



REFILL/RECHARGE INSTRUCTIONS FOR THE MK-46HE



These instructions for use and warnings cover the following CTS Models: 1401HE, 1204A, 1401A, 1221R, 1231R, 1241R.

The Model 1401HE (MK-46HE) look similar to the standard horizontal MK-46 with the exception of the field expedient nitrogen cartridge. You will also notice improved performance from the MK-46:

- Better Range, 35-40 foot bursts
- Higher efficiency, 25-30 one-second burst

Compared to the existing delivery system, preparing the MK-46HE for the first time or refilling in the field is quick and easy. Before beginning these steps, one should make sure that you have the necessary items and to wear protective safety equipment.

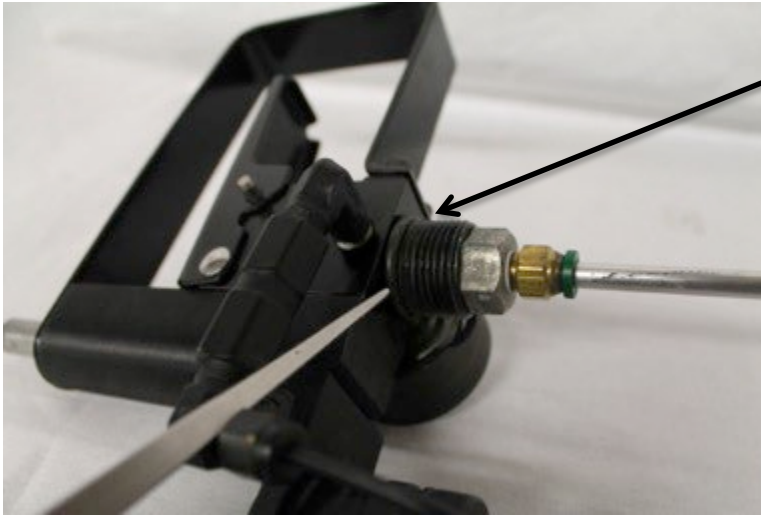
- Eye Protection
- Nitrile or Latex Gloves
- MK-46HE
- Live or Inert Refill Formulation
- Funnel
- If you are refilling a unit containing irritant agent, you should consider wearing an air-purifying respirator (gas mask).

WARNING: READ ALL WARNING LABELS SUPPLIED WITH THESE INSTRUCTIONS, THE UNIT AND REFILL JUGS.

If you are charging the MK-46HE for the first time, follow these instructions.

1. Remove the trigger safety pin, point the nozzle in a safe direction, and pull the trigger to make sure there is no pressure in the tank.
2. In a counter clockwise motion, unscrew the trigger-nozzle assembly from the tank.
3. Inspect the O-ring at the top of the threads on the trigger-nozzle assembly. It should be uniform throughout its diameter. There should be no nicks or cracks visible. If the O-ring looks suspicious, replace it with the one supplied

with each refill jug. The O-ring is essential for the unit to contain nitrogen pressure and function properly.



The O-ring is located at the top of the threads on the nozzle trigger assembly.

A replacement O-ring is supplied with every refill jug.

4. Make sure that the trigger is disengaged and safety pin attached to the chain has been re-inserted all the way into the blocking pinhole.
5. Make sure there is no liquid remaining in the cylinder.

WARNING: Filling the cylinder with liquid volumes greater than 46 ounces may cause excessive internal pressure causing the valve and pressure gauge to malfunction.

6. Place the MK-46HE on a flat surface, opening to the cylinder pointing up, at a height that is manageable for pouring liquid into the tank.
7. Insert a funnel into the tank and make sure the funnel is secure. Slowly pour all of the liquid from the MK-46 refill jug into the tank.
8. Remove the funnel and set it aside with the empty refill jug.
9. Take the trigger-nozzle assembly with one hand and control the cylinder with the other hand. Being careful not to damage the threads, in a clockwise motion screw the nozzle assembly back onto the cylinder. The sling needs to be out of the way and secured during this step.
10. The base of the trigger-nozzle assembly should be flush with the top of the cylinder. The threads should be hand tight. **DO NOT OVER TIGHTEN.**
11. When you are ready to pressurize the MK-46HE, remove the nitrogen recharge cartridge (Model 1401A) from the packing tube.
12. Place the MK-46HE on a flat surface and screw the cartridge into the charging port. Turning quickly in a clockwise motion,



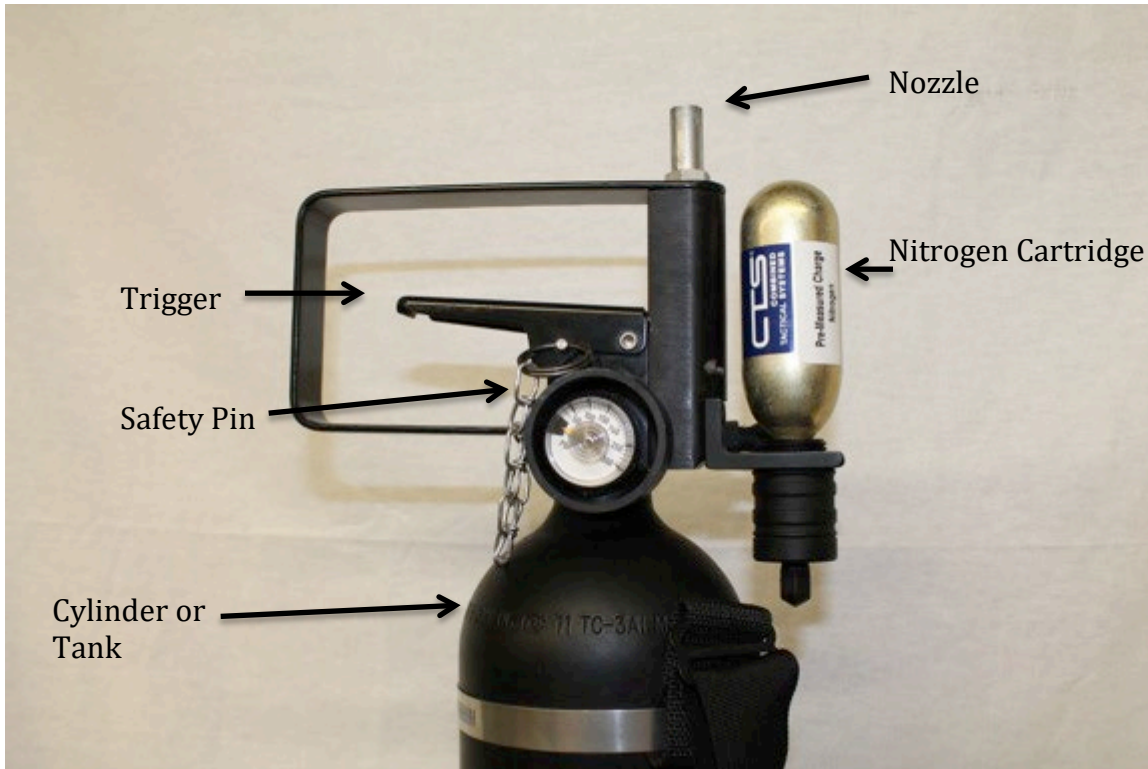
- you will hear the tank charging. Make sure the cartridge is screwed down completely and hand tight. You will also note an indication of pressure on the gauge.
13. Rock the cylinder in a front to back motion and allow 30 seconds to completely disperse the nitrogen into the cylinder.
 14. The system is ready to deploy.
 15. Take the extra label supplied with the refill jug, remove the adhesive backing and affix it to the tank to identify the formulation you are using.

If you have used the MK-46HE and are refilling it with the 1221R, 1231R, 1241R refill containers, follow these steps:

1. Determine if there are any residual liquids in the tank. There probably will be, either in the dip tube or sloshing around in the tank.
2. Go to a location where you will not contaminate other personnel or working areas.
3. Hold the MK-46HE in a vertical position with the nozzle pointing directly toward the ground.
4. Remove the safety pin and pull the trigger, holding it down until the pressure has been completely released.
5. In a counter clockwise motion, unscrew the trigger-nozzle assembly from the tank. **You must pour out any small amounts of residual liquid formulation. Refill using only the liquid volume inside of the refill containers.**
6. Follow steps 3-12 above.

The solvents used for the CS liquids can be more corrosive and damaging to the wall of the tank and the valve assembly. Following each use of the 1241R OC/CS Refill products, it is recommended to flush the system with distilled water to prevent corrosion.

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Hose and Wand Attachment

A **Model 1204A** Hose and Wand accessory can be changed out for the nozzle on the MK-46. With a small wrench remove the nozzle and replace with the 1204A. The accessory wand has attached a rod with a beveled tip. This rod can be inserted under doors, through gaps in windows, or into other openings to deploy solutions into an enclosed area. The other option with the Hose and Wand is to change the method of delivery from a stream to a much broader broadcast of the liquid spray.



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Warning: Do not use water from the tap for training as it may cause a build up calcium in the valve components. Use only model 1201R (MK-46 Inert Refills) or distilled water.

Warning: Do not recharge with any other device or cartridge other than the Model 1401A Nitrogen Refill Cartridge.

WARNING: READ ALL PRODUCT SPECIFICATION SHEETS, MSDS SHEETS, WARNINGS WITH INSTRUCTIONS, LABELS AND WARNINGS ON THE UNIT AND REFILL JUGS. THE MK-46HE IS TO BE USED ONLY BY LAW ENFORCEMENT, CORRECTIONS AND MILITARY PERSONNEL WHO HAVE RECEIVED PRIOR TRAINING.