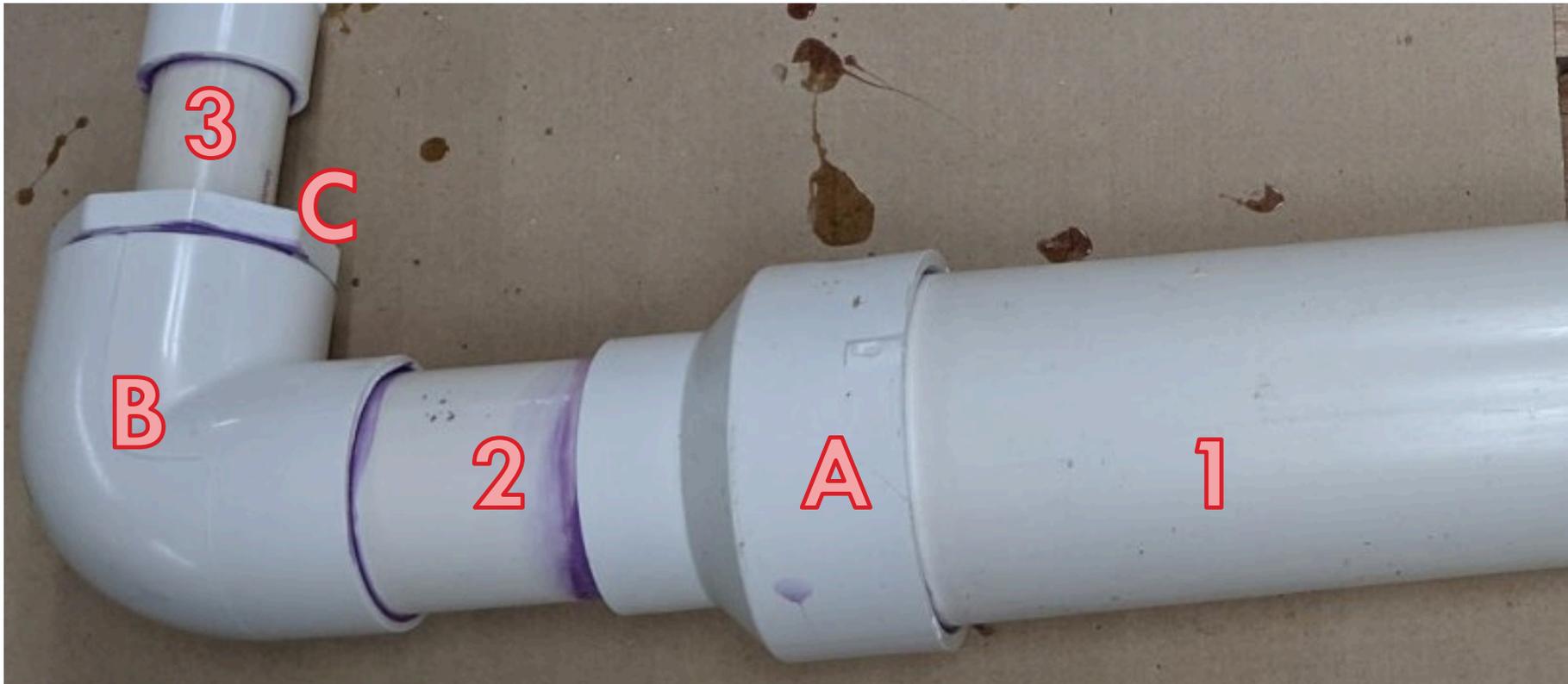
- Step 4:
  - ▣ **Glue the 4" section of the 2" Diameter PVC (2) to one end of the 2" elbow (B)**



- Step 5:
  - ▣ **Glue the other end of the 2" elbow (B) to the 2" side of 2" x 1" reducer**



- Step 6:
  - ▣ **Glue the 1" side of the 2" x 1" reducer (C) to the 4" section of 1" Diameter PVC (3)**



## □ Step 7:

- **Glue the other end of the 1" PVC (3) to the 1" Male adapter (D)**



**Barrel is  
complete!!**



# Tank Reservoir Assembly

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The following parts list is for the tank reservoir.

## □ Pipe Fittings:

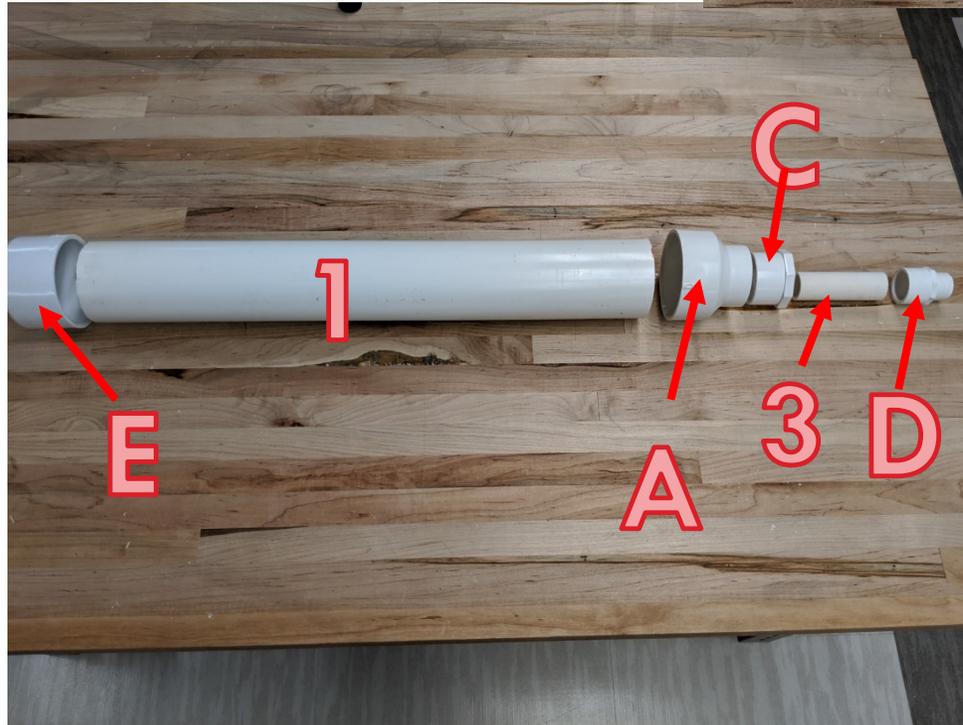
- (E) 3" Cap
- (A) 3" to 2" reducer
- (C) 2" to 1" reducer
- (D) 1" male adapter

## □ Pipe:

- #1- 3" Diameter x 24"
- #3- 1" Diameter x 4"

## □ Components

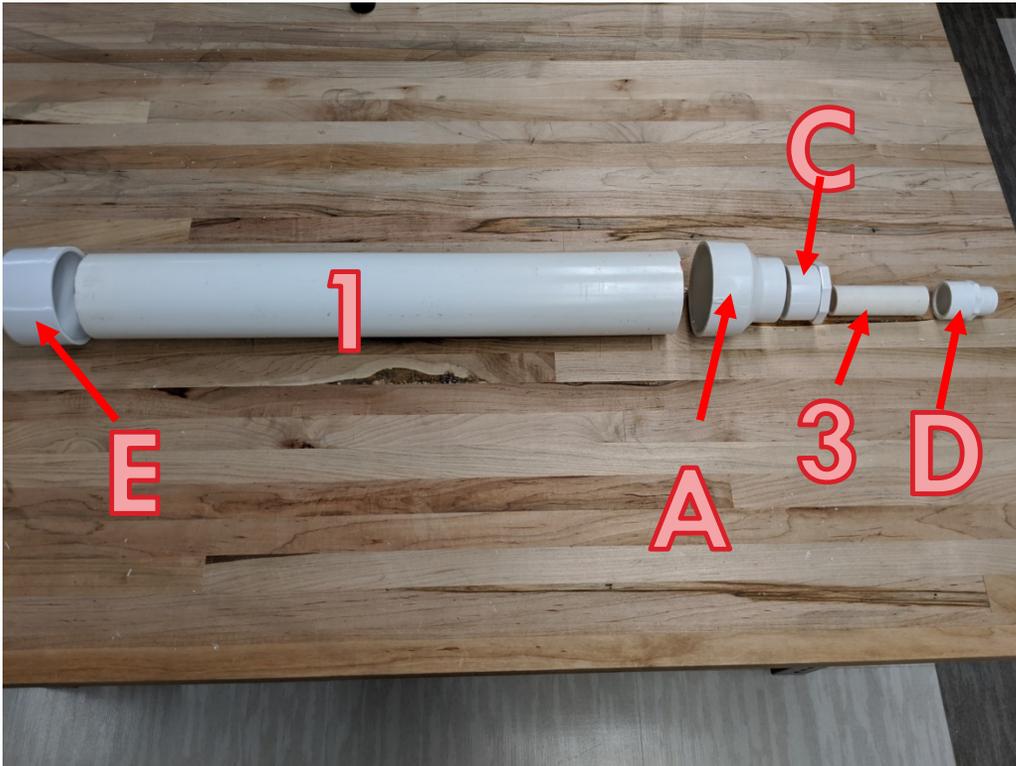
- (F) Tank valve
- (G) Pressure Relief Valve
- (H) Pressure Gauge



- Step 1:
  - ▣ Prime all pipe and fittings
    - Place a piece of cardboard on your table to avoid stains



- Step 2:
  - **Glue the tank reservoir as shown in the images below. Remember, glue in steps, not all at once.**



## □ Step 3:

### □ **Mark and drill hole for Tank valve.**

- **Mark tank valve hole approximately  $\frac{3}{4}$ " from the edge of the end cap.**
- **Drill a  $\frac{7}{16}$ " hole**



# Tank Reservoir Assembly

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### □ Step 4:

#### ▣ **Mark and drill holes for Pressure Relief valve and Pressure Gauge.**

- **Mark two holes approximately  $\frac{3}{4}$ " from the edge of the 3" end of the 3" to 2" reducer. These should be approximately  $2 \frac{1}{2}$ " apart and split the tank valve.**
- **Drill two  $\frac{7}{16}$ " holes**



# Tank Reservoir Assembly

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## □ Step 5:

### ▣ Tap holes

- **Turn tap handle clockwise while applying slight downward pressure. Continue turning handle until the tap has threaded the pipe.**



# Tank Reservoir Assembly

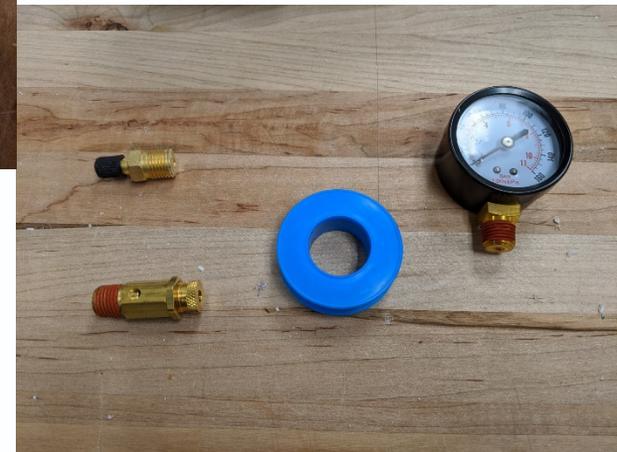
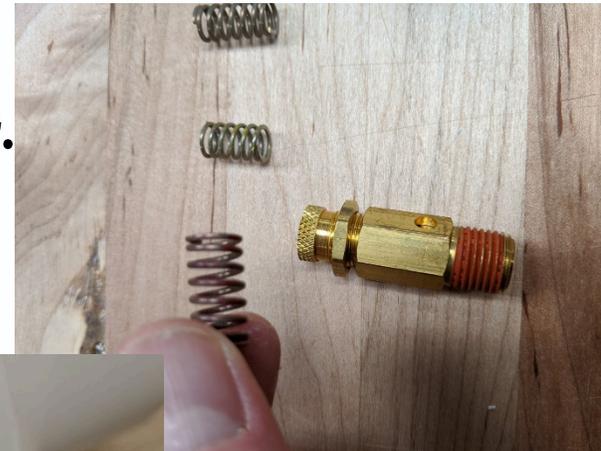
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## □ Step 6:

### ▣ Attach tank fill valve, Pressure Relief Valve and Pressure Gauge

- Put red spring in relief valve
- Apply thread tape to each component.
- Tighten with 9/16" wrench
  - Do not over tighten. A snug fit is good.



# Tank Reservoir is complete!!



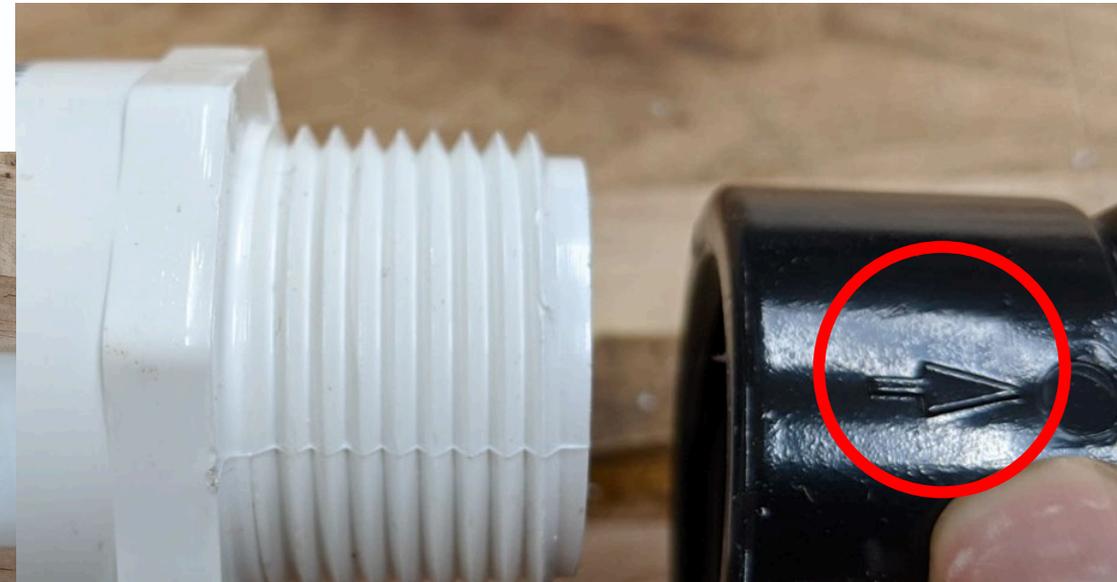
# Attach Tank Reservoir to Barrell

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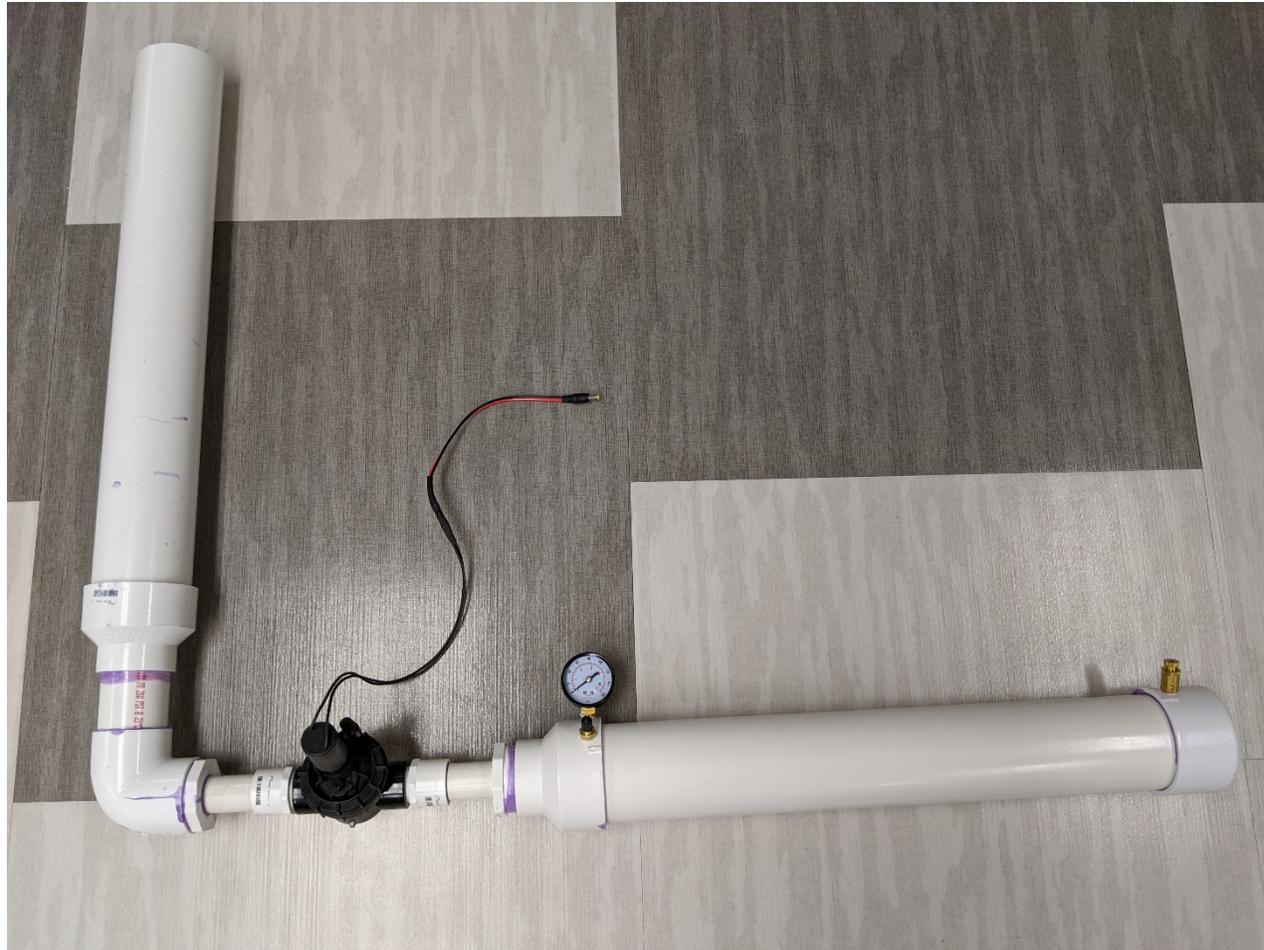
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## □ Step 1:

- Apply pipe tape to both 1" male adapters
- Thread jar valve to 1" adapters.
  - There is an arrow for direction of air flow. Make sure it is orientated correctly (red circle)



## T-shirt launcher is complete!!



## □ Step 1:

□ Cut 24" 2" x 4".

■ 16"

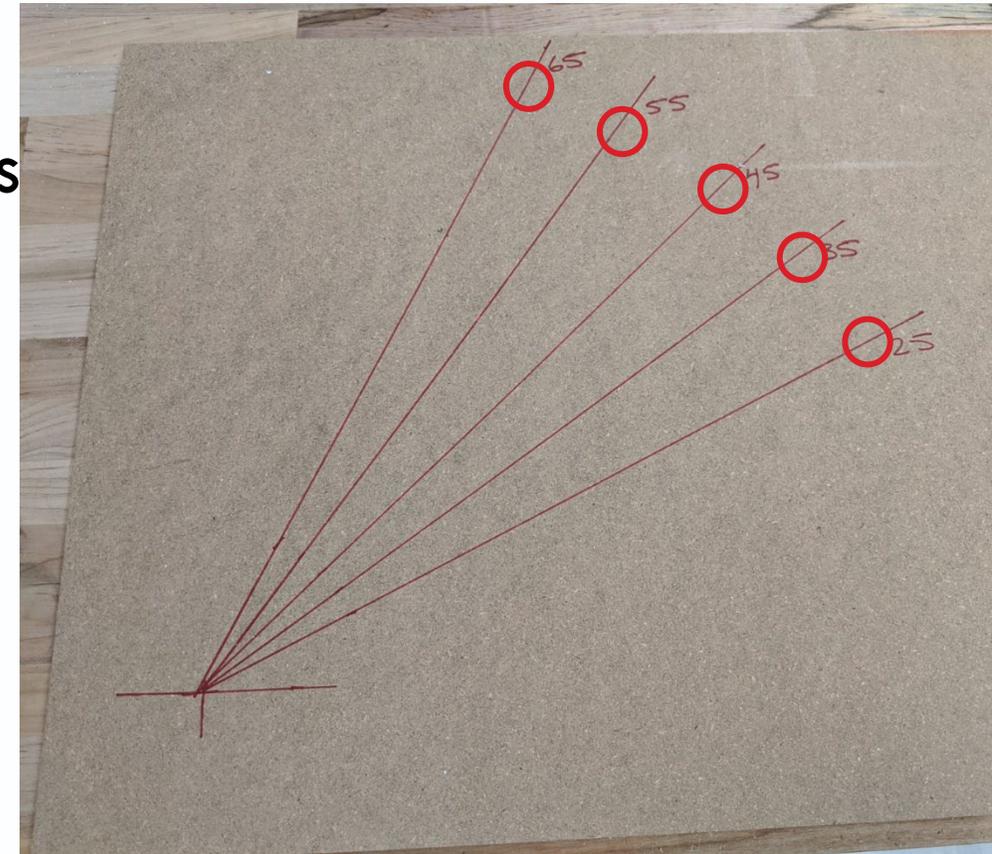
■ 8"



## □ Step 2:

### ▣ Layout the 18"x 24" mdf board for the angles

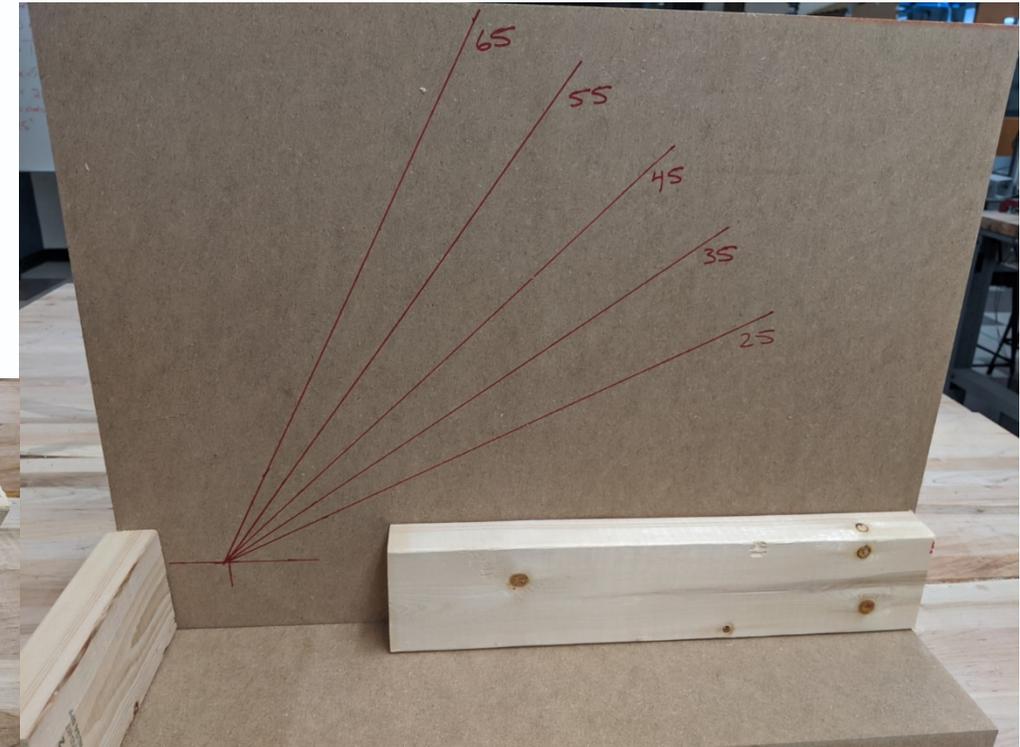
- Center is 3" up and 3" over
- Create 25,35,45,55,65 degree lines
  - ▣ Protractor and Ruler needed
- Drill 1/2" holes for dowel rod
  - ▣ End of each degree line



## □ Step 3:

▣ Attach MDF boards to 2" x 4" using 1 5/8" screws

- See images below
- Predrill 1/8" holes for screws
- Apply a bead of glue



- Step 4:
  - ▣ Cut 8" dowel to hold barrel
  - The remainder of the dowel can be used to push the t-shirt to the bottom of the barrel



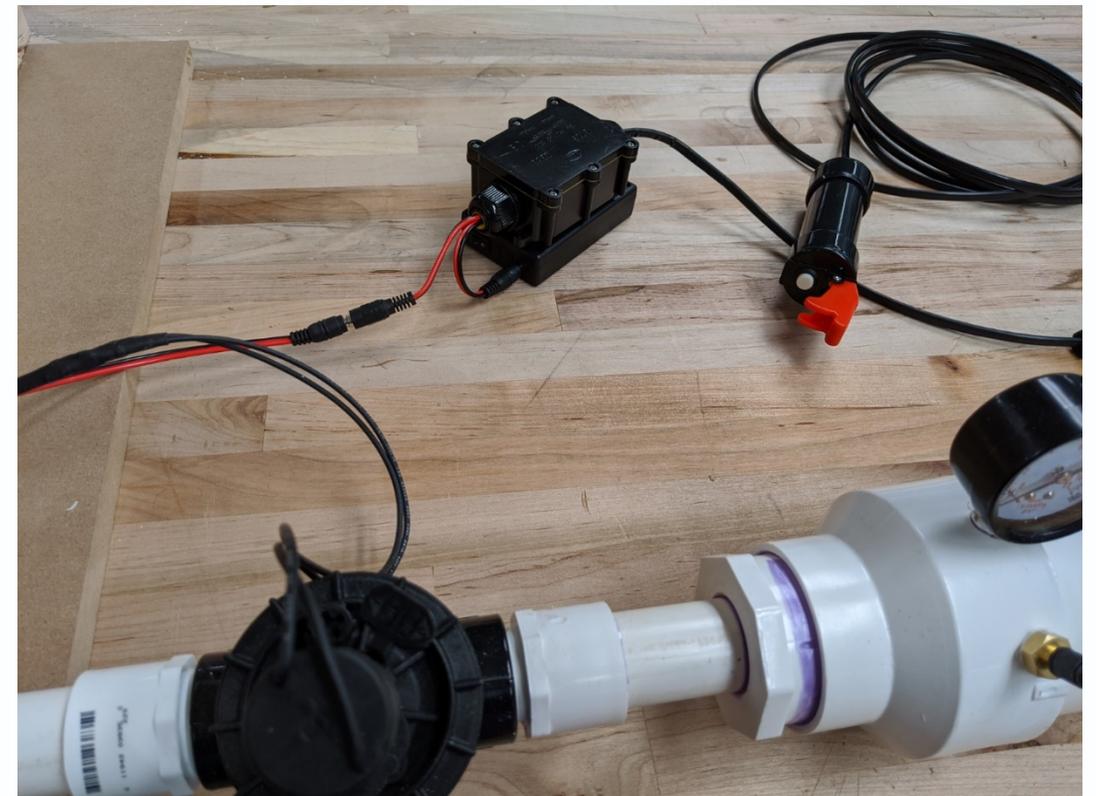
# Trigger and Battery system

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### □ Step 1:

- Connect the battery and trigger system to the jar valve



# T-shirt launcher is complete

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- ❑ Load a t-shirt, fill the tank reservoir to desired PSI and you are ready to launch!!
- ❑ Wear safety glasses!!
- ❑ Have fun!!

