

13 MARCH 1998

Safety

**PROPER USE OF AMMUNITION, MUNITIONS,
AND PYROTECHNICS**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: 375 AW/SEW (MSgt Roger D. King)
Supersedes Scott AFB Instruction 91-202,
8 Sep 95.

Certified by: 375 AW/SE (Lt Col James D. Stamm)
Pages: 21
Distribution: F

This instruction establishes procedures for the functioning (operating as designed) of munitions during training exercises. This instruction applies to all personnel assigned, tenanted, or TDY to Scott AFB IL.

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1. General: Safety principles outlined in this instruction are applicable to all training sites on or off Scott AFB IL. To ensure the safe use of explosives, simulators, pyrotechnics, and blank small arms ammunition, strict adherence to this instruction is required.

2. References:

- 2.1. AFMAN 91-201, **Explosive Safety Standards.**
- 2.2. AFI 31-209, **The Air Force Resources Protection Program.**
- 2.3. T.O. 11A8-2-1, **Operations Manual, Hand and Rifle Grenades, 66MM Rocket Launcher, 81MM Mortars, 90MM Recoilless Rifle, 40MM Cartridges, Flares and Signals, Smoke Pots, and Land Mines.**
- 2.4. T.O. 11A10-27-7, **Simulators (Battlefield Effects).**
- 2.5. T.O. 11W3-5-5-24, **Rifle 5.56MM, M-16.**
- 2.6. T.O. 11A8-4-7, **HC Smoke Pots, M1 and M5.**

- 2.7. T.O. 11C5-5-2-7, **Riot Control CN, M2 Pellets, and CS Capsule.**
- 2.8. T.O. 11A10-26-7, **Pyrotechnic Signals.**
- 2.9. T.O. 11A10-31-7, **Trip Surface Flares, M49A1.**
- 2.10. T.O. 11A13-11-1, **Grenades and Pyrotechnic Signals.**
- 2.11. US Army TM9-1005-319-10, **Rifle, 5.56MM, M16A2 W/E.**
- 2.12. US Army TM9-1005-224-10, **Rifle, Machine Gun, 7.62MM, M-60.**

3. Responsibilities:

3.1. This Instruction will be readily available at all times during the functioning of authorized munitions. Supervisors are responsible for ensuring all personnel are properly trained and know the safety practices applicable to the operation being performed, prior to functioning any munitions.

3.2. Personnel armed for resource protection of small arms will not participate in exercises.

3.3. All personnel involved in an exercise are responsible for knowing, understanding, and strictly observing all safety standards, requirements, and precautions applicable to the munitions they are using. Trainees will be given a safety briefing prior to functioning any munitions that cover as a minimum:

3.3.1. Restrictions on using training munitions.

3.3.2. Procedures for reporting found dud or unused training munitions.

3.3.3. Injury reporting procedures.

3.4. All personnel will:

3.4.1. Report any unsafe condition, equipment, and/or material.

3.4.2. Warn others of any unsafe conditions.

3.4.3. Wear or use protective equipment as required.

3.4.4. Report any injury or mishap. **NOTE:** The absence of a safety requirement in the instruction or a T.O. does not indicate that safeguards are not needed. Prompt action will be taken to control all hazards. Disregard for sound safety practices will be cause to remove the involved individuals from their functioning area.

3.5. Only authorized personnel will receipt for munitions from the munitions storage area.

4. Explosive Limits: Explosive limits will be determined by training requirements. The training area, type of training, and number of instructors/trainees will be the determining factors.

5. Personnel Limits: Personnel functioning munitions will not have less than two qualified personnel performing the operation. Exercise participants will vary in number; however, they will maintain a safe distance as required by the munitions being functioned.

6. Location: Operations will be conducted on Scott AFB training areas, operating bases and forward operating bases as required.

7. Equipment Required: A list of materials and equipment are outlined in Section III of the particular item T.O.

8. Transportation:

8.1. Only government vehicles will be used to transport explosives.

8.2. Explosives will be packed in original or authorized-like containers.

8.3. Vehicles will be inspected daily for serviceability. Major discrepancies must be corrected before being utilized to transport explosives. Minor discrepancies not affecting the safe operation of the vehicle such as dents, scratches, dirty vehicle, etc., will be documented; however, the vehicle may be used.

8.4. Vehicles must have at least two fire extinguishers--2A10BC. One should be located in the vehicle cab, and the other located outside the cab in a readily accessible place, i.e., truck bed.

8.5. The Fire Department and Scott Command Post will be notified each time Class/Division 1.1, 1.2, and 1.3 explosives are transported on-base. They will also be notified each time 1.4 explosives are transported in excess of 1,000 lbs gross weight.

8.6. Vehicles will be marked with the appropriate DOT placard.

8.7. Vehicles will be free of combustible materials (i.e., wood, paper, plastic, cloth, etc.)

8.8. Do not transport explosives in a passenger compartment of a vehicle. Some exceptions are outlined in AFMAN 91-201, **para 2.70**.

8.9. Explosive containers must be secured in the vehicle by tie-down straps, cargo nets, blocking or a similar method prior to movement.

8.10. Passengers will not ride in the cargo compartment of vehicles transporting explosives.

8.11. Open flames of any type are not allowed within 50 feet of an explosive-laden vehicle. Smoking is not allowed in an explosive-laden vehicles.

8.12. The engine of a vehicle will not be running during loading or unloading of explosives. The parking brake must be set and transmission placed in "Park" on automatic transmission vehicles and in "Reverse" on manual transmission vehicles. Chocks are required if vehicle is not parked on a flat surface.

8.13. Stopping off base, except for emergencies, is not authorized. Should it become necessary to stop off base, at least one person will remain with the vehicle, and it should be stopped at least 300 feet from public buildings or as far away as possible.

8.14. Vehicles traveling with munitions off base will be equipped with an emergency road kit.

8.15. Ammunition/explosives will never be transported in civilian vehicles.

8.16. Explosive Placards. Use placards for transporting explosives as directed in AFMAN 91-201, **para 2.71.2** and CFR 49, Part 172, Subpart F. Also, use CFR 49, Part 172, Subparts D and E and T.O. 11A-1-46 for the specific DOT labels and markings.

9. Storage and Munitions Control Procedures:

9.1. Request for munitions will be made to the Munitions Management Flight using AF Form 2005, **Issue Turn-In Request**. Personnel authorized to make munitions request are located in Part II of the AF Form 68, **Munitions Authorization Record**, and personnel authorized to receipt are located in Part III of the AF Form 68. Conventional munitions operations procedures are outlined in SAFBI 21-201.

9.2. Munitions items will remain in the outer and inner packaging as issued until actual use. Unused munitions will be returned to appropriate packaging. Personnel issuing the munitions will maintain an inventory log.

9.3. Unused ammunition explosives and packaging materials must be returned to the storage facility or Munitions Flight, as applicable.

9.4. Any expended ammunition and packaging materials must be returned to the Munitions Flight for proper disposal.

9.5. Ammunition/explosives will never be stored in other than a properly sited, licensed, secured storage facility. Contact the Weapons Safety Office for proper procedures.

10. In the event of a mishap, all evidence will be preserved for investigation. The following offices will be contacted:

10.1. Scott Command Post (SCP)--DSN 576/Comm 256-5891.

10.2. Explosive Safety Office--DSN 576/Comm 256-6311/12. After duty hours, contact the Command Post.

10.3. Security Forces--DSN 576/Comm 256-2223/24.

10.4. Hospital--DSN 576/Comm 256-7595/96.

10.5. Explosive Ordnance Disposal (EOD)—For emergency EOD support, contact the Command Post. If warranted, the Command Post will contact the 763d Ordnance Company EOD, Ft Leonard Wood, MO, extension DSN 581-2818/Comm (573) 596-2818.

10.6. Munitions Management Flight--DSN 576/Comm 256-6548/8443. After duty hours, contact the Command Post.

10.7. Fire Protection Flight--DSN 576/Comm 256-5130.

10.8. Environmental Management--DSN 576/Comm 256-2092. After duty hours, contact the SCP.

10.9. Airfield Management—DSN 576/Comm 256-4101. After duty hours, call 256-1861.

10.10. Mid-America Control Tower—DSN 576/Comm 256-8806.

11. Definitions. Warnings and cautions which appear in this instruction are defined as follows:

11.1. **Warning:** An operating procedure, practice, etc., which, if not correctly followed, could result in personnel injury or loss of life.

11.2. CAUTION : An operating procedure, practice, etc., which, if not strictly observed, could result in damage to or destruction of equipment.

12. Compliance with the following caution and warnings is mandatory:

12.1. CAUTION : Fire hazards exist when using incendiary devices. Maintain watch in exposed areas to ensure all fires are out.

12.2. WARNINGS:

12.2.1. Unauthorized employment or makeshift riggings of explosives is extremely dangerous and is prohibited.

12.2.2. Only the minimum amount of munitions will be removed from storage at any one time.

12.2.3. The supervisor or instructor will be responsible for ensuring complete compliance with this instruction.

12.2.4. Safety precautions for authorized training munitions are contained in the attachments to this instruction.

12.2.5. At least one portable radio will be available for requesting emergency assistance.

12.2.6. The EOD will be notified by way of the Command Post of any munitions item that fails to function as designed. All dud munitions will only be handled by qualified EOD personnel.

12.2.7. The immediate area containing duds will be marked and properly secured. EOD will be notified.

12.3. Upon completion of training, the training area will be policed and all ammunition/munitions residue will be collected and turned into the munitions storage area for proper disposal. **CAUTION:** It is imperative that live ammunition/munitions not be mixed-in with munitions residue. The supervisor or training instructor is responsible for ensuring the residue contains no live ammunition/munitions or duds.

13. Procedures, cautions, and warnings for the functioning of specific ammunition, munitions, and pyrotechnics are contained in the attachments to this instruction.

14. Simulators and Smoke Producing Munitions. In accordance with (IAW) AFMAN 91-201, **para 2.15**, the following guidance applies to the use of these devices during exercises and training:

14.1. Only US Air Force stock-listed items are authorized for use. Other military services will use DoD-approved items only when using USAF ranges or facilities.

14.2. Only trained personnel can prepare and activate these devices. The EOD will provide training on an annual basis to personnel whose duties require them to initiate training simulators. If EOD support is not available, than qualified munitions personnel will provide this training. It is the responsibility of the user organization to request training and maintain training records. Higher headquarters evaluation teams using these devices must present proof of training to the base Safety Office, prior to use.

14.3. Smoke from grenades and pots is sometimes toxic in high concentrations. Contact Environmental Management and the Fire Department, prior to use. These items, along with generators and flares, present a fire hazard. Remove combustible materials before functioning. Consider winds and fire hazards such as dry grass or fire bans. Consider using a barrier to control spread of heat during functioning of grenades or smoke pots.

14.4. With the use of any smoke-producing munitions on Scott AFB, the Fire Department will be notified at 256-5130. Also, the Mid-America Control Tower must be notified when smoke producing munitions are used in close proximity to the airfield.

15. Ground Burst Simulators. Ground burst or hand grenade simulators present a blast hazard. Exercise caution around people, facilities and equipment. Free the area of combustible material within a 10-foot radius. Monitor for proper functioning and disposal of residue. Notify EOD or other qualified personnel when munitions malfunction. Maintain the following distance:

15.1. Personnel or Vehicle: Maintain a minimum of 125-foot separation. Personnel who initiate these munitions may be closer than 125 feet, but they should be as close to 125 feet as possible and have their back to the munitions. Exception: No specific distance for nontoxic colored grenades. Avoid the smoke or follow actions required IAW AFMAN 91-201, **Table 2.3.**

15.2. Facilities Without Facing Window: Maintain a minimum separation of 100 feet.

15.3. Facilities With Facing Window: Maintain a minimum separation of 200 feet.

15.4. Hardened Facilities, Including Hardened Aircraft Shelters: Maintain a minimum separation of 50 feet.

15.5. Petroleum, Oil and Lubricants Storage: Maintain a minimum separation of 200 feet.

15.6. Aircraft in the Open: Maintain a minimum separation of 100 or 200 feet, if aircraft are explosive-loaded.

15.7. Explosive Operating Locations, Holding Areas, Open Storage Areas or Butler-Type Storage Facilities: Maintain a minimum separation of 200 feet.

15.8. Above Ground Magazines of Block, Brick, or Concrete Construction and from Earth-Covered Magazines: Maintain a minimum separation of 50 feet.

15.9. NOTE: Required distances may be reduced by barriers IAW AFJMAN 32-1092. Provide the design criteria to HQ AFSC/SE for approval.

16. In accordance with environmental standards and T.O. 11A-1-60, dispose of expended simulators, smoke pots, packing material and un-functioned devices through the Munitions Flight.

17. Live Ammunition and Training Exercises. WARNING: Using “real-world” security forces, armed with live ammunition within a training environment where blank ammunition is being used pose a significant potential for deadly accidents.

17.1. To ensure maximum safety, while still maintaining a secure environment for real world assets, the following guidance is provided:

17.1.1. Real-world security forces should be posed outside of the “play area,” while maintaining the ability to respond to real-world needs. For areas that don’t physically allow for an “outside” area, create an exclusive area with clearly marked boundaries. There should be no exception to mixing live and blank ammunition within an exercise play area.

17.1.2. Real-world security forces should be identified conspicuously with, for example, an orange/red traffic vest. All live ammunition magazines should be either spray-painted red or have red tape affixed to them.

17.1.3. Clear instructions should be developed to ensure real-world and training forces fully understand response requirements. Such instructions should include requirements for a through communication check with all participants prior to the start of exercise. Additionally, all forces clearly need to understand that exercise will cease immediately when a real-world response is required. All participants should also be thoroughly briefed that anyone can, and must, stop exercise activity when safety infractions are detected.

17.1.4. Real-world security can consist of host security (Air Force Security Forces, Army Military Police, etc.) or a portion of the deployed force. However, at no time will these forces enter the exercise area, other than to a real-world situation. For an ORI, a unit required to provide real-world security will receive an Air Mobility Tasking (AMT) for additional forces or be given relief (CREDIT) for those forces allocated from their tasked UTC. Armoires or munitions pallet guards, while not armed with live ammunition if they are inside the play area, will have the capability to communicate a duress or sound the alarm to the real-world security force. These guards should participate with exercise activity to the fullest extent possible.

17.1.5. Live ammunition should not be stored inside the play area in order to preclude mixing live and blank ammunition.

17.1.6. All exercise weapons should have blank firing adapters affixed to them in the training play area. Safe firing distances must be briefed to all exercise participants prior to start of exercise. Additionally, do not issue M-9 (9MM) pistols to exercise participants, as there are no blank adapters or blank ammunition available for these weapons.

18. Training and Exercise Plans. In accordance with AFMAN 91-201, **para 2.16**, the Exercise Team Chief prepares a risk assessment and detailed list of explosives authorized for use in the exercise and a detailed list of locations where munitions will be deployed. The Installation Commander must approve the plan. Include safety personnel in exercise planning and risk assessment. Commanders will ensure personnel, not normally associated with explosives operations, are not exposed to explosives hazards. Explosives will not be taken into public assembly places, except when required by mission-essential needs or immediate security requirements.

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Chief of Safety

Attachment 1**HAND GRENADES, M18 SERIES (COLORED SMOKE), AN-M8 (SMOKE), M7A3 (RIOT CONTROL, CS)****A1.1. Precautions:**

A1.1.1. Chemical grenades tend to burn themselves into deep snow, drastically reducing their effectiveness. When the ground is covered by deep snow, place M18 grenades on a board or other insulating material if possible. Red smoke has the best visibility in snow, green next, then violet, and yellow. **WARNING:** Disassembly of explosive components without specific authorization is strictly prohibited.

A1.1.2. Wear protective masks when using riot control agent grenades IAW AFMAN 91-201, **Table 2.3.**

A1.1.3. Have fire-fighting equipment readily available IAW AFMAN 91-201, **para 2.22.**

A1.1.4. Do not use the pull ring for lifting or handling grenades.

A1.1.5. If grenade is packed upside down or safety pin is not properly in place, do not attempt to remove grenade from its fiber container. Replace cover and notify EOD personnel.

A1.1.6. Prior to removal of grenade from container, visually inspect to ensure safety pin is in fuse and that split end of cotter pin is spread 30 to 40 degrees. Place palm of throwing hand over grenade fuse and turn bottom of container upside down. Carefully allow grenade to slide out of container, being sure to slide thumb over safety lever before it clears the container.

A1.1.7. The safety pin will be removed just before throwing or just before launching and at no other time. Pull safety pin with a twisting motion. After safety pin is pulled, throw grenade.

A1.1.8. Hold safety lever firmly down under thumb at junction of thumb and index finger. Held this way, grenades should fit snugly into curved portion of hand. A left-handed thrower should hold grenade with the fuse down. Pull pin without changing grip and hold safety lever against body of grenade until grenade is thrown. **WARNING:** Do not attempt to replace pin in order to return grenade to a safe position.

A1.1.9. Take cover when using grenades which contain a bursting charge. When protective cover is not available, drop to a prone position, face down, with helmet toward grenade.

A1.1.10. Do not drop grenade. If grenade is dropped after safety pin or striker pin is removed, or after striker accidentally functions, yell "GRENADE." Pick up grenade, throw it into a safe area, and take cover or lie prone with helmet toward grenade. **WARNING:** Do not attempt to run away. The grenade can be thrown further than a person can run in the time available.

A1.1.11. Keep grenades clean and dry.

A1.1.12. Handle loose fuses carefully as the detonator explosive is very sensitive to heat, shock, and friction. It is not necessary to touch detonators. If detonators must be handled, grasp open end, not closed end. **WARNING:** The detonator fuses are powerful enough to blow off fingers or cause other serious injury. Do not alter or tamper with fuses.

A1.1.13. When throwing grenades, avoid hitting obstacles which would deflect the grenade.

A1.2. Arming Grenades:

A1.2.1. When arming chemical grenades, the following **WARNINGS** apply:

A1.2.1.1. Wind direction and velocity must be considered before throwing chemical grenades. Do not stand downwind from burning grenade, unless protected by a gas mask.

A1.2.1.2. Personnel within 185 meters must wear protective masks.

A1.2.1.3. Chemical grenades consume oxygen and are a fire hazard. Do not use in enclosed areas.

A1.2.1.4. The CS is a nonpersistent agent and may be toxic in a confined space; therefore, precautions must be taken when used for training.

A1.2.2. Hold grenade in throwing hand with safety lever pressed firmly against palm.

A1.2.3. Remove safety pin with other hand and throw or toss grenade.

A1.2.4. The fuse begins to function upon release of safety lever.

A1.2.5. After a delay of 1.2 to 2 seconds, the grenade begins to burn and emit a vapor.

A1.3. Disarming. Once safety pin has been removed, the grenade is armed and must be thrown. Do not attempt to replace the pin in order to return grenade to a safe condition.

Attachment 2**BOOBY TRAP SIMULATOR, M117 (FLASH), M18 (ILLUMINATING), M119 WHISTLING****A2.1. Precautions:**

A2.1.1. All personnel are individually accountable for each booby trap they issue.

A2.1.2. Booby traps will not be carried in such a manner, whereby they may be dropped or lost without the knowledge of the individual.

A2.2. Functioning Procedures: WARNING. Booby traps do not have a delay-type fuse. Use caution when setting them up.

A2.2.1. Remove booby traps from cardboard shipping container.

A2.2.2. Select two trees, stakes, or other objects to which a trip wire can be attached that will extend across the path to be tripped.

A2.2.3. Make a loop in one end of the wire and pass it downward through the top staple on the first tree.

A2.2.4. Turn it through 180 degrees against resistance of one prong of the first staple.

A2.2.5. Turn it through 90 degrees against resistance of the bottom nail and across to the second tree.

A2.2.6. Fasten the trip wire to the second wire by wedging the nail between the staple mentioned in **para 2.3.** and the tree, so the nail is held by the friction of the staple and the tree to ensure a tight and secure trip wire.

A2.2.7. Carefully remove the tape securing the cap. Remove the cap from the simulator and tie the pull cord to the hook at the upper end of the spring. Nail the simulator in position directly above the spring. **WARNING.** Dry grass or leaves directly underneath may become ignited. Do not use the simulator while holding it in your hand. Improper usage can cause injuries.

A2.2.8. If booby trap simulator fails to function, the immediate area will be marked and properly secured. The EOD will be notified.

A2.2.9. Training area will be policed for burned (functioned) booby traps and all duds will be accounted for. Live booby traps will be located and tripped. Do not attempt to remove and reuse.

Attachment 3

HAND GRENADE SIMULATORS, M116A1

A3.1. Precautions:

A3.1.1. Simulators will only be issued to authorized personnel.

A3.1.2. All personnel are personally responsible for each simulator that is issued.

A3.1.3. Personnel will wear a leather glove on holding hand when operating simulators.

A3.1.4. Simulators will not be carried in such a manner that they may be dropped or lost without the knowledge of the individual. **WARNING:** Do not remove simulator safety clip until immediately prior to functioning.

A3.2. Operating Instructions:

A3.2.1. Remove simulator safety clip.

A3.2.2. Carefully pull off cap of fuse lighter.

A3.2.3. Grasp the simulator in the throwing hand and hold it away from the body. **WARNING:** Never pull the cord more than once or attempt to determine if fuse delay has functioned. Always immediately throw the simulator.

A3.2.4. With the other hand, jerk the cord once and immediately throw the simulator. Immediately turn away from the simulator to protect eyes and face. If the fuse assembly separates from the body, set the simulator aside and mark its location. **DO NOT CARRY!** Notify Explosive Ordnance Disposal. **WARNING:** Ground burst projectile and hand grenade simulators will not be operated within 125 feet of personnel due to the extreme danger from gravel, sticks, and other debris that may be projected at high velocities. Dry vegetation may also be easily ignited.

A3.2.5. Immediately throw the simulator, ensuring all personnel are at least 125 feet from the functioning simulator. Avoid throwing toward trees or other obstacles that may deflect the simulator.

A3.2.6. If the simulator fails to function, the immediate area will be marked and properly secured. The EOD will be notified.

A3.2.7. Upon conclusion of training, the training area will be policed and all duds accounted for. **WARNING:** The EOD personnel will handle and dispose of all duds.

Attachment 4**SMOKE AND ILLUMINATION SIGNAL, MK 13 MOD 0****A4.1. Precautions:**

A4.1.1. All personnel are individually accountable for each illumination smoke signal they are issued.

A4.1.2. Smoke signals will not be carried in such a manner whereby they may be dropped or lost without the knowledge of the individual.

A4.2. Functioning Procedures: **WARNING: Do not point signal toward yourself when ignited.**

A4.2.1. Remove the cap from the end to be ignited.

A4.2.2. Flip the pull ring over the signal rim.

A4.2.3. Push the ring down to break the seal.

A4.2.4. If the seal doesn't break, push the ring until it bends against the case.

A4.2.5. Flip the bent ring back to its original position and use it as a lever to break the seal.

A4.2.6. Ignite the signal by a quick pull of the ring.

A4.2.7. Hold it at arm's length, 45 degrees from horizontal.

A4.2.8. If the smoke signal flames, douse it momentarily in water.

A4.2.9. After using one end, douse the signal in water to cool it. Save it for use of the other end if needed. **WARNING:** Signals burn at high temperatures. Care must be taken when using around dry vegetation and personnel.

A4.2.10. If signal fails to function, the immediate area will be marked and properly secured. The EOD will be notified.

A4.2.11. At the conclusion of the training, the area will be policed for burned (functioned) signals and all duds will be accounted for. **WARNING:** The EOD personnel will handle and dispose of all duds.

Attachment 5**SIGNAL, SMOKE AND ILLUMINATION, MK 124 MOD O****A5.1. Precautions:**

A5.1.1. All personnel are individually accountable for each illumination smoke signal they are issued.

A5.1.2. Smoke signals will not be carried in such a manner, whereby they may be dropped or lost without the knowledge of the individual.

A5.1.3. This signal is one hand-operated intended for rescue use. Weight and small size permits are to be carried in life vests, flight suit pockets, and on life rafts.

A5.1.4. This signal consists of an aluminum case provided with a protective cap at each end.

A5.1.5. The case has two embossed rings around its circumference on the flares night end and smooth surface for the day end. A label on the outer surface provides precise instructions for use.

A5.2. Functioning Procedures. **WARNING: Do not point the signal toward yourself when functioning.**

A5.2.1. Remove the protective cap from the end to be ignited.

A5.2.2. Extend the arming lever.

A5.2.3. Depressing the arming lever will function the flare candle or smoke candle, depending on the display desired.

A5.2.4. The signal emits an orange smoke for approximately 16 seconds and emits a red flare for approximately 20 seconds. **WARNING:** Signals burn at a high temperature. Care must be taken when using around dry vegetation and personnel.

A5.2.5. At the conclusion of training, the area will be policed for burned (functioned signals and all duds will be accounted for). **WARNING:** The EOD personnel will handle and dispose of all duds.

A5.2.6. If the signal fails to function, the immediate area will be marked and properly secured. The EOD will be notified.

Attachment 6**SMOKE POTS, M1, HC**

A6.1. Precautions: All personnel are individually responsible for each smoke pot they are issued.

A6.2. Functioning Procedures: **WARNINGS:** Smoke pots have a delay of approximately 10 seconds before burning. Ensure you have cleared material that will burn away from the smoke a distance of 3 feet; ensure wind direction will not cause smoke to cover flight-line area or public roads; when possible, place smoke pot on metal container, ensuring it's stable before igniting.

A6.2.1. Strip the adhesive tape and clamp.

A6.2.2. Remove the outer cover, exposing the match head, and take the scratcher block from its envelope. **WARNING:** When igniting a smoke pot, keep head well to one side of the top of pot and out of the way of possible sparks or flame. Breathing of heavy concentrations of smoke or prolonged breathing of light concentrations can be toxic and shall be avoided. Where toxic concentrations cannot be avoided, a protective mask or self-contained breathing apparatus will be used. Solid tar-like material on the expended smoke pots or occasionally in dense smoke from these smoke pots can cause chemical burns to exposed skin. Personnel handling expended smoke pots should take care not to allow unprotected skin to come into contact with tar-like material on expended smoke pots.

A6.2.3. To ignite, draw the scratcher block rapidly across the match head. **WARNING:** Smoke pots burn at extremely high temperatures. Care must be taken when using around dry vegetation and personnel.

A6.2.4. If smoke pot fails to function, the immediate area will be marked and properly secured. The EOD will be notified.

A6.2.5. At the conclusion of training, the area will be policed for burned smoke posts and all duds will be accounted for. **WARNING:** The EOD personnel will handle and dispose of all duds.

Attachment 7**TRIP FLARES, M49A1**

A7.1. Inspection: Perform the following inspection prior to use and prior to return to storage:

A7.1.1. Inspect clip to ensure correct assembly to holes provided for it in the cover loading assembly. Inspect pull pin for straightness.

A7.1.2. Inspect cover loading assembly for corrosion and looseness. **WARNING:** Do not attempt to tighten or reassemble a loose cover loading assembly.

A7.1.3. Inspect flare and bracket for deformities.

A7.1.4. Inspect trigger spring for proper tension and position. Rotate trigger approximately 135 degrees counterclockwise. It should turn sufficiently, under load, to a position corresponding with pull release by trip wire and should return to normal (as issued) position.

A7.1.5. Inspect for legibility of markings. If ammunition lot number cannot be established, flare should be rejected.

A7.2. Installation: Install flare on tree, board, post, or on the ground as follows. **WARNING:** During installation of a flare for firing in training, all personnel, except those actually working on the flare, should be undercover or at a distance of not less than 150 feet from the firing site. **NOTE:** The location chosen for installation of the flare and trip wire should be in the logical path of infiltrating troops and so positioned that the field toward the enemy will be illuminated and friendly defense positions not be disclosed. In most instances, it is easier to install the flare using the pull pin method because the amount of slack in the trip wire is less critical. Also, the trip wire may be installed to the left or right of the flare.

A7.2.1. Installation on a Tree or Board by Nailing. The procedures below should be followed for nailing a flare on a tree or sturdy board:

A7.2.1.1. Loosen wing-nuts on bracket; remove flare by sliding it upwards through bracket.

A7.2.1.2. Place flare in a safe location until ready for use.

A7.2.1.3. Mount bracket by nailing two of the nails provided. Bracket must be as vertical as possible and at a height of 15 to 18 inches above ground. **CAUTION:** If the flare and bracket are not mounted vertically, installation of trip wire is difficult--the force required to rotate trigger (counterclockwise) is increased, and the possibility of premature functioning due to clock-wise rotation of trigger may be increased. Correspondingly, functioning of the flare by means of pull pin and trip becomes more difficult.

A7.2.1.4. When installing flare for arming using method No. 1 with bracket trigger assembly and when viewed from the front (facing the trigger assembly), the trip wire will run to the right of the flare. When installing flare for arming by using method No. 2 with pull pin (without bracket trigger assembly), the flare may be mounted on the left or right side, since the pull pin and trip wire may be installed to either side of flare.

A7.2.1.5. Mount flare by aligning lever with trigger pivot and carefully sliding flare downward into its bracket until bottom edge of lever is no more than 1/16-inch above the bracket, but not past it. In this position, it will be noted that the flare base is approximately 1/2-inch below the upper

carriage bolt and the bottom end of lever is approximately 3/8-inch below bracket prongs and is centered between prongs. **CAUTION:** The bottom edge of lever must clear bracket by no more than 1/16-inch to prevent lever from slipping out of trigger when safety clip is removed. **NOTE:** If flare is positioned below the slot, the lever will not be free to move for proper arming. If lever is not aligned with trigger pivot and centered between prongs, it will not be free to move for proper arming by Methods No. 1 or 2.

A7.2.1.6. Clamp flare in its bracket by tightening upper wing-nut with sufficient force to grip flare firmly.

A7.2.1.7. Perform arming by Methods No. 1, **para 3.1.**, or No. 2, **para 3.2.**, as required.

A7.2.2. Installation on a Post by Clamping. The following procedures should be followed for clamping the flare on a post, stake, or sturdy stick. **CAUTION:** The item to which the flare is clamped should be approximately 1-1/2 inches in diameter in order to ensure a firm grip on the item.

A7.2.2.1. The post or item to which the flare will be clamped should be situated in a location corresponding to that described for installation on a tree. **NOTE:** If flare is positioned below the slot, the lever will not be free to move for proper arming. If lever is not aligned with trigger pivot and centered between prongs, it will not be free to move for proper arming by Methods No. 1 or 2.

A7.2.2.2. Loosen both wing-nuts on bracket and slide flare upwards until base of flare is aligned with top of slot or slightly above.

A7.2.2.3. Clamp flare in its bracket by tightening upper wing-nuts with sufficient force to grip flare firmly.

A7.2.2.4. Slide bracket (with flare) over post or similar items.

A7.2.2.5. Clamp post in bracket by tightening lower wing-nut with sufficient force to grip post firmly.

A7.2.2.6. Perform arming by Methods No. 1, **para 3.1.**, or No. 2, **para 3.2.**, as required.

A7.2.3. Installation on the Ground. The following procedures should be followed for installation of the flare on the ground. In this installation, arming by Method No. 2 with the pull pin should be planned, since the bracket trigger mechanism will not function due to interference from the ground.

A7.2.3.1. Remove lower wing-nut and bolt from bracket and retain for future use.

A7.2.3.2. Loosen upper wing-nut and remove flare by sliding it upward through bracket.

A7.2.3.3. Place flare in a safe location until ready for use. **CAUTION:** Do not step on thinned section near trigger assembly. Bending of this portion may cause lever to bind and prevent flare from functioning. **NOTE:** If possible, install bracket on a mound or raised area of firm earth to ensure that trip wire will be above ground. Do not install bracket in a depression since trip wire would not be above ground. In this position the trip wire may be stepped over. If trip wire is stepped on, it may not initiate the flare.

A7.2.3.4. Install bracket on a mound or raised area by forcing point of bracket into firm ground at least up to slot. If hand force is insufficient, use foot force on rearward portion of bracket.

A7.2.3.5. Mount and clamp the flare as described in **para A7.2.2.4.** and **A7.2.2.5.** above.

A7.2.3.6. Perform arming using Method No. 2 with the pull pin.

A7.3. Arming Procedures: Depending on the type of installation performed in para [A7.2.](#) above, arm the flares using Methods No. 1 or No. 2. **WARNING:** Each trip flare used in training will be in a fenced area or guarded in a manner which will prevent personnel from approaching within 20 feet of each installed flare.

A7.3.1. Method No. 1 with Bracket Trigger Assembly:

A7.3.1.1. Fasten one end of trip wire to a post, stake, or other rigid object at desired distance (usually 40 feet) from flare and to right of flare when facing flare trigger. Trip wire should be at right angles to axis of trigger pivot, so that there will be no binding between trigger and trigger pivot when trigger is cocked.

A7.3.1.2. Press lever down against flare body with one hand. With other hand, rotate trigger one-quarter turn counterclockwise against spring pressure to vertical position so that lower end of lever is behind tongue (upper end) of trigger.

A7.3.1.3. Pull loose end of trip wire taut and fasten to hole in lower end of trigger.

A7.3.1.4. At this point, check to see that trip wire is taut and fastened at both ends with the trigger in vertical position with end of lever behind tongue of the trigger so when the safety clip assembly is removed, the lever will still be held by trigger.

A7.3.1.5. Hold lever with one hand while carefully removing safety clip assembly; retain for possible use step in [A7.3.1.6.](#) below.

A7.3.1.6. Very carefully, release hold on lever, making sure that lever will be held in place by tongue of trigger. If tongue of trigger does not hold lever, reinstall safety clip.

A7.3.2. Method No. 2 with Pull Pin:

A7.3.2.1. Fasten one end of trip wire to a post, stake, or other rigid object at desired distance (usually 40 feet) from flare and to right or left of flare when facing flare trigger. **WARNING:** Do not release lever. Flare will function if lever is released.

A7.3.2.2. Press lever down with one hand and remove safety clip assembly.

A7.3.2.3. While still holding lever, insert the pull pin which is attached to safety clip through two safety clip holes of the cover loading assembly.

A7.3.2.4. Pull loose end of trip wire taut and fasten it to loop in pull pin. **WARNING:** Very carefully release the hold on the lever, making certain that the pull pin is retained in the safety clip holes by the lever. **NOTE:** The amount of slack in trip wire is not as critical as in Method No. 2. Ensure the pull pin is properly inserted in the two safety clip holes of the cover loading assembly.

A7.3.2.5. Check to see that trip wire is taut and fastened at both ends.

A7.4. Disarming Procedures. Disarm M49A1 flares as follows:

A7.4.1. Carefully depress lever against flare body.

A7.4.2. If the pull pin was used as method of arming, remove pull pin. **WARNING:** Use only safety clip holes in cover loading assembly when reassembling the safety clip. The other holes will not be used.

A7.4.3. Secure lever by inserting on end of safety clip holes of cover loading assembly; snap other end of safety clip into the other safety clip hole. Detach wire from pull pin.

A7.4.4. If the bracket trigger assembly was used as a method of arming, perform step in para [A7.4.3.](#) above and detach wire from the trigger.

A7.5. Failure to Fire: In case of failure to fire, the flare should not be approached. The immediate area will be marked and properly secured. EOD will be notified. **WARNING:** The EOD personnel will handle and dispose of all duds.

Attachment 8**RIFLE, 5.56MM, M-16**

A8.1. General Safety requirements: Do not keep live ammunition near the work area. Only blank cartridges M200 are to be used when the blank firing attachment is attached to the rifle.

A8.2. Blank Firing Attachment M16A2:

A8.2.1. Installation: **WARNING:** Do not shoot objects with blanks closer than 20 feet.

A8.2.2. Unscrew and pull slide all the way out on blank firing attachment.

A8.2.3. Hook blank firing attachment behind the first groove of the flash suppresser. **CAUTION:** Do not use tools to tighten the blank firing attachment. Use hands only.

A8.2.4. Push slide into flash suppresser and hand tighten. **NOTE:** Check and retighten after firing approximately 50 blank rounds.

A8.3. Removal:

A8.3.1. Unscrew and pull slide all the way out of flash suppresser.

A8.3.2. Lift blank firing attachment up off of flash suppresser.

Attachment 9

RIFLE, MACHINE GUN, 7.62MM, M-60

A9.1. Firing Blank Cartridges: Do not fire ammunition toward personnel within 20 feet of the muzzle. Fragments of a closure wad or particles of unburned propellants might inflict injury within that range.