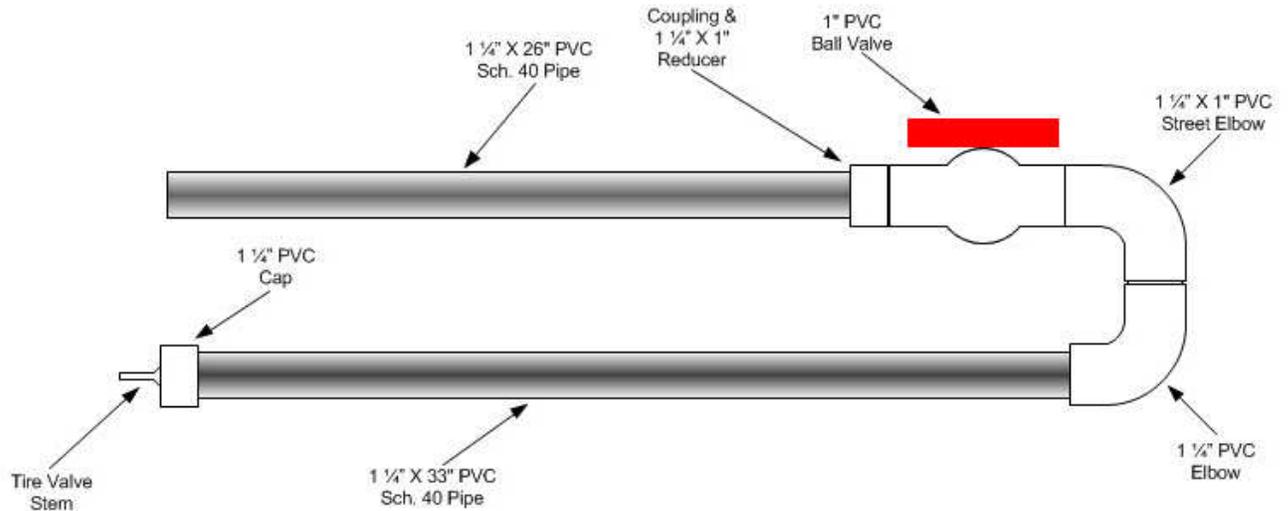


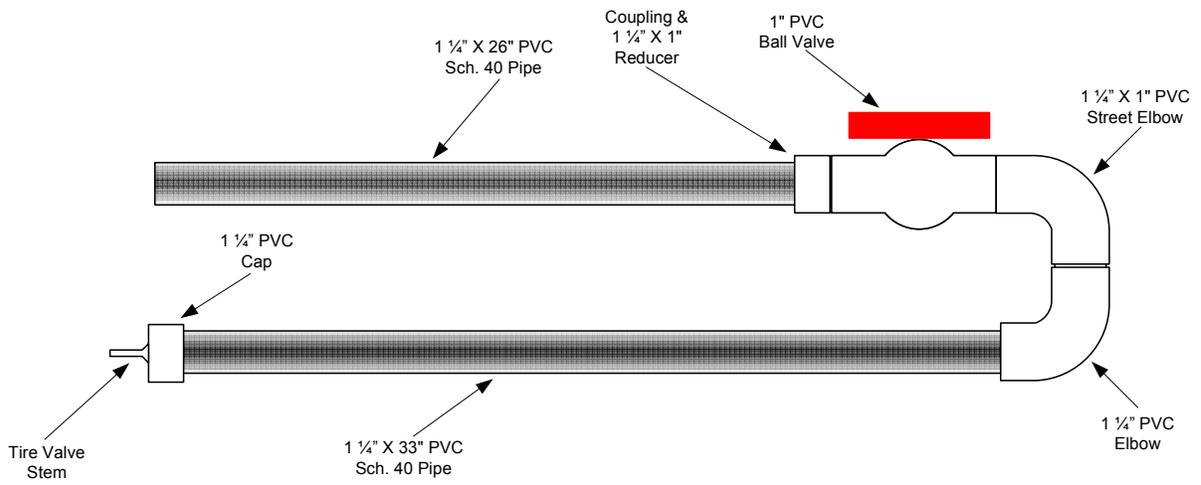
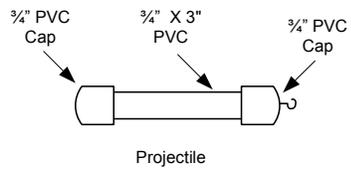
# Antenna Wire Launcher

**Spud Gun by** Larry Brown WB5CXC



This project is to build an Antenna Wire Launcher (Spud Gun). It is constructed from PVC pipe and has a manual release. The device will send a puck over 100' trees without much work. The air chamber is made from a 1/4" schedule 40 PVC pipe 33" long. It is then routed to the manual valve, and the valve is connected to barrel. Insert a puck into the barrel, when the valve is open the puck will exit the barrel. The puck is made from a short piece of 3/4" PVC pipe with 3/4" end caps. The 3/4" caps provide a good fit for the 1 1/4" schedule 40 PVC pipe.

**DANGER:** Always point the barrel towards the sky and ensure nothing is in the path of the puck. This can be a very dangerous piece of equipment and bodily injury can occur if not properly used.



Parts for Spud Gun – waiting to assemble

## Material List

1 ¼" Sch. 40 PVC Pipe	4.33	
1 ¼" PVC Elbow	0.98	
1 ¼" X 1" Street Elbow	1.90	
1 ¼" PVC Cap	0.72	
1" PVC Ball Valve	5.25	
¾" PVC Caps (bag of 10)	3.17	(makes 5 pucks)
Screw Hooks	1.50	
Tire Inflation Stem	2.50	(metal – for thick material)
1 ¼" X 1 Bushing Reducer	1.50	
1 ¼" Coupling	0.98	
Misc. & Tax	2.00	
<b>Total</b>	<b>24.83</b>	

Materials can be purchased from Lowes, Home Depot, or other hardware store.

**Gluing PVC Pipe** – always clean the ends with PVC cleaner. I like to use the clear if you can find it. (A lot of place will not have clear cleaner due to the plumbing code, but the clear make the project more presentable.) After the cleaner has dried for a few minutes, coat one end of a piece with the PVC glue. Insert it into the other pipe and twist the pipe until a resistance is felt. This will take a minute or so, be sure to correctly align the fittings before the glue get set.

Start the assembly by installing the tire stem in the 1 ¼" end cap. The tire stem should be one of the metal stems purchased from an auto parts store. The 1 ¼" cap is thick and standard rubber valve stems will not work correctly.

Cut a 1 ¼" pipe 33" long, this will be the air chamber. Attach the cap with valve stem to one end of the pipe. On the other end of the air chamber glue the 1 ¼" elbow. Cut a short piece of 1 ¼" pipe (~ 1 ¼" long) and use this piece of pipe to glue the elbows and street elbow together. Be sure to place on a flat surface to align the elbows before the glue sets up.

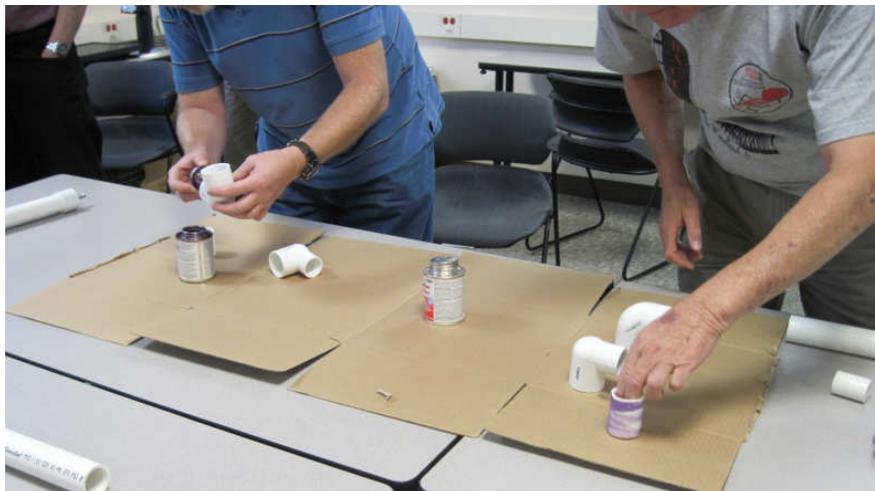
Now glue the street elbow to the ball valve (*be very careful not to get any cleaner or glue on the Ball, or the valve will not work*).

Glue the 1 ¼" to 1" reducer into the coupling. Then glue a short piece of 1" PVC pipe into the reducer and then into the ball valve. Measure and cut a 1 ¼" PVC pipe and glue it into the coupling. The gun part of the project is now finished.

Cut 5 pieces of ¾" PVC pipe. Inspect the ¾" caps to ensure they do not have a ridge on the outside, if they do sand the ridge down until it is smooth. Screw a hook into 5 of the caps. Glue a cap to the ¾" pipe and then glue on of the caps with a hook on the other end. Repeat for all 5 pucks. You will need to make all 5, as some of pucks ***YOU WILL LOSE***.

### **Operating the Antenna Launcher:**

You will need a spool of monofilament fishing line to connect to the puck. Connect a hand pump to the Antenna Launcher and pump up to ~ 40 lbs. Insert the puck into the launcher with the hook first. Point the launcher at the tree and open the valve quickly. The puck should go through the tree and end towards the ground. Remove the monofilament line from the puck and connect the line to larger rope. Pull the monofilament line back through the tree until the rope is reached. Disconnect the monofilament line and connect the antenna wire and raise to proper height.



Assembling Spud Gun – The Woodland Amateur Radio Club



Completed Spud Gun with Pucks



Testing Spud Gun