

M8 Mission Critical Disposable rev 1.7

Smoke Signal Device

Items you will need



Coffee Grinder



Pocket scale



Metal Spoon
or spatula



Fuse



Compound Pliers



Paraffin Wax
Pellets



Red Loctite
271



Single burner
Cooktop



Small 5-6" pot



Potassium
Nitrate
(Technical Grade)



Sugar



Federal GM200M
Small Pistol
Match Primers



SAFETY FIRST



It is highly recommended to use a respirator when handling potassium nitrate. Over exposure may lead to respiratory issues.



M8 Mission Critical Disposable Mixture

**This mixture to be used
by Certified
Pyrotechnicians only**
Other smoke mixtures can
be substituted.

Items you will need in this section



Pocket
scale



Metal
Spoon



Non-Scented
Candles



Potassium
Nitrate
(Fireworks Grade)



Sugar



Clear Mixing cup

Place a cup on the scale and hit tare. This will zero out the scale, so the measurement is accurate.

Using the spoon, place **90 grams of potassium nitrate** into the cup. Do a little at a time to reach 90 grams. Set this cup aside.

With a new cup on the scale, using the spoon, place **60 grams of sugar** into the cup. Do a little at a time to reach 40 grams. Set this cup aside

Place a new cup on the scale. Put **70 grams of wax** into the cup and set aside.

Try to stay within +/- .5 - .8 grams. Any extreme deviation from the above amounts will result in an undesired result.

Items you will need in this section



Coffee
Grinder



Single burner
Cooktop



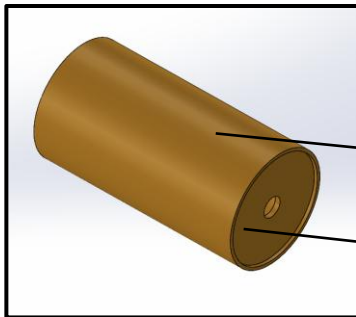
Small 5-6" pot

Take your 90 grams of potassium nitrate and 60 grams of sugar and combine them in the coffee grinder. Mix for 1-2 minutes while tapping the sides, shaking it, turning it upside down, ensuring the mixture is even. These grinders are good, but a lot of the powder falls below the blade. When this is complete place the mixture into an empty cup and set aside.

Plug in your cook top with the pot on the burner and set to the lowest setting. Dump your 60 grams of Paraffin wax into the pot and melt.

When the wax is completely melted, dump your potassium nitrate and sugar mix into the wax. Using your mixing utility, stir the mixture until the combined powder is fully coated. This mixture we **DO NOT** want to caramelize like other recipes so you may have to turn off your heat to prevent this. Stir until smooth. **Careful not to splash the wax.**

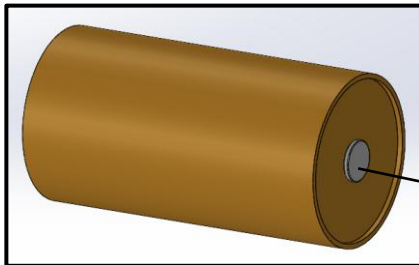
Once the combined mixture of potassium nitrate and sugar is coated with melted wax, the mixture should form a slurry or a smooth wet paste. Turn your burner off and let sit while you prepare for pouring. Turn the burner on again to keep warm if you need to.



Using a glue gun, glue the wood disc to the cardboard tube at a depth of 2mm (.08)

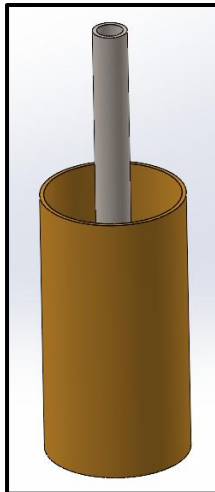
Cardboard Body

Wood Disc with 3/8 hole



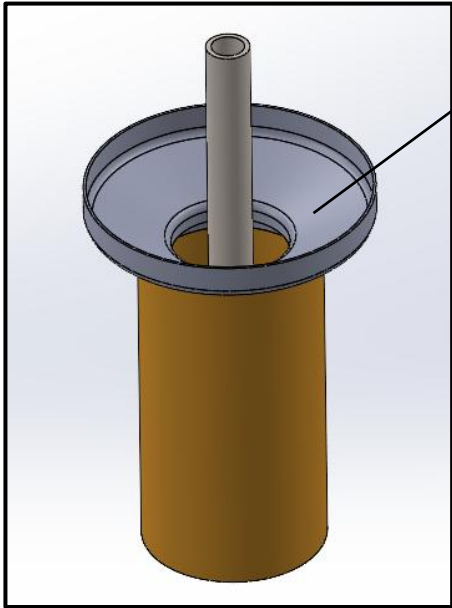
Install the Silicone plug in the bottom end of the can.
Make sure the plug is seated all the way in to ensure a good seal.

Silicone Plug Part # **M8-MINI-FLL-PLG** not included



Install the core rod into the silicone plug

Steel Core Rod **M8-MIN-CROD** not included

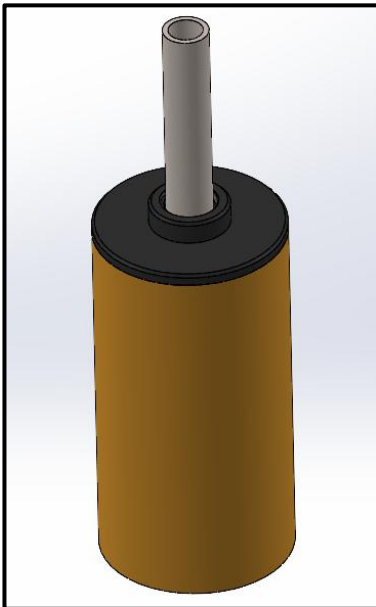


M8 & M8 Mini Filling Funnel Part # **M8-MINI-FUN** not included

Place the funnel on top of the opening of the can.
Pour the smoke mixture into the funnel and push down, if necessary, with a spoon.

Remove the funnel.

Keeping the can held down flat, jog the fixture back and forth to get the hot mixture to level out.



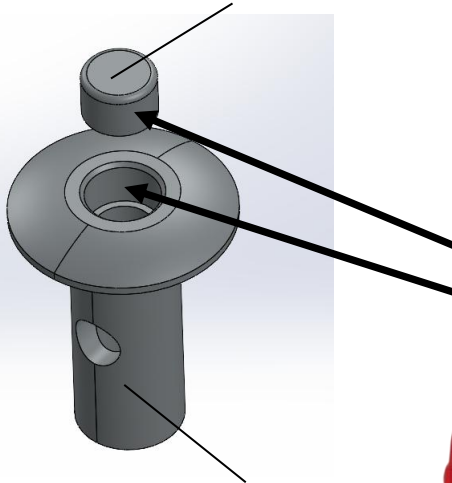
Place the can top onto the cardboard tube to keep the core rod centered in place. Let cool for one hour air cool or 35 minutes in freezer.

M8 Mission Critical Primer Insert Installation



Wear safety glasses during this operation from accidental primer strike

Small Pistol Primer



Primer Insert



The kit contains 4X Primer Inserts. Small pistol primers will have to be bought from your own supplier. **It is highly recommended to purchase the NFE Tactical Primer Press for this operation.** Other methods may be used but is not advised.

Only use new pistol primers like CCI or Remington Match Grade. Failure to do so may result in failure to ignite

Put a light bead of Red Loctite around the primer or the hole of the primer insert and press the primer flush with the top of the primer insert.

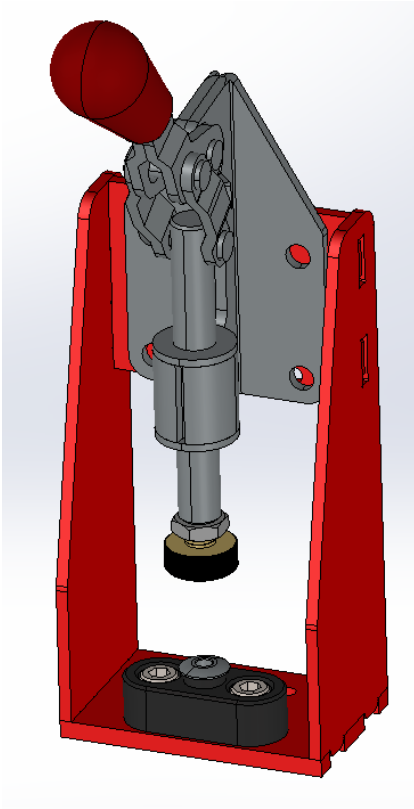
The next two pages covers the use of the Primer Press



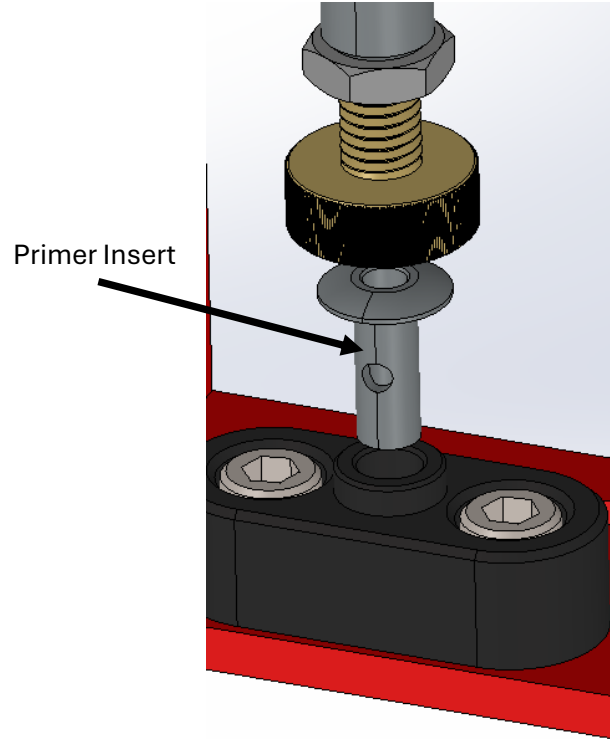
**ALLOW THE LOCTITE
TO CURE BEFORE USING**

M8 Mission Critical Primer Press Part # M8-MC-PP

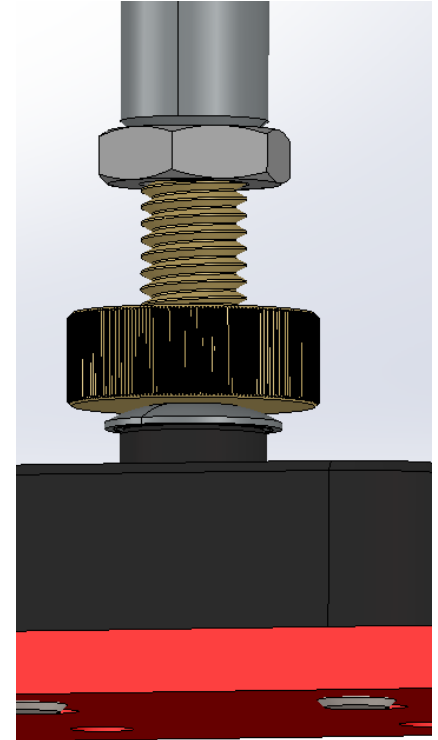
Exclusively designed for the M8 Mission Critical



Part # **M8-MC-PP**
not included



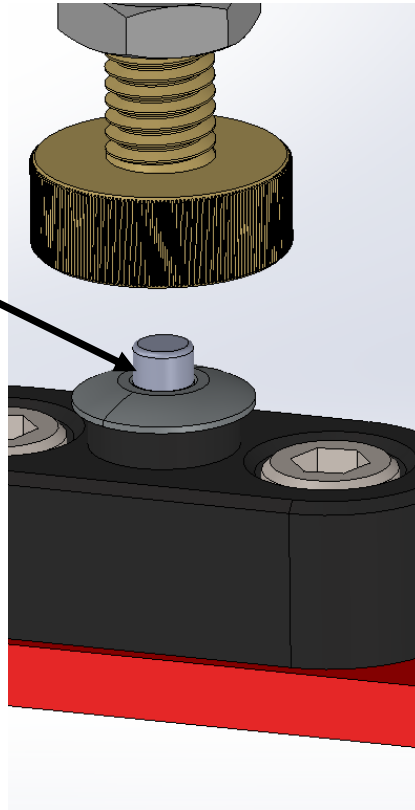
Place the Primer Insert
into the die.



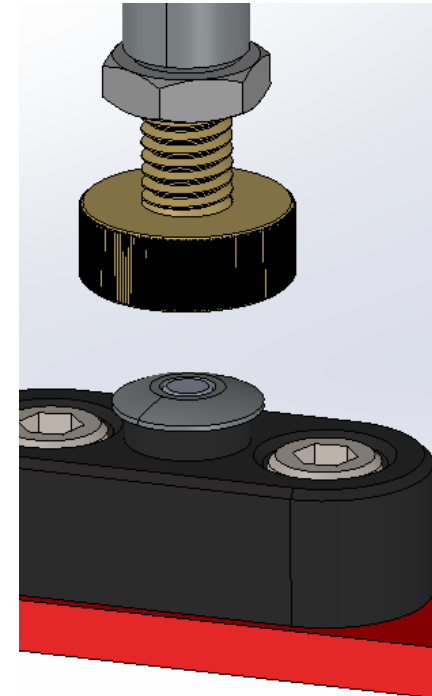
Adjust the punch tip to
bottom out on top of the
primer insert. The red
lever should be all the
way down with no
further travel



You may opt out of using Loctite but the primer may pop out during ignition at a high velocity.

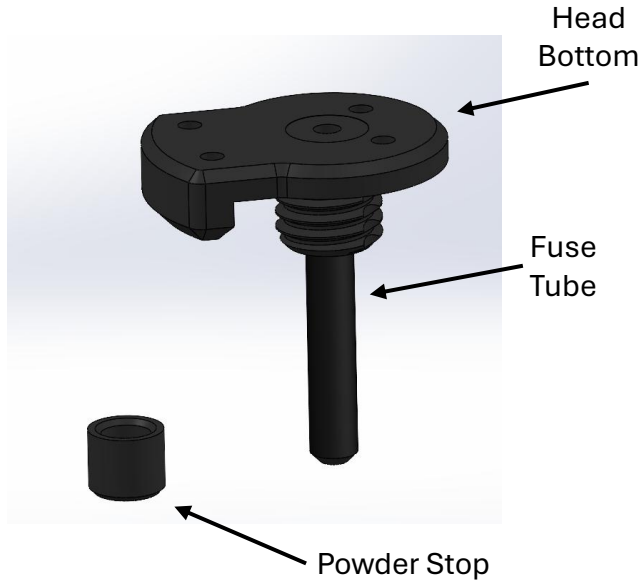


Put red Loctite on the primer
And place on top of the hole
of the Primer Insert. Wipe away
excess Loctite inside the hole
after pressing the primer.

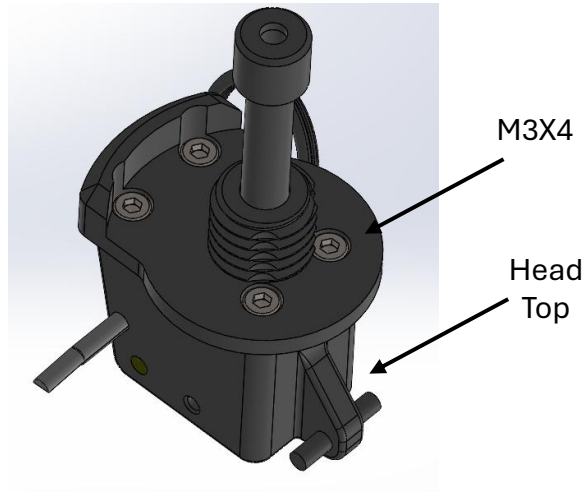


Press the primer into Primer Insert
until the press has no more travel.
This will set the primer to the correct
depth and not put excessive force
on the primer

M8 Mission Critical Disposable Head Assembly



Step 1 – Insert the fuse tube into the head bottom. Glue the powder stop to the bottom of the fuse tube.



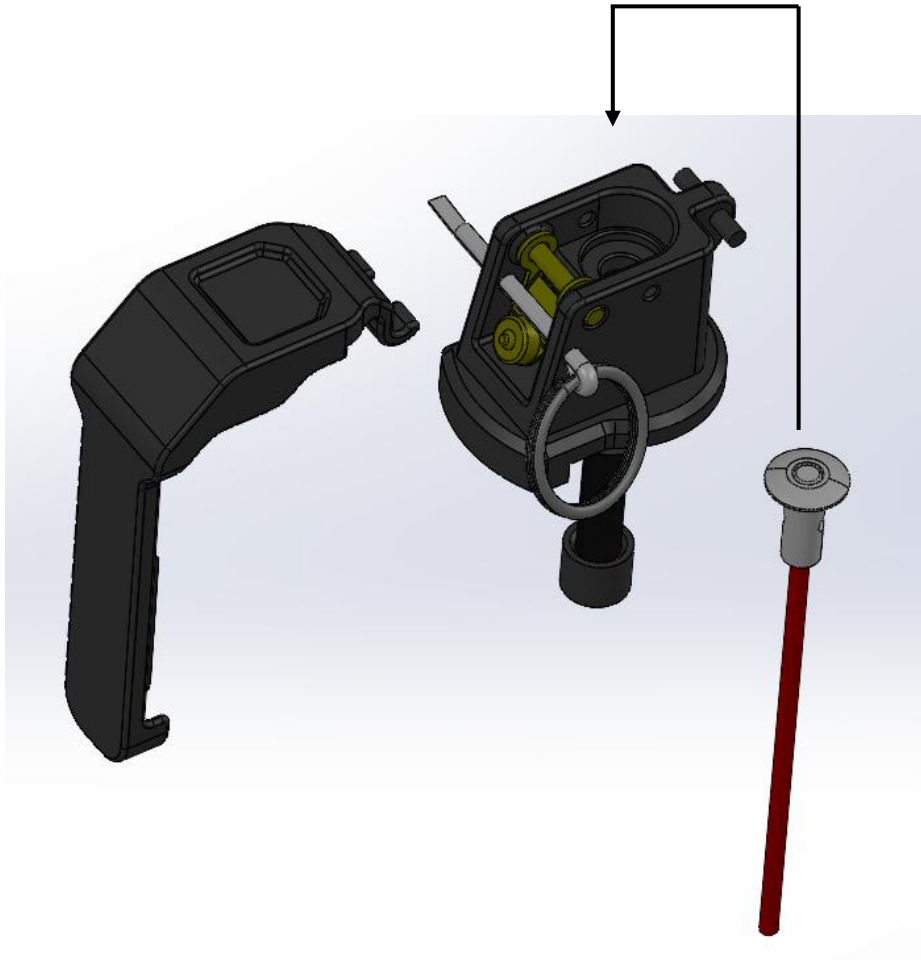
Step 2 – Use the supplied M3 screws to secure the head bottom with the head top.



Step 3 – With your choice of delay safety fuse, crimp the bottom of the primer insert onto the fuse **IN A CIRCULAR PATTERN**. The tip of the fuse should be positioned at the bottom of the vent holes. The crimp should be a cone shape holding the fuse in place. Super glue can be used but do not get glue on the tip of the fuse.

M8 Mission Critical Disposable

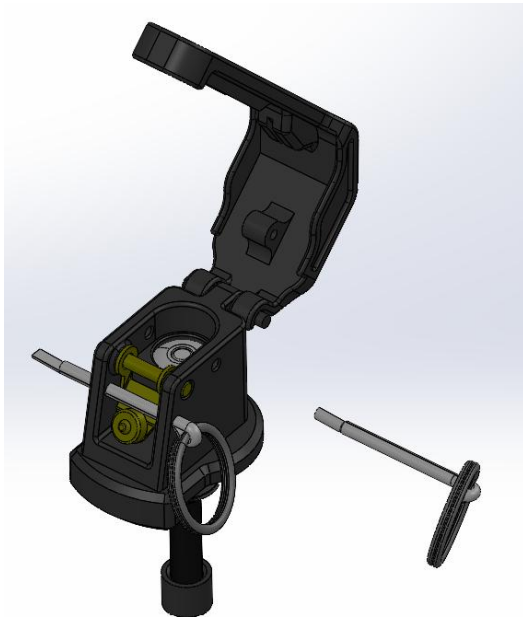
Head Assembly



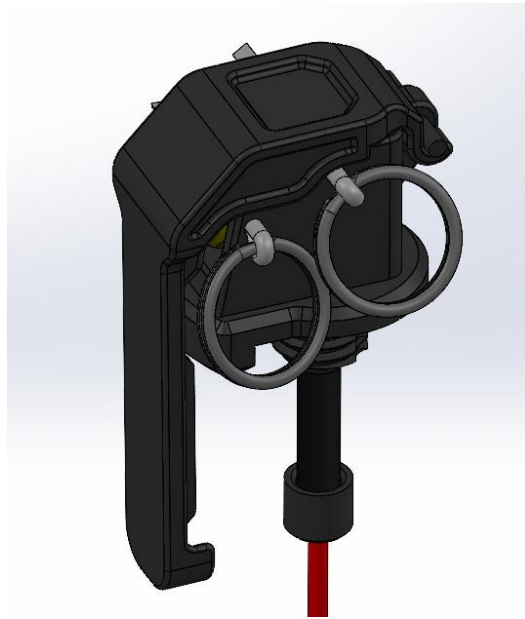
Step 5 – Insert the primer insert and fuse tube into the head. You can use a small amount of silicone under the brim to glue it into the head.

M8 Mission Critical Disposable

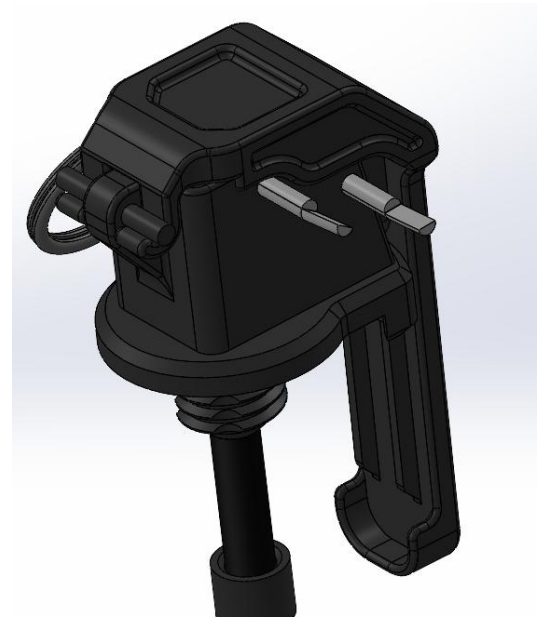
Spoon Installation



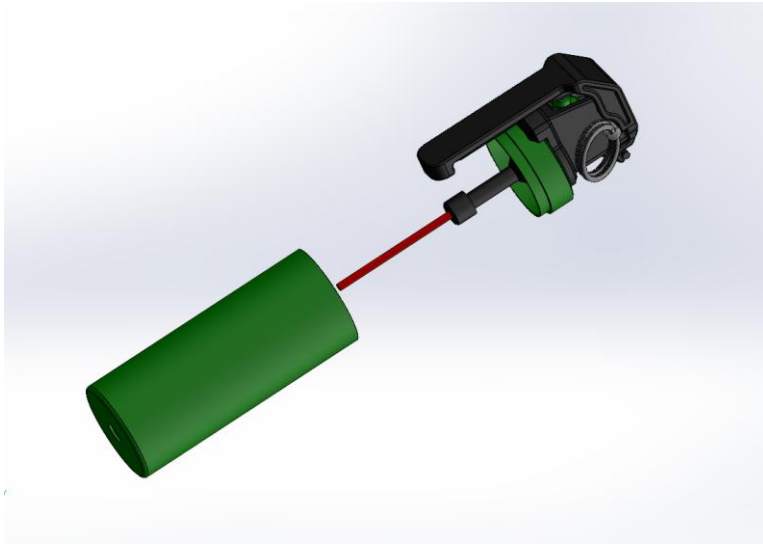
Hook the spoon under the pin in the front of the head assembly. Rotate the spoon downwards.



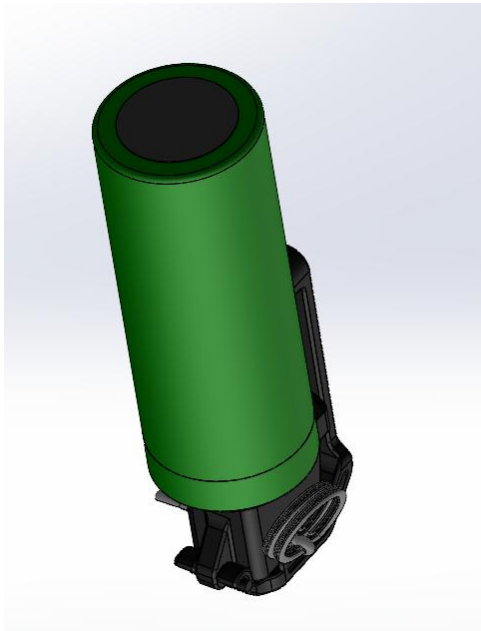
Insert the pin through the hole on the side of the head assembly and through the hole on the spoon.



Using needle nose pliers, bend the longer section of the pin downward on a 45 degree angle.



Reinstall the head onto the can



Make a mix of 75% Potassium Nitrate and 25% sugar. Loosely fill through the hole in the bottom of the can. Brush away excess mixture, wipe with alcohol wipe and place supplied sticker on the bottom.

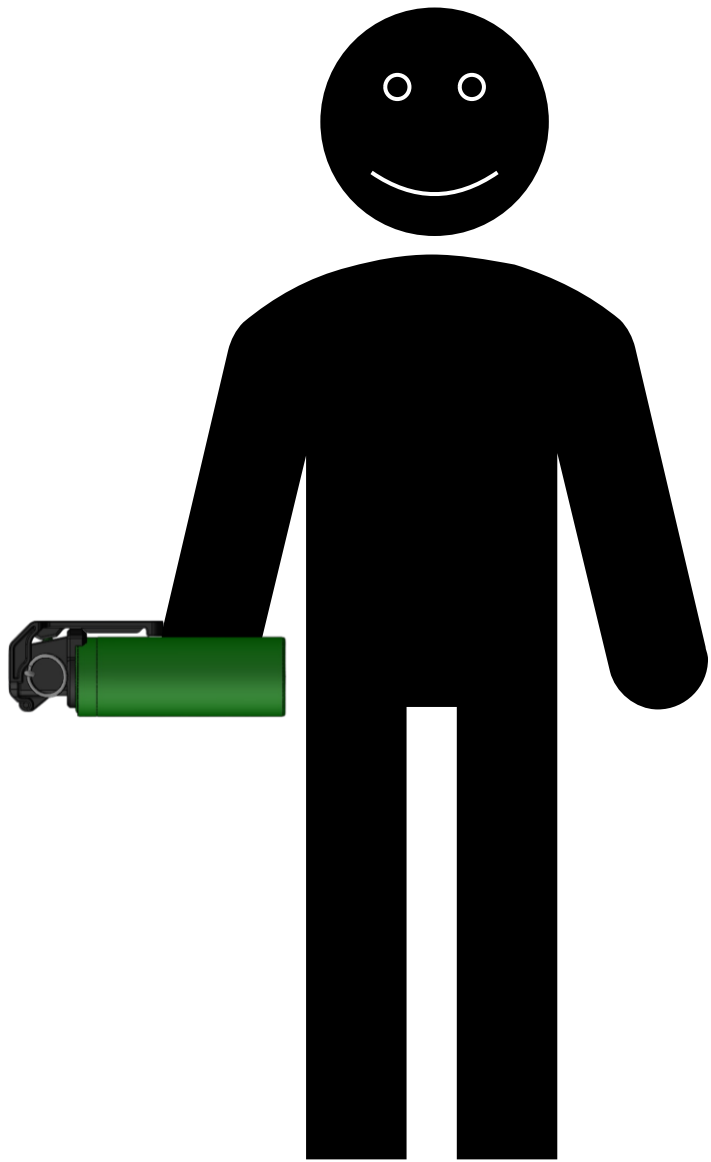


SAFETY FIRST



Using primers as a stage one ignition source has a success rate of 99.997%. A primer uses a small “explosive” charge to set off a secondary ignition. Using a primer as an ignition source although reliable has its safety drawbacks. The primer could have potential to injure from spall. Always wear safety glasses and proper PPE when using NFE Tactical Products.

Mechanics gloves and Safety glasses are highly recommended when using



ALWAYS HOLD THE HEAD AWAY FROM YOUR BODY WHEN THROWING



Homemade smoke devices must be used the day of construction or it becomes a regulated explosive and you must abide by all requirements from the ATF.

Before you pull the pin, some safety needs to be considered.

- Always hold the smoke device with the top and bottom facing away from you.
- Never point it at anyone and do not have it on an angle towards yourself.
- Hold the spoon of smoke device with your arm extended with your dominant hand.
- Pull the keyring with your opposite hand.
- Immediately throw the smoke device to a safe distance.
- The reaction of the mixture is hot. Do not throw it any area that can catch fire, or you don't want burned.
- Wait 20 minutes before picking up spent smoke device
- Have fun!