

# DESTRUCTION OPERATIONS

This chapter is for soldiers who have to destroy conventional ammunition. It is divided into two parts, routine destruction and emergency destruction.

## ROUTINE DESTRUCTION

### PROCEDURES

Before any destruction, the surveillance section must fill out a DA Form 2415 (Ammunition Condition Report). The form must then be submitted to the proper authority in order to get disposition on the ammunition. (see DA Pam 738-750 for preparation and distribution details). The only exception is when the ammunition or explosives are an immediate danger to ammunition storage personnel and property. In this case, the commanding officer of the

ammunition company can order the destruction and submit a DA Form 2415 as a follow up. Procedures to be followed must be included in the destruction SOP.

Local regulations concerning the destruction of ammunition should be reviewed and adhered to by the surveillance section as well.

The ammunition inspector, to include civilian QASAS and/or military MOS 55X personnel, is responsible for disposition instructions. The ammunition unit commander is in charge of the actual destruction of the materiel.

### TRAINING

All ammunition unit commanders must ensure that all unit personnel are properly trained in the procedures and safety standards for the routine destruction of ammunition explosives. Such training must be routinely scheduled to keep soldiers ready. See FM 5-25, TM 9-1300-205, and TM 9-1375-213-12 for details. Local EOD teams can be contacted to provide technical assistance during hands-on training sessions.

The training program for routine destruction must include at least the following

- Methods and procedures for priming and capping (nonelectric and electric).
- Methods and procedures for destruction by detonation and burning.
- Guidelines for selecting the site.
- General and specific safety procedures for destroying ammunition.

## DESTRUCTION SITE

**Site Selection.** Site selection involves different factors depending on whether destruction is to be by burning or by detonation.

- ***Destruction by Burning.*** The overriding consideration in selecting a burning site should be to get the greatest practical distance from all storage locations, inhabited buildings, public highways, etc. Make sure the site is not less than the inhabited building distance given on the QD tables for whatever type and quantity of ammunition being destroyed from all structures and public roads. See TM 9-1300-206 for details. Insure the area is cleared of all flammable material and vegetation.

Also consider prevailing winds and the possibility of mass detonation during burning operations. Whenever possible, use natural barricades between the burning site and other buildings or storage locations.

- ***Destruction by Detonation.*** There is only one specification that is different than site selection for destruction by burning. It is that the site should be at least 2,400 feet from public highways, railways, inhabited buildings, storage locations, etc. Note that the 2,400 foot distance does not apply when a deactivation furnace is used to destroy small amounts of fuzes, primers, small arms cartridges, etc. See TM 9-1300-206 for details.

If the minimum safety distance of 2,400 feet cannot be met, put the ammunition in a pit or

trench to limit fragmentation range. Make sure the pit is at least 4 feet deep and the ammunition is covered with at least 2 feet of dirt.

It is possible for an electric blasting cap circuit to be set off by a strong electric current. To minimize this danger, make sure the site is away from all electrical transmitters.

Because it is possible that the proposed site will conflict with existing or proposed Army airspace, get clearance for the proposed site from the appropriate Army airspace representative. See AR 95-50 for more information.

**Site Preparation.** Remove all dry vegetation and other flammable materials within a radius of 200 feet from the destruction point. If the unit is in combat service support operations at the forward ASP, it may not be practical to do this due to tactical or operational considerations. Keep firefighting equipment for combating grass fires readily available, and, if practical, the ground at the point of destruction should be wet down with water at the close of each day's operation. An area that was burned on less than 24 hours earlier cannot be burned on again, unless it has been soaked with water and has been inspected by surveillance section personnel or EOD personnel. Concrete pads may not be used for burning or detonation.

Keep at least 300 feet between the personnel shelter and the destruction pit or site. There may not be a demolition site at a forward storage location (CSA/ASP). If there is not, keep personnel behind barricades or in trenches that have overhead cover.

Make sure anyone who will be burning wears fire-resistant outer clothing, if available in the supply system. If it not available, flameproof clothes by soaking them in one of the following solutions: a 15-percent solution of diammonium phosphate or ammonium sulfate, or a solution of 2-pounds of ammonium sulfate and 4 pounds of ammonium chloride in 3 gallons of water.

Make sure at least two people perform the destruction, but keep the number involved to a minimum. Make sure there is two-way radio communications or a land-line telephone at the destruction site.

Some components of ammunition, such as tracers containing mercury chloride, release toxic matter when burned. Propelling charges may contain lead or decoppering agents, which also release toxic fumes. It is critical to keep soldiers upwind from the burn and wearing adequate and proper respiratory protective devices (field protective mask). Nitroglycerin exuding from commercial dynamite can be absorbed through the skin. Make sure soldiers know how to protect themselves against these hazards.

### **DESTRUCTION AREA OPERATION**

Make sure there is an ammunition destruction SOP, either as an annex to the unit SOP or as a separate SOP. Make sure it includes all the following procedures: allowable explosive weight authorized in an individual destruct operation or shot; priming and capping method to be used responsibilities of destruction team personnel; what to do for range safety and what emergency procedures to take for misfires and emergencies. Any demolition range used

to conduct routine destruction shall comply with the requirements of the ammunition destruction SOP.

See TM 9-1300-206 for specific procedures for specific ammunition types, such as grenades, mines, artillery ammunition. The following procedures are involved in a routine destruction of ammunition and explosives:

- Upon receipt of authority from higher headquarters, the ammunition officer reviews the unit destruction SOP and alerts the appropriate unit personnel.
- The ammunition officer then ensures that the operations section contacts the unit motor pool to request the required number of vehicles to transport munitions and soldiers to the disposal area.
- The designated safety officer conducts a safety briefing for destruction team members including the procedures to be followed during conduct of the exercise. The safety officer also makes sure that all required equipment and emergency gear is available for use at the destruction site. Team leaders check equipment and make sure any problems are corrected.
- Items to be destroyed are loaded on unit vehicles according to proper transportation compatibility requirements, using prepared DA Form 3151-R to maintain a correct inventory and record of the ammunition moved. This form should be filled out by the operations NCOIC or personnel designated by the operations NCOIC.

- Upon arrival at the destruction site, stage vehicles at individual shot locations. Designated team members should remove the munitions from their packaging and place them in the designated location for destruction. It is permissible to store empty boxes, pallets, and fiber containers at a designated holding area. They can also be returned to the inert salvage area at the ASP.
- The team primes each individual shot. If nonelectric firing method is used, the safety officer and one additional person, other than whoever sets off the firing train, inspect the primed shots. Upon command from the safety officer, the designated individual initiates the firing train. The individual who initiates it will make sure the fuse lighter is functional and that the safety fuse is burning properly and then immediately return to the safety area. If there is a nonelectric misfire, wait 30 minutes before repriming the shot. When charges are to be "tamped," make sure they are fitted with detonating-cord leads long enough to keep the caps from being covered.
- If an electric firing method is used, the individual designated to fire the shot rechecks the firing line, returns to the firing point, and hooks the electric wires up to the blasting machine when the safety officer says so. The designated individual then fires the shot on command from the safety officer. If there is an electric misfire, the individual responsible for firing the shot disconnects the firing line from the power

source, shunts the wires, waits 30 minutes, visually rechecks the firing line, and if necessary, reprimed the shot.

- After the shot, make sure the area is searched for any items that may not have been completely destroyed. In the event of a “kick out,” (ammunition items not destroyed but thrown clear) have individual items reprimed and detonated in place.
- When demolition is finished, load all equipment aboard unit transportation and return it to the proper storage location. Before equipment is stored, team members clean all of it, and the destruction team NCOIC inspects all of it.
- Load pallets and all packing materials on unit vehicles and return them to the inert salvage area for reinspection and certification by salvage crew personnel. The salvage NCOIC uses DA Form 3151-R to the record receipt of salvage, The completed DA Form 3151-R is returned to the operations section so the information can be recorded on the stock records, and the form is filed. All other materials (e.g., banding, cardboard inserts) should be policed up and disposed of IAW local guidance.

### **AMOUNTS AND KINDS OF PRIMING EXPLOSIVES**

Plastic explosives are preferred over such general demolition explosives such as TNT because the general explosives often produce either a low-order detonation or kick outs. Furthermore, plastic explosives such as composition C-4 and FLEX-X allow for

much better contact between the priming explosive and the munitions to be destroyed. For how much explosive to use, see Table 5-1.

**Table 5-1. Explosive Weights for Destruction of Items by Detonation.**

| Item To Be Destroyed                       | Explosive Weight (lbs)<br>Per Individual Item |           |           |
|--|---|-----------|-----------|
|  | TNT   | COMP-C    | TETRYTOL  |
| Grenades, Hand or Rifle, and Small Rockets | 1/2 lb  | 1/2 lb    | 1/2 lb    |
| 75-mm, 76-mm, 90-mm, and Mortar Cartridges | 1 1/2 lbs                                     | 1 lb      | 1 1/4 lbs |
| 105-mm, 152-mm, and 155-mm, Projectiles    | 2 1/2 lbs                                     | 2 lbs     | 2 lbs     |
| 175-mm and 8-Inch Projectiles              | 3 lbs   | 2 1/2 lbs | 2 1/2 lbs |

## NONTOXIC CHEMICAL AMMUNITION

When they are disposed of by burning or detonation, many nontoxic chemical agents, munitions, or their components produce hazards. Precautions must be taken to make sure the operation is safe. Make soldiers aware of the dangers of chemical munitions and fillers. The carelessness of one person may result in injury or death, not only of that person but of other soldiers at the disposal area. Do not let destruction team members take short cuts and deviations from the procedures in the SOP.

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Restrict detonation of nontoxic munitions to the smoke and incendiary classes. The reason is that illumination and CS items contain low explosive ejection charges. Base-plates and payloads from these munitions may be ejected at high velocity and are hazardous to soldiers in the area.

When destroying munitions containing WP or PWP use a slightly larger amount of priming explosive than called for in Table 5-1 to rupture the case completely and disperse the filler. This will allow the WP to burn out more completely. Place priming explosives underneath the rounds to help insure complete burn out. Do NOT destroy WP or PWP munitions in the same shot hole or area used for other kinds of munitions. WP/PWP particles may be driven into the ground and later uncovered and reignited.

Table 5-2 provides data on time and weather conditions for the destruction of these agents and munitions.

Nontoxic chemical chemicals have the following first aid procedures (see Table 5-2):

- **WP.** Make sure WP first aid kits are at the site. These kits contain copper sulfate pads that keep oxygen from the injury, which stops the reaction. Evacuate casualties immediately to the nearest medical facility.
- **Smokes (FM and FS).** These compositions probably will not produce a reaction that requires treatment. If soldiers without a protective mask are overcome by a very strong smoke concentration, move them to fresh air until they recover. The liquid from these agents, particularly

from FS, is very corrosive, and any spilled on the body must be immediately washed away with large amounts of water followed by rewashing with soap and water.

- **Incendiaries.** There is no unusual first aid treatment for accidents that happen when soldiers handle this type of material. Treat burns like burns from flames. If TPA causes burns, they will be severe and will require prompt treatment from medical personnel. Do not put water

**Table 5-2. Conditions for the Destruction of Nontoxic Chemical Agents and Munitions.**

| Factor   | Condition              |   |   |
|--|------------------------|---|---|
|  | Excellent              | Fair                                      | Unsatisfactory                          |
| Temp<br>Sky  | 75° and above<br>Clear | 55°F to 75°F<br>Clear to<br>partly cloudy | Under 55°F<br>Cloudy                    |
| Wind   | 4-15 MPH               | 5-20 MPH                                  | Under 3 MPH<br>or over 20<br>MPH        |
| Time<br>(Hours)  | 1000-1600              | Unsatisfactory<br>at all other<br>times   | Unsatisfactory<br>at all other<br>times |
| <p>TO USE:</p> <ol style="list-style-type: none"> <li>1. Determine factors at the site.</li> <li>2. Decide condition based on table.</li> <li>3. Make decision to destroy or not. Sometimes ammunition has to be destroyed, even under less than excellent conditions. It becomes a judgment call then, and considering safety, should still be done between 1000 and 1600 hours.</li> </ol> |                        |   |   |

on TPA burns; it will react with the incendiary particles and make the burn worse.

### **TOXIC CHEMICAL AMMUNITION**

Toxic chemical ammunition poses serious problems that require special methods of destruction. For this reason, EOD is responsible for chemical munition destruction. This includes any captured toxic-agent-filled ordnance items. During normal destruction of toxics at depots, AMCCOM or MICOM (for large rockets and missiles) provide instructions.

### **EMERGENCY DESTRUCTION**

The objective of emergency destruction is to destroy munitions and documents of value to the enemy and render what is left too hazardous to use. Emergency destruction is done on order or with permission from the proper authority IAW local SOP.

### **EMERGENCY DESTRUCT PLAN**

Immediately after ammunition storage area is established, make sure there is a plan for emergency destruction, either as an annex in the unit SOP or as a separate SOP. Make sure the plan is staffed through technically qualified personnel (normally EOD) so it is complete and feasible.

### **PRIORITIES**

The priorities for emergency destruction are based on the types of munitions stored at the storage facility. These priorities are

- **Priority 1.** All classified munitions and associated manuals, records, reports, test sets, and equipment.

- **Priority 2.** All ammunition and associated components (e.g. fuzes, propelling charges, primers) that can be used in enemy weapons or by individual troops and other specifically designated items.
- **Priority 3.** All other ammunition stored.

## METHODS

Any of the following methods can be used to destroy assets to prevent enemy capture and use: friendly artillery fire or air strike, detonation, burning, or mutilation.

The method picked depends on how much time there is and what ammunition is stored. Remember, executing an emergency destruction plan is a command decision and is based on the tactical situation.

## TRAINING

As with routine destruction, personnel making up the emergency destruction teams must be trained. Since the team members are constantly changing, make sure new team members get trained promptly and completely.

## BASIC PROCEDURES

If emergency destruction is to be successful, there must be a good destruction plan SOP, well-trained teammembers, destruction materials, and transportation that are all readily available. Destruction materials and transportation assets should be “earmarked,” or reserved, for this particular purpose. Three destruction methods are given here, detonation, burning and mutilation.

**Detonation.** All bulk demolitions and associated components, such as blasting caps, firing devices, detonation cord, M10 universal destructors, etc., are stored in the category E field storage class. Items from this supply that are to be used for emergency destruction should be identified not only at the field storage units but also on appropriate stock records.

Make sure only the best stocks are reserved for use in the event of emergency destruction. Do this by making sure all stocks are rotated based on changes in ammunition condition codes (see appropriate notices of ammunition reclassification messages (ARMS) and current copies of TB 9-1300-385).

It is common to store stocks reserved for ED use in at least one FSU (Category E) per storage section. This puts the reserved assets much closer to the individual storage locations, and thus reduces the time the destruction teams need to prepare individual storage locations.

Each section will be readied for destruction by use of a ring-main or a series of individual ring-mains when destroying by detonation. See FM 5-25 for set-up of the ring-main and for priming and capping procedures.

Make sure teams use the combination priming system (nonelectric and electric) to initiate the explosive train(s). Commanding officers fire the individual explosive trains. After the area has been cleared of personnel, they function the nonelectric system first and then the electric system.

Note: The combination firing system is two independent nonelectric firing systems (two nonelectric caps, two safety fuses, and two fuse lighters) and two independent electric firing systems (two electric caps, two firing lines, and two power sources (blasting machines or vehicle batteries)).

**Burning.** Some items stored in the ammunition storage activity cannot be destroyed by demolition (see TM 9-1300-206, Appendix E, for a comprehensive listing). In these cases, destruction by burning is approved. Since burning cannot be controlled once it has been initiated, and it is more hazardous to the destruction team, use it only after all other assets have been destroyed by detonation.

Combustible material, such as wooden boxes and pallets, may be put on top of the stacks, soaked with a fuel mixture, and ignited with a nonelectric or electric firing system, with incendiary grenades, or by cryptographic destroyers.

Stacks of propelling charges can be destroyed by using a simple train of combustible material or by the method above.

Fuel containers filled with a fuel mixture can be put on top of stacks, primed with a bunch line of detonating cord, and ignited by using a combination firing system. Another way to ignite the fuel containers is with small arms fire, using incendiary bullets.

Stacks of ammunition can be thoroughly soaked

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with a fuel mixture and ignited using incendiary grenades or cryptographic destroyers.

**Mutilation.** If there is time, items that are lightly constructed (rocket motors, propelling charge containers, etc.) can be destroyed by unpalletizing them and running vehicles or forklifts over them.

Note: Forklifts and vehicles will not be driven over complete rocket rounds. For example, warheads should be detached from rocket motors before motors are destroyed by mutilation. Remember, no destruction method or methods will completely destroy all the material.