

Let's Build a Mascelata

Seminar By Steve Hubing July 15, 2017

A mascelata is usually a day time fireworks where a whole bunch of pyrotechnic devices are strung or chained together with quick match. Generally most of the devices are salutes, but shells, cakes, and rockets can be build in. The chain is setup with many different timings so the chain is slowed down or sped up depending on the tempo wanted.

In this seminar each of 10 teams will build a 3 salute chain with delays for the mascelata. Then we will hang and join all the chains we make to form one long mascelata. Below is a list of tools and materials each team will need to build their mascelata chain. Some of the tools and materials will be supplied and other tools and materials the teams should provide for themselves. I encourage you to think about who you want on a team so you can get the team supplied materials together. Three club members on a team would be good, but 1 to 3 would be okay. Since we will be dealing with flash powder, I would prefer that only adult members attend this seminar.



Club Supplied Materials

- 30# kraft paper
- 50# kraft paper
- Black Match
- Flash Powder
- Building Boards with flat surface
- Post and wire to hang mascelata

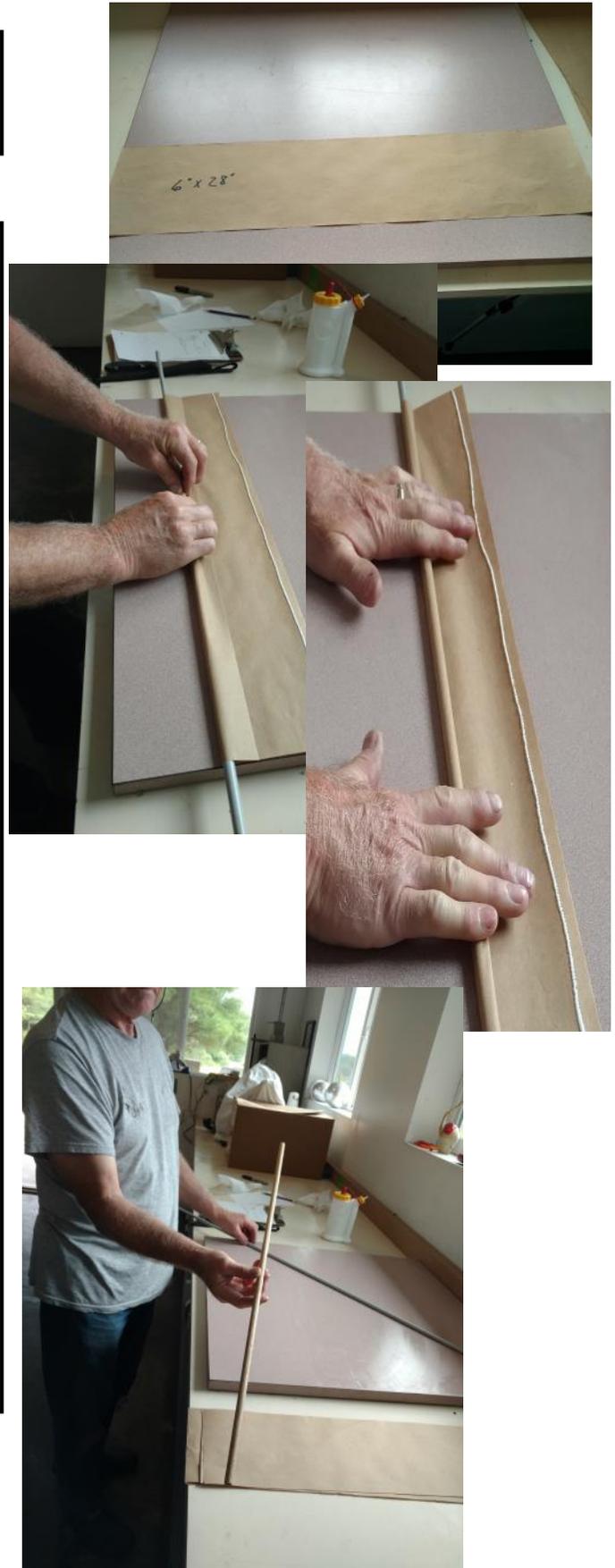
Team Supplied Materials

- Scissors
- Something to measure with
- A 3 or 4 foot 3/8 inch smooth rod (metal, fiberglass, or wood)
- Bottle of white glue
- Strong string (cotton, flax, hemp, etc. will work but it needs to be strong)
- 1 inch dowel about 6 to 10 inch

Making the Quick Match Paper Tube

Using 30# kraft paper, cut 8 pieces that are 6" wide X 28" long.

Set one of the paper strips on a flat surface and place a bead of white glue along the top of the paper. Then using a smooth 3/8 inch rod, place it about 2 inches from the opposite edge of the paper and fold the edge of the paper about 1 inch over and past the rod. Starting at the center start rolling the rod forward, trap the overlapping paper as you roll the rod forward. When the paper is captured and starts to roll on the rod in the center, continue to roll the rod forward and move your hands to the ends of the rod as the paper rolls on. Once the paper is rolled on the rod roll it forward with pressure from your hands to get the edge to glue down and also to tighten the paper tube on the rod. Then remove the tube from the rod with a twist and pull of the rod. Make 8, 28 inch tubes using this process

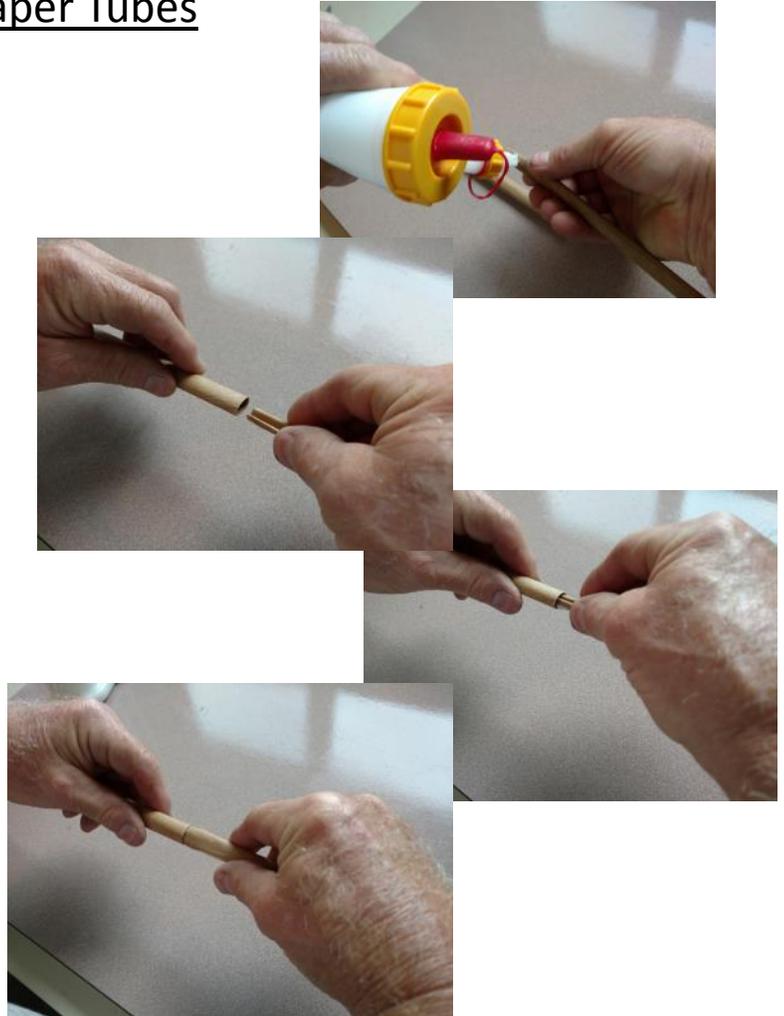


Splicing the Quick Match Paper Tubes

Take 2 tubes, splice them together to form a single tube about 55" long.

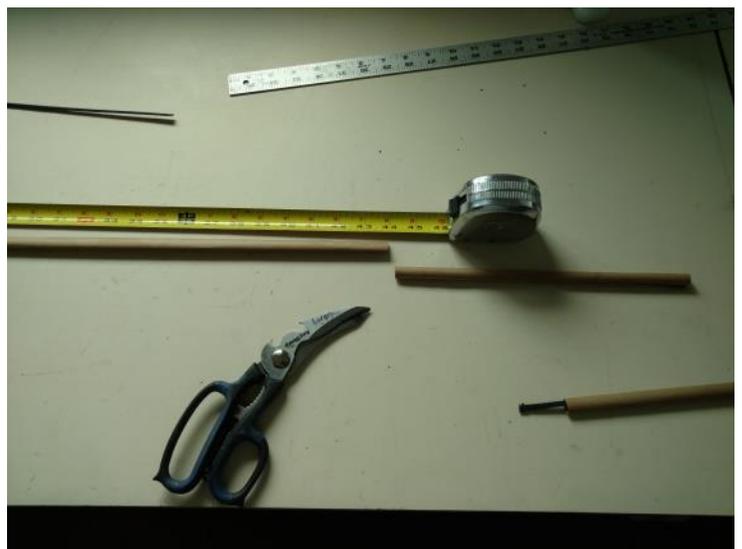
Do this by placing some white glue on about an inch of the end of one of the tubes. Fold the tube so that it will fit into the end of the other tube and insert it about an inch.

Make 4, 55 inch tubes out of the 8 tubes you rolled.



Cut each 55 inch tube in to 2 tubes, with one tube being 44 inches and the other being about 11 inches or what ever is left over.

Now you will have 4, 44 inch tubes and 4 11 inch tubes.



Finish Making the Quick Match

Using a piece of 48 inch black match, slide it into the 44 inch paper tube. Leave a little bare black match at each end of the tube. Do this with each 44 inch tube to make 4 long pieces of quick match.

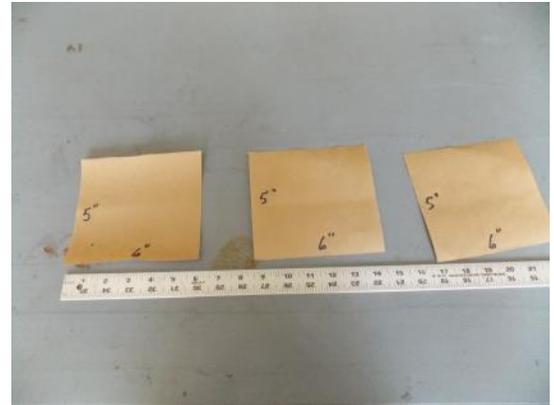
Next, cut a 48 inch piece of black match into 4 equal pieces.

Slide each piece of black match into the short paper tubes to make 4 pieces of short quick match.



Make the Buckets

Buckets is a fireworks term for light paper tubes that are used to connect multiple pieces of quick match together. They are usually used when chaining together shells or other fireworks devices.



Using 30# kraft paper, cut 3, 5 inch X 6 inch pieces of paper.

Using your 1 inch dowel, roll 3 tubes that are 5 inches long.



Make the Salute Cans

Using 50# kraft paper, cut 3 pieces that are 5 inches wide by 24 inches long.

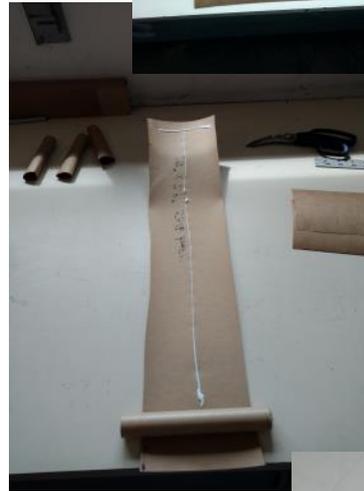
Using the 1 inch dowel and white glue, roll a paper tube for the salute can.

Slide the paper tube (salute can) off the dowel about 1 1/2 inches.

Crimp the end closed and using a clove hitch, tie the salute can closed.

Slide the tied tube (salute can) off the dowel.

Make 3 total salute cans.



Fill the Salute Cans and Insert Black Match

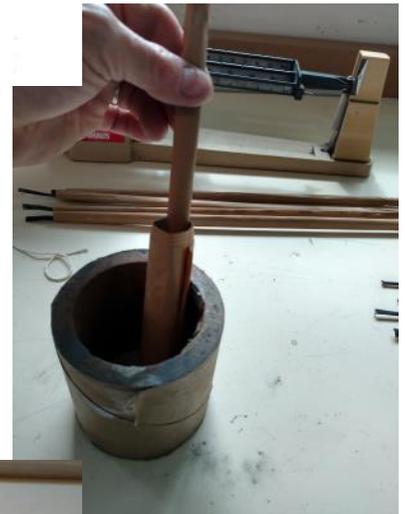
Fill the salute can with 1 rounded teaspoonful (about 6 grams) of some good hot flash powder.

Using one of the short pieces of quick match, fold over the exposed black match on one end of the quick match and insert it all the way in to the filled salute can.

Crimp and, using a clove hitch, tie off the top of the salute can around the quick match. Tie it nice and tight with your strong string.

Make 3 total filled and quick matched salute cans.

* Caution, treat flash powder with respect. Even with the "small" amount used (~ 6 grams), it's enough to blow your fingers off !!



Add the Buckets to the Matched Salute Cans

Place about an inch of white glue at the top of the quick match.

Crimp and tie a bucket around the quick match, so the bare black match extends a little ways into the open bucket. Do not tie the bucket directly over the bare black match.

Tie a "Z" in the quick match between the bucket and the salute can. Use a clove hitch to tie the "Z" and tie it tight. This will serve as a delay for the salute.

Now you have a completed salute assembly that is ready to add to the quick match chain.



Chain the Salute Can Assemblies Together and Vent Them

Using 2 of the long pieces of quick match, put a 90 degree bend at the last 6 inches of each piece.

Holding the bent pieces of black match together, insert them into the open end of the bucket making sure the bare black match end is all the way into the salute can and is in the flash powder. Tie off using a clove hitch. Tie it good and tight, so the quick match doesn't slip out. Maybe even put a little white glue on the quick match before inserting into the bucket.

Poke a small hole or slit in the bucket to vent it.

Venting provides a pressure relief, so there is less chance of the quick match blowing out of the bucket and failing to lite the other pieces of quick match.

Do this with each of the 3 salute can



Put Some Delay "Z" in the Quick Match

Tie 2 delay "Z"s into each long piece of quick match.

This will cause a delay between each salute to slow the chain down.



All done and ready for hanging up and chaining to the other Mascelata chains.

