M8 Smoke Signal Device

A Do-It-Yourself Kit

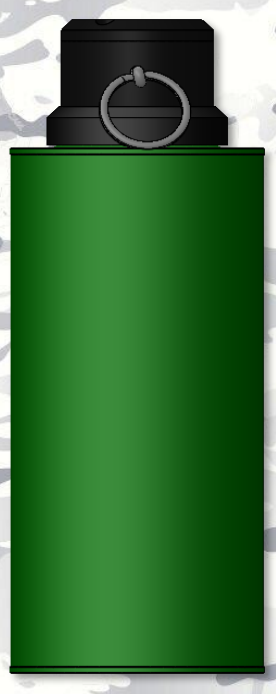
Rev 2.1

Mixture Filling
&
Assembly Instructions

Video Instructions On YouTube

A product exclusively by NFE Tactical LLC

www.nfetactical.com



NFE_TACTICAL

nfe_tactical

NOT FOR EVERYONE
NFE
CONTENT RATED BY ESRB

Touch of Tism

Items you will need (Not included in the kit)



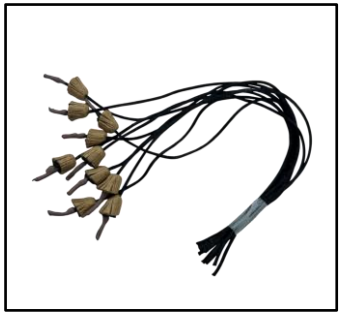
Coffee Grinder



Pocket scale



Metal Spoon



Pull String Igniters



Single burner Cooktop



Small 5-6” pot



Potassium Nitrate (Technical Grade)



Sugar



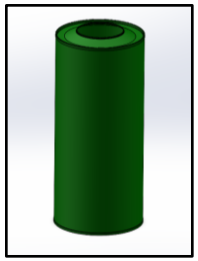
Paraffin Wax Pellets

SAFETY FIRST

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



Items Included in the kit



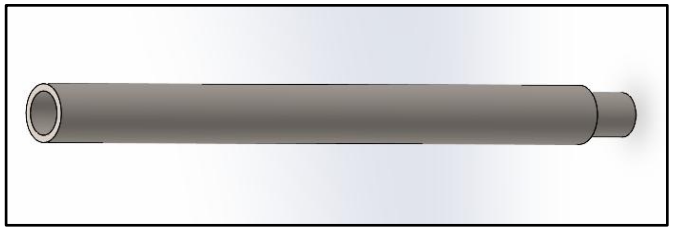
16oz Can with cap 4X



Silicone Plug 1X



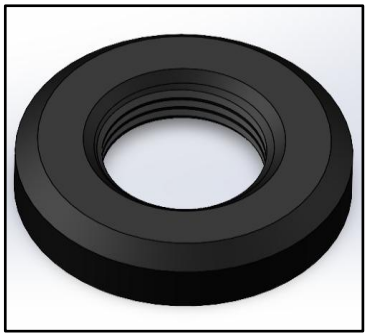
Clear Mixing cup 4X



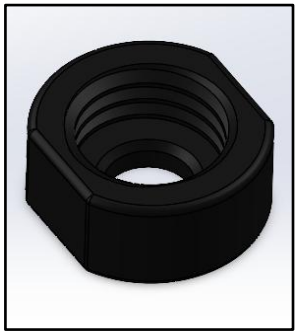
Steel Core Rod 1X



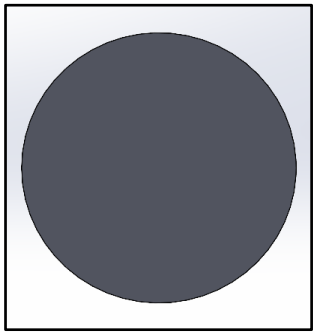
Head Assembled 4X



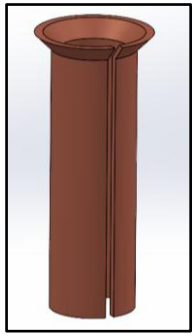
Can Adapter 4X



Tube Nut 4X



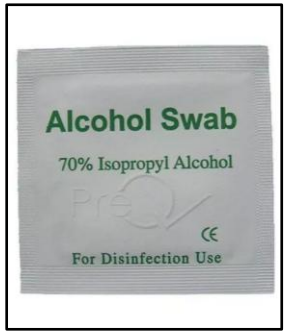
Vinyl Sticker 4X



Igniter Tube 4X



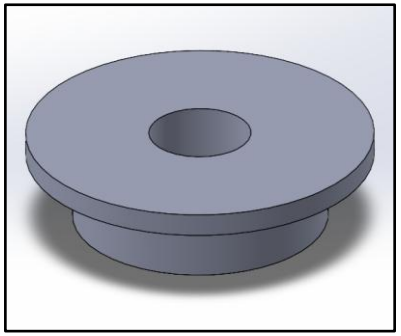
Super Glue 4X



Alcohol Swabs 4X



Funnel 1X



Core Rod Bushing 1X

This mixture to be used by certified pyrotechnicians only

Other smoke mixtures can be substituted.

PART 1
THE MIXTURE

Items you will need in this section



Pocket scale



Metal Spoon



Non-Scented Candles



Potassium Nitrate (Fireworks Grade)



Sugar



Clear Mixing cup

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

2. Using the spoon, place **60 grams of potassium nitrate** into the cup. Do a little at a time to reach 60 grams. Set this cup aside.

3. With a new cup on the scale, using the spoon, place **30-45 grams of sugar** into the cup. Do a little at a time to reach the desired amount. Set this cup aside

   More sugar produces a faster/hotter burn

4. Put **40-50 grams of wax** into the cup and set aside.

   Start with 40 grams of wax. The composition when mixed with the other ingredients should resemble a slushy. You can add more wax while mixing if needed.

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

4X mixture for M8 Max

PART 2
THE MIXING

Items you will need in this section



Coffee Grinder



Single burner Cooktop



Small 5-6” pot

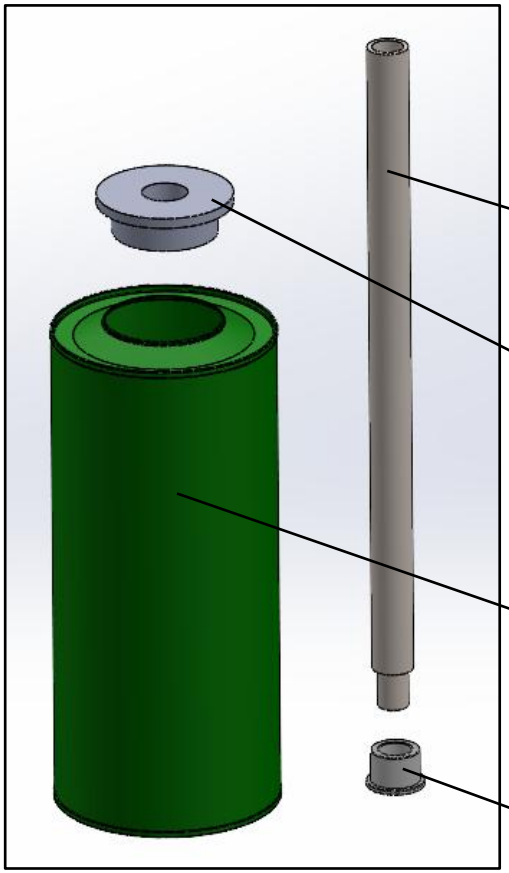
5 Take your 60 grams of potassium nitrate and 45 grams of sugar and combine them in the coffee grinder. Mix for 1-2 minutes while tapping the sides, shaking it, turning it upside down, ensuring the mixture is even. These grinders are good, but a lot of the powder falls below the blade. When this is complete place the mixture into an empty cup and set aside.

6 Plug in your cook top with the pot on the burner and set to the lowest setting. Dump your 35 grams of candle wax into the pot and melt. Stir with a metal spoon so all the chunks melt faster.

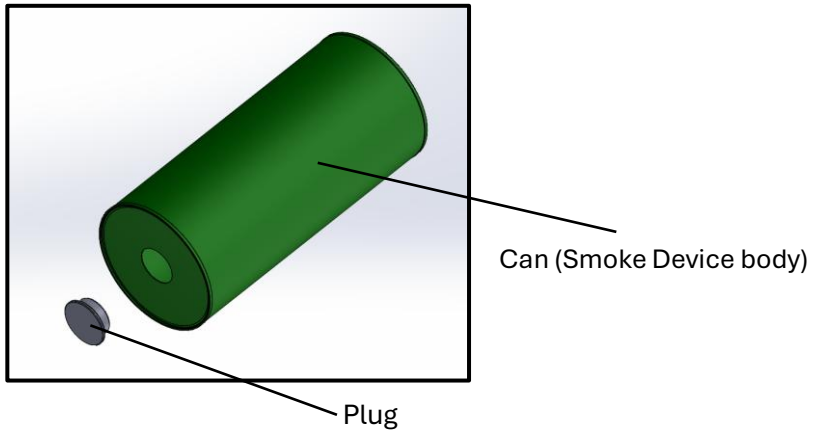
7 When the wax is completely melted, dump your potassium nitrate and sugar mix into the wax. Using the metal spoon stir the mixture until the combined powder is fully coated. This mixture we **DO NOT** want to caramelize like other recipes so you may have to turn off your heat to prevent this. Stir until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

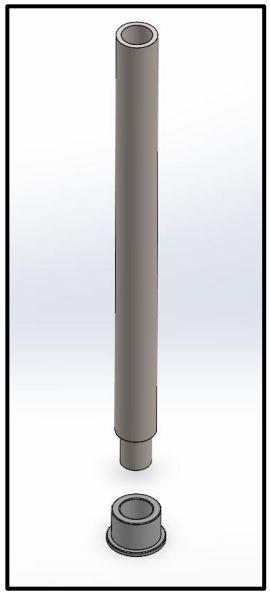
8 Once the combined mixture of potassium nitrate and sugar is coated with melted wax, the mixture should form a slurry or a smooth wet paste. Turn your burner off and let sit while you prepare for pouring. Turn the burner on again to keep warm if you need to.

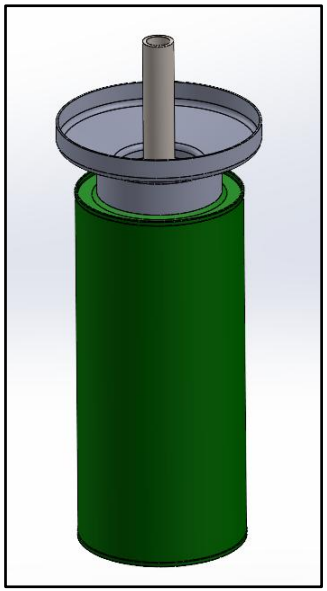
PART 3
THE POUR



Each kit comes with a silicone plug, core rod bushing and steel core rod.







9 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.

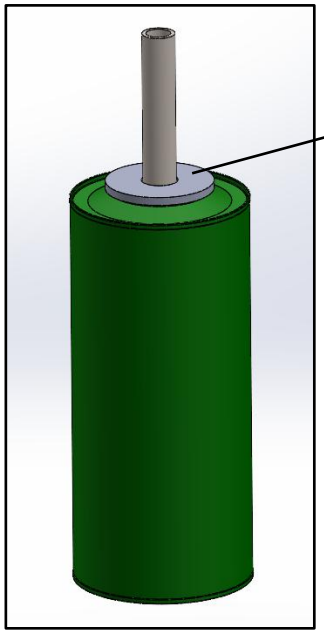
10 Place the small end of the steel core rod into the inside of the silicone plug. Place the funnel on top of the opening of the can. Pour the smoke mixture into the funnel and push down, if necessary, with a spoon.

11 Remove the funnel.

12 Oscillate the can back and forth to get the hot mixture to level out.

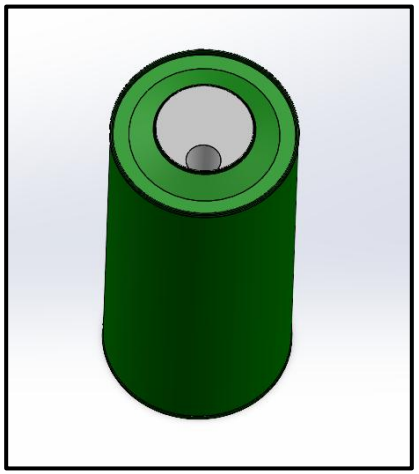
13 Make new mixture of potassium nitrate, sugar and wax. Repeat steps 1-13.

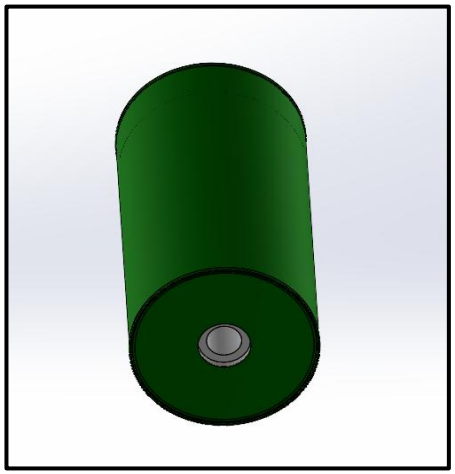
When you get use to the process, you may do all of these steps at the same time.



14 Install the core rod bushing on top of the can inlet with the steel core rod still inside. The core rod bushing will help keep the steel core rod centered.

15 Place in freezer for 15min to 20min. Air cooling can be done but cooling times may vary.





16 When the mixture has completely cooled, remove the steel core rod, the expansion plug and can cap. If the steel core rod is stuck, use a heat gun and let the heat transfer from the top of the steel core rod down to the bottom. Do not aim the heat towards the mixture inside the can. Vise Grip plyers can be used but it will damage the metal. Do not put the damaged end inside the can when you make more.

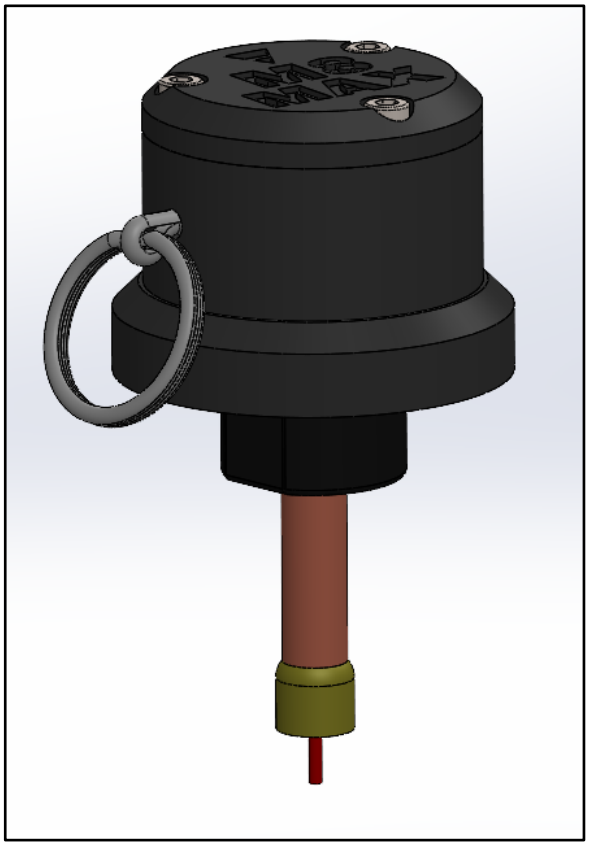
Repeat the whole process for the other cans provided in the kit.



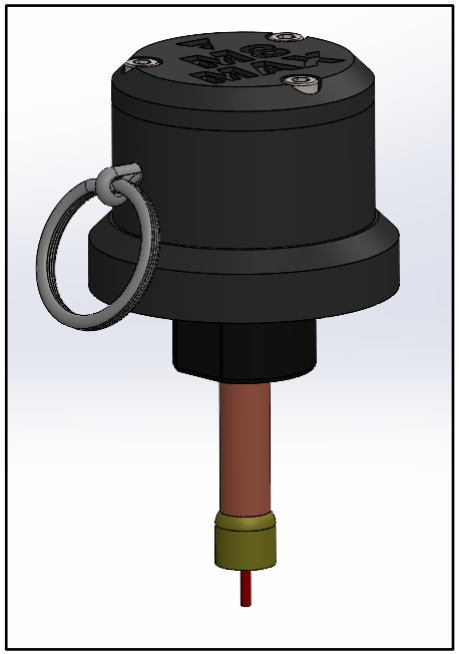
PART 4 FINAL ASSEMBLY

You’re getting nervous now aren’t ya

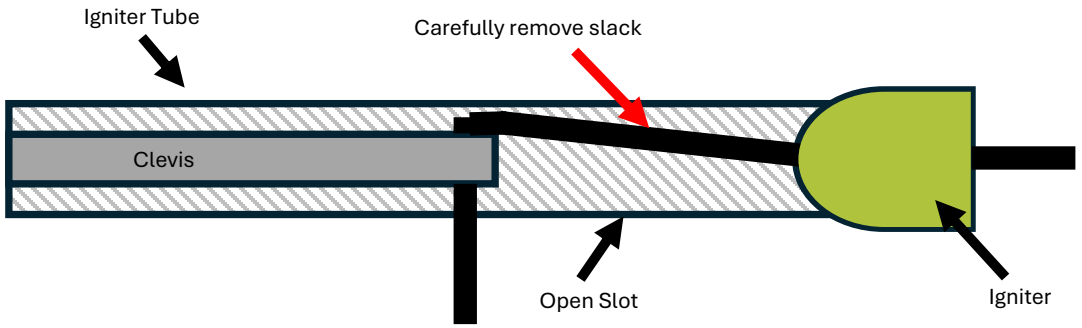
Watch this detailed video on how to attach the igniter to the M8 head.



Setting the igniter to the M8 Head

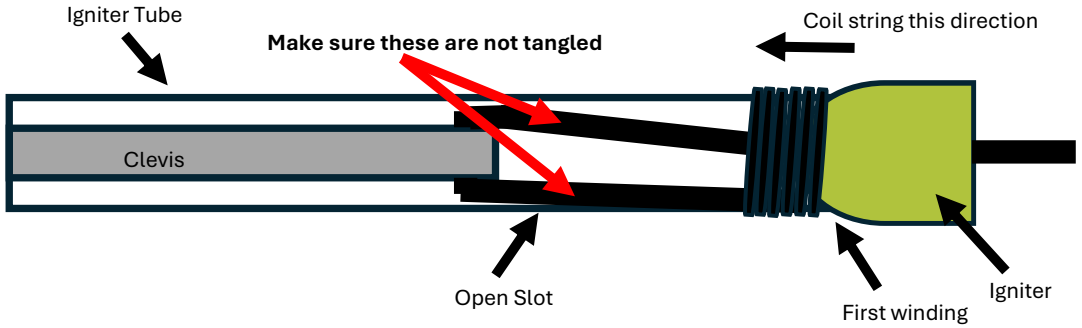


1



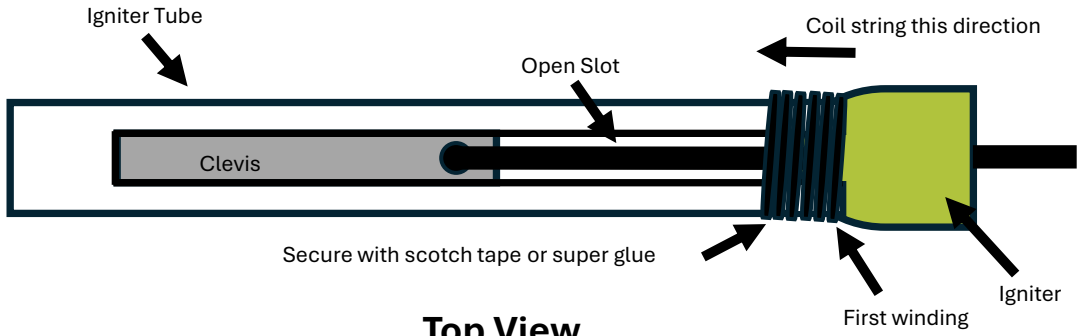
Side Cross Section View

2



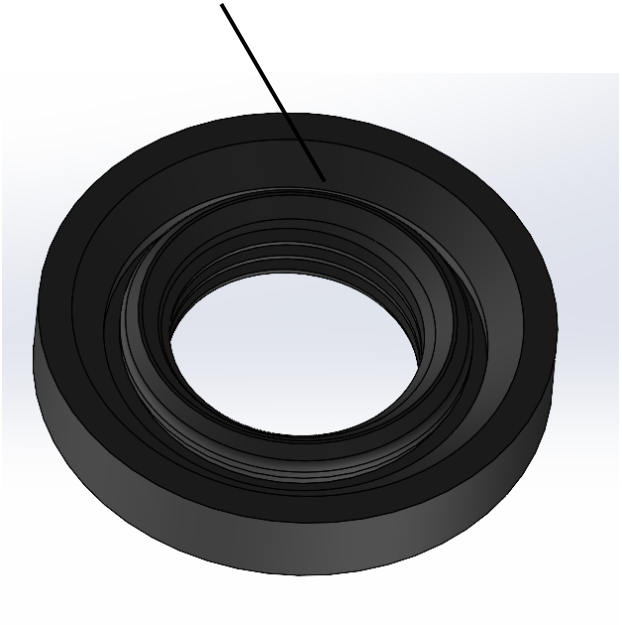
Side Cross Section View

3



Top View

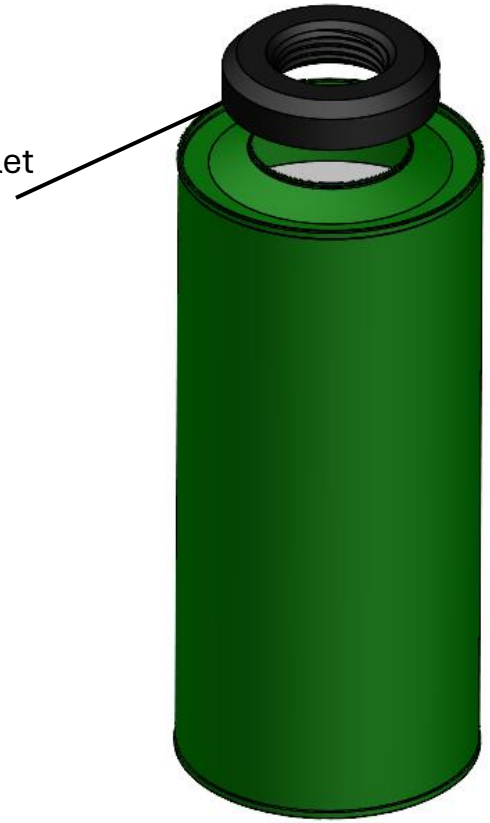
STEP 4
Put glue into groove of the can adapter



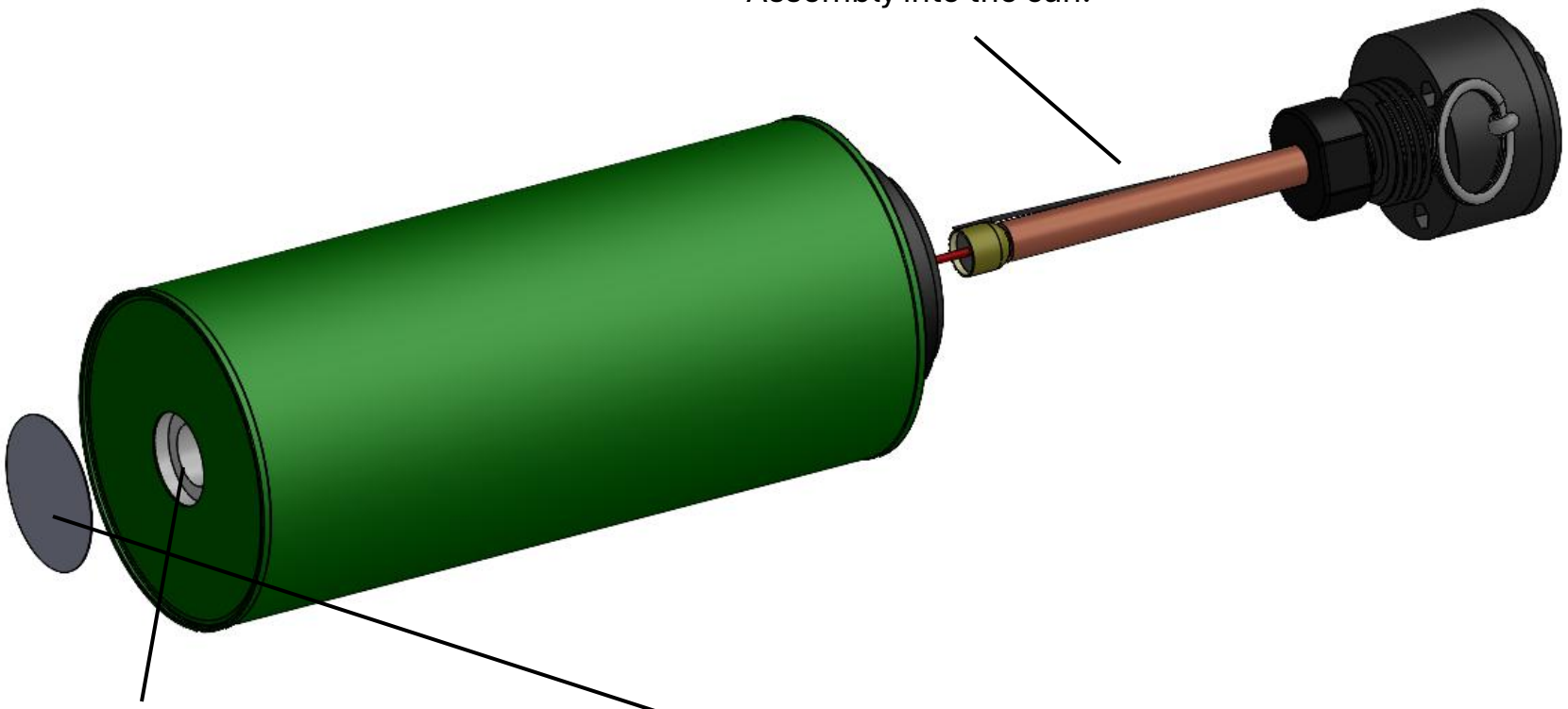
STEP 5
Place the can adapter on top of the inlet of the can and press until you hear an audible snap.

May also use a rubber mallet to hit into place.

If using a hammer, place a piece of wood on top.



STEP 6
Make sure the Igniter tube is straight and concentric. Thread the M8 Max Head Assembly into the can.



STEP 7
Make a mixture of 75% potassium nitrate and 25% sugar, blend it and pack lightly into the core till full.

STEP 8
Brush off excess 75/25 mix. Clean the bottom of the can with the provided alcohol wipes and let dry. Place vinyl sticker on bottom to seal.



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.

- Always hold the smoke device with the bottom facing directly down.
- Never point it at anyone and do not have it on an angle towards yourself.
- Hold the smoke device with your arm extended with your dominant hand.
- Pull the keyring with your opposite hand.
- The ignition is instantaneous.
- Immediately throw the smoke device to a safe distance.
- **If using the Delta 8, firearm safety applies.**
- The reaction of the mixture is hot. **Do not throw it or launch it in any area that can catch fire, or you don't want burned.**
- **Wait 20 minutes before picking up spent smoke device**