

# The Art of Making Lance Tubes

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# Why would we make our own lance tubes?



- Lance can be purchased from pyrotechnic dealers. ( They have timing down usually)
- Lance tubes can be purchased for about .08Cents each. It takes a lot of lance tubes to make up a lance set piece and isn't there a lot more to this process.

# Learning process and skills shared with others

- By watching one another tips shortcuts are mastered and passed on to others. It's a time for chit chat and many hands makes the work go faster.
- Did I say work: The Kentucky Blue grass people make up all their own lance for their set pieces which are a huge success at the P.G.I. Every year.

# Materials Needed

- 30# Kraft Paper
- This can sometimes be purchased in large single sheets.
- For our purpose we have a roll of 30# Virgin Kraft Paper.

# Our Tool

- One 5/16 In. Stainless Steel Rod about 8in.long. Most pyro's go out and learn how to scrounge for materials.
- A simple 5/16 In. regular steel rod can be used if it is polished up and kept clean. Glue has a tendency to build up on steel rods and get stuck in the paper tubes. Clean the rod often.

# Rod Is Ready

- Round off one end slightly.



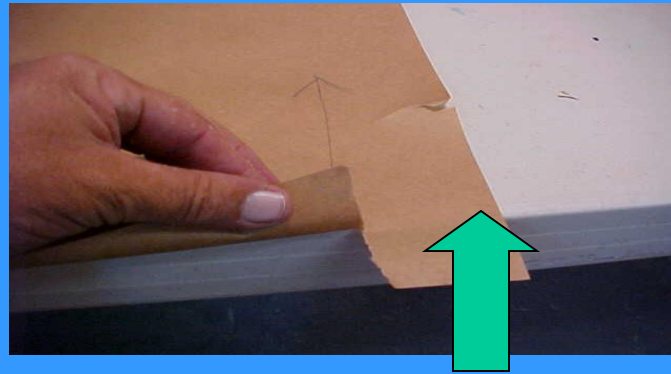
# Rolling tubes in the direction of the Grain!

- How do we know which direction the grain is running?
- If you have a roll of kraft paper the grain usually runs the direction in which the paper comes off the roll.



# A simple method

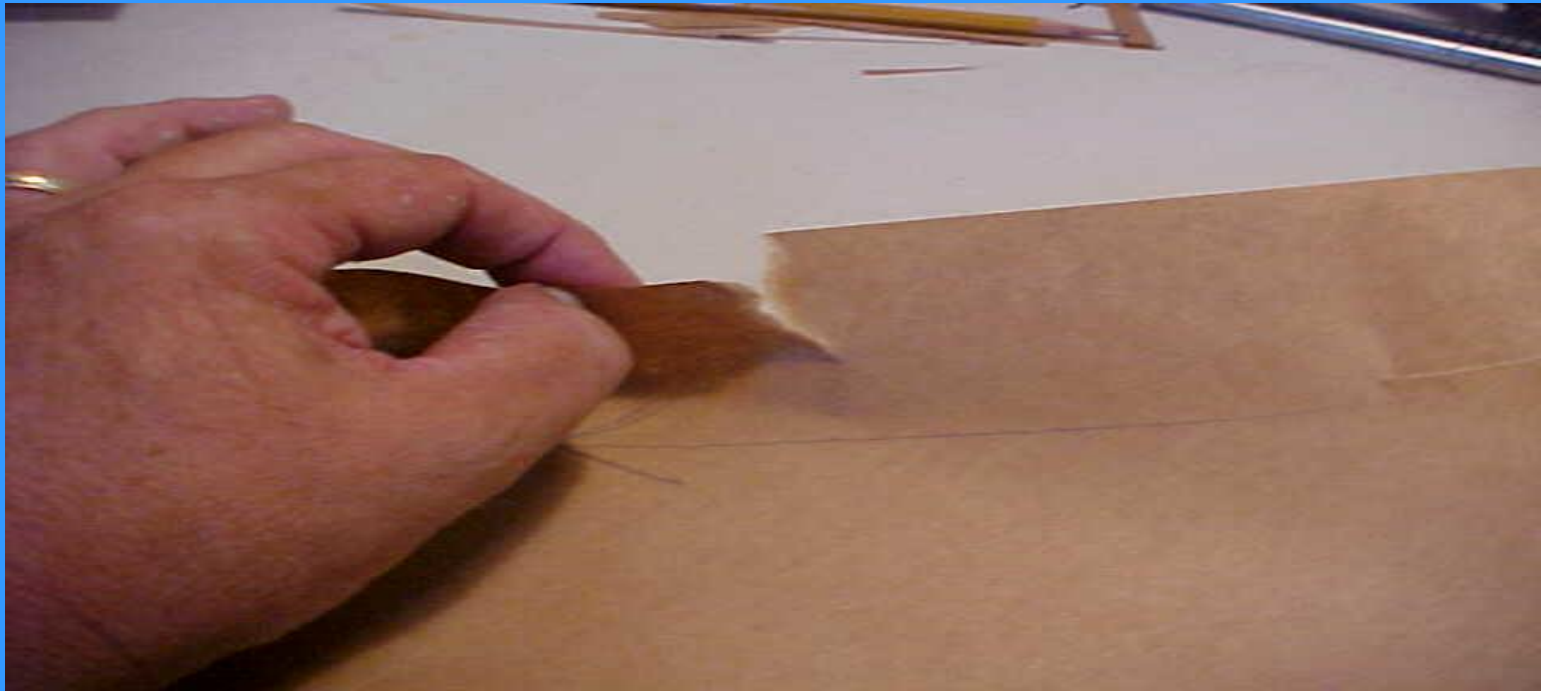
- Tearing the paper to determine the direction of the grain.



Hold the paper between two fingers and pull. If the Tear is in a nice straight line that is the direction of the grain.



# Tearing Against the Grain



Again using two fingers tear the paper. Notice how the paper now runs jagged. This is an indication that this is against the grain.

# Wet Method

- If your Kraft paper is in sheets and your not sure of your tearing method.
- Use a small brush and lightly wet the paper.
- The paper will curl up or down when dry in the direction of the grain.



# Cutting the paper

- Now that we have our grain direction we can start to measure out a cardboard pattern that we can trace on our paper and cut out the individual pieces.
- Measurements are:  $4 \frac{1}{4} \times 4 \frac{1}{4}$  inches.
- Our finished tubes will be 4 inches.
- Now if you have a large paper cutter your in luck.

# Gluing and Rolling the 1<sup>st</sup> tube

Elmer's White Glue:  $\frac{2}{3}$  Elmer's glue  $\frac{1}{3}$  water mixed. We are going to paint the top edge and one side.

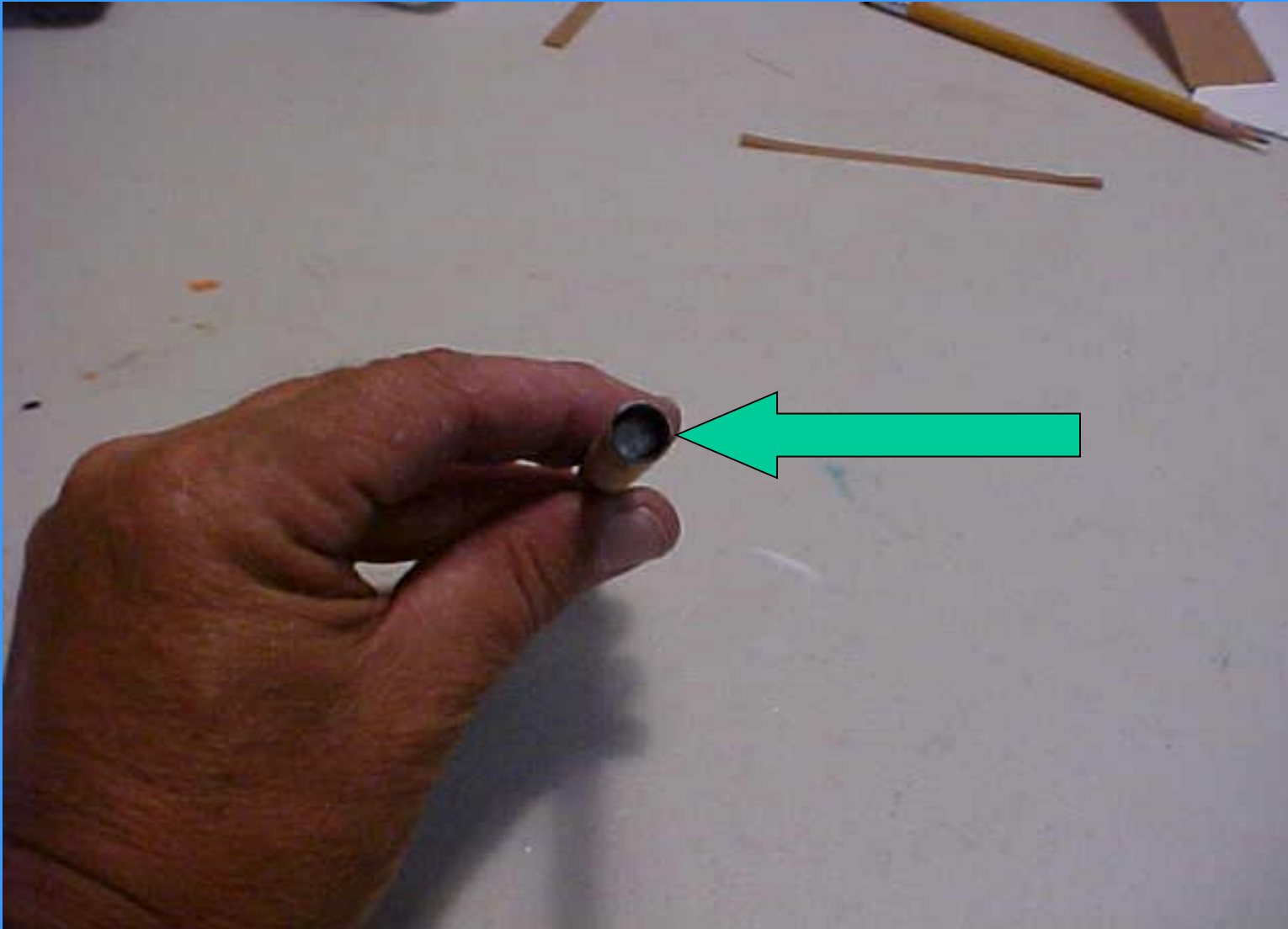


# Rolling the Tube



Start by folding over the tube with some excess paper to line up paper so it is square.. Pull paper back and tuck under the steel rod to start the roll.

Pull rod back  $\frac{1}{4}$  inch



# Roll the tube on a hard surface



- Bottom should be well rounded to a point

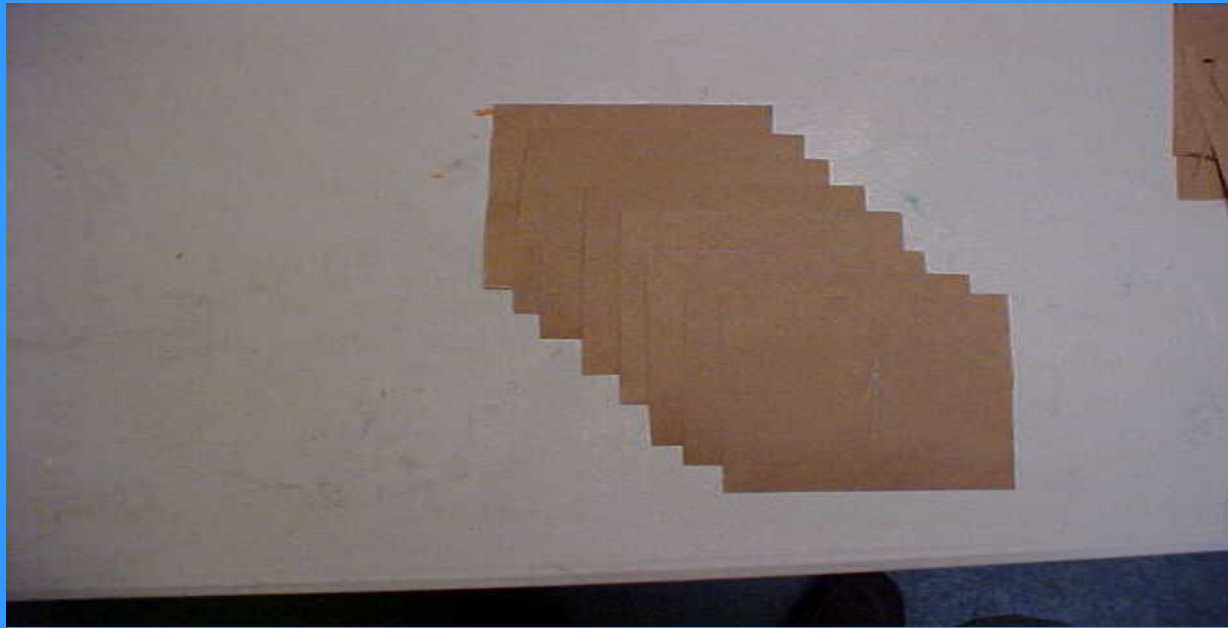
# Remove the Rod



- We now have a nice finished Lance tube that we will let dry for a day or two.



# Gang Method for Rolling



- We are going to book each paper over the next one so the glue can soak in and set up, The advantage is that we can roll a bunch of tubes. 99 bottles of beer on the wall-----Anybody got .08cents, I'll buy one from Yah!!

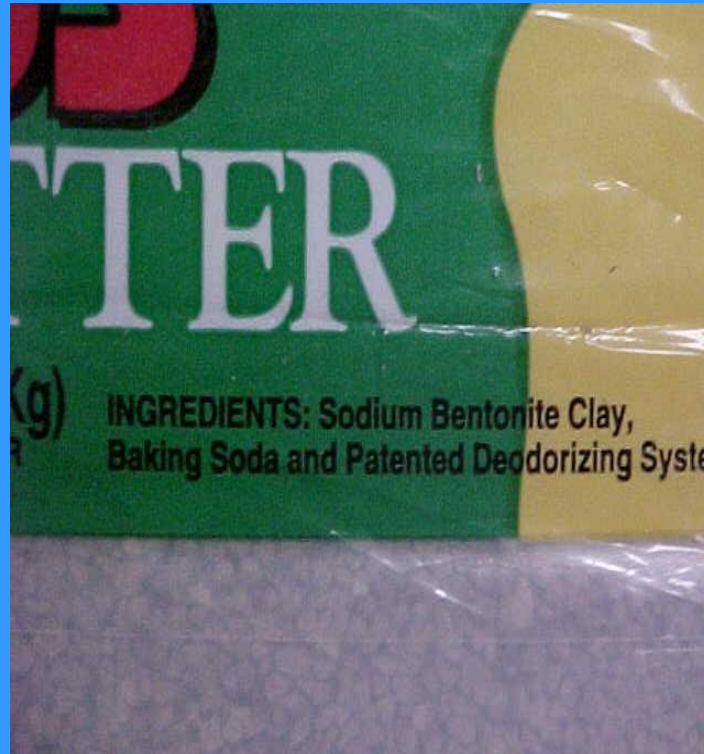
# Grogging??

- Grog is actually clay used by potters. Its very inexpensive and makes great clay plugs for the Lance. Problem is that it usually only comes in 50# bags and that's a lot of Grog to have around unless your making fountain, rockets, drivers, etc.

# Kitty Litter

- All though most pyro's are poor or just plain cheap and have screens for chemicals there is no sense in screen used Kat Litter when you can purchase " Stay Fresh, " Kitty litter used by most pyros for lance, Rockets, gerbs. It can be treated with 5% mineral oil and graphite powder and really packs down great. It is necessary to actually put this stuff through a blender, or small coffee grinder to get it into a more powder form. The mineral oil and graphite are not necessary for Lance.

# Stay Fresh



- As long as it says—Sodium Bentonite Clay it can be used for plugs.

# Grinding



- Now if you really wanted to be anal you could use my little mortar and pistil to grind your grog

# Blender

- Better yet go to a rummage sale and pick up a blender and grind to your hearts content.
- While your at it you can grind up that kitty litter for rocket nozzles as well.