HEADQUARTERS, DEPARTMENT OF THE ARMY

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SOLDIER'S MANUAL OF COMMON TASKS

SKILL LEVEL 1

1

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SOLDIER'S MANUAL OF COMMON TASKS

SKILL LEVEL 1

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PREFACE

This manual is one of a series of soldier training publications which support the Individual Training Evaluation Program (ITEP). Commanders, trainers, and soldiers will use this manual to plan, conduct, sustain, and evaluate individual training of common tasks in units. The manual contains critical common tasks which support unit wartime missions. This manual is the only authorized source for these common tasks. Task summaries in this manual supersede any common tasks appearing in MOS-specific soldier's manuals. Training support information and reference materials are also included. Trainers and first-line supervisors should ensure skill level 1 soldiers have access to this publication in their work areas, unit learning centers, and unit libraries. Individual copies are not necessary.

The proponent of this publication is the U.S. Army Training Support Center. Submit changes for improving this manual on DA Form 2028, Recommended Changes to Publications and Blank forms. Key each comment to the specific page and/or task to which it refers. Provide reasons for each comment to ensure understanding and complete evaluation. Submit recommended changes to tasks directly to the task proponent listed in the appendix in the back of this manual. Provide an information copy to Commander, U.S. Army Training Support Center, ATTN: ATIC-ITT, Fort Eustis, VA 23604-5206. Submit any other recommendations that do not pertain to tasks directly to Commander, U.S. Army Training Support Center, ATTN: ATIC-ITT, Fort Eustis, VA 23604-5206.

When used in this publication, the words "he," "him," and "men" represent both the masculine and feminine genders unless otherwise stated.

CHAPTER 1

GENERAL

INTRODUCTION

"Training prepares soldiers, leaders, and units to fight and win in combat—the Army's basic mission."
As explained in the Army's CAPSTONE training document, FM 25-100, units do not have the time and resources to achieve and sustain proficiency on every possible training task. Commanders must identify the unit's critical wartime tasks. These tasks make up the unit's mission essential task list (METL). Commanders use this list to develop their unit training plan. Noncommissioned Officer (NCO) trainers then plan the individual training that soldiers in the unit need to accomplish the METL. The soldier's manuals (SM) provide the critical individual tasks for each Military Occupational Speciality (MOS) which support the unit's wartime missions. The NCO trainer uses the tasks in the SMs to train the soldiers and measure the soldier's proficiency on these unit critical tasks. The SM provides standardized task performance and evaluation criteria and is the basis for individual training and evaluation in the unit and for task-based evaluation during resident training.

PURPOSE

The Soldier's Manual of Common Tasks (SMCT) - Skill Level 1 contains the common tasks that are essential to the Army's ability to win on the modern battlefield. In the event of war, regardless of job or individual MOS, each soldier risks exposure to hostile actions. This manual contains the standardized training objectives for the common tasks which will help soldiers fight, survive, and win in combat.

The SMCT provides the commander, NCO trainer or first-line supervisor, and individual soldier with the information necessary to support integration and sustainment training in units. This information allows trainers to plan, prepare, train, evaluate, and monitor individual training of common tasks. Using appropriate Army Training and Evaluation Programs (ARTEP), Military Occupational Speciality specific soldier's manuals, and this manual, will help establish an effective unit training plan.

COMMANDER'S RESPONSIBILITIES

The commander at each level develops a unit METL in consultation with the command sergeant major and subordinate commanders. Using the Training Planning Process described in FM 25-100, the commander develops the METL and then determines the level of training needed to attain warfighting proficiency. After determining the necessary training, the commander develops a strategy to accomplish the required training. The commander also gives his trainers the guidance they need to carry out this strategy.

Each commander must design a unit training plan that prepares the unit for war. Soldiers must develop and sustain proficiency in those combat critical tasks for their MOS and skill level (SL). The commander's unit training program should provide individual training for all soldiers assigned to the unit and routinely evaluate soldier proficiency. The Individual Training Evaluation Program (ITEP) provides three components; the Skill Qualification Test (SQT), the Commander's Evaluation, and the Common Task Test (CTT), which give the trainer and commander feedback on the status of training for individuals and for the unit. This feedback should also be integrated with collective training such as ARTEP and crew drills. The Common Task Training Plan, located in STP 21-24-SMCT, *Soldier's Manual of Common Tasks - Skill Levels 2-4,* provides information on where the common tasks are first trained to standard and how often the tasks should be trained to maintain proficiency.

Based on the commander's guidance, individual training in the unit is the responsibility of the NCO trainers. The commander must give the NCO trainer the priorities, resources, and direction needed to carry out training. He must also assess the training results of ITEP, ARTEP, and other training events, and adjust the training plan accordingly. To develop a training program, we recommend a seven-step approach:

1. Set objectives for training.

2. Plan resources (personnel, time, funds, facilities, devices, training aids).

3. Train the trainers.

4. Provide resources.

5. Assess risk and safety considerations.

6. Conduct training.

7. Evaluate results based on the objectives.

TRAINER'S RESPONSIBILITIES

Training individual tasks to standard and relating individual training to collective mission essential tasks is the responsibility of NCO trainers. Trainers use the steps below to plan and evaluate training.

1. Identify individual training needed. Using the commander's training strategy, the NCO determines which tasks subordinates need to train on. The unit's METL, the ARTEP for the unit (if available), and the MOS Training Plan are sources for helping the trainer define the individual training needed.

2. Plan the training.

a. Integrate the training for specific tasks, conduct concurrently with other training, or conduct training during "slack periods".

b. Determine when training can be held and prioritize training requirements.

c. Use factors such as training deficiencies, availability of equipment, and integration with collective training.

d. Consider the time frame of the annual CTT.

e. Plan the conduct of training so that it comes, as close to possible, to the actual wartime conditions the soldier will experience.

3. Gather the training references and materials listed in the summary for each task to be trained. All reference materials are listed by type, identification number, and title in Appendix A, References. DA PAM 350-100, *Extension Training Materials, Consolidated MOS Catalog*, lists extension training materials (ETM) that support common task training.

4. Determine risk assessment and identify safety concerns.

a. Analyze the risk involved in training a specific task under the conditions current at the time you are scheduled to train.

b. Use the risk assessment matrix found in FM 25-101, *Battle Focused Training Management at Battalion Level and Lower* to determine the risk factor for the training you are planning. Apply risk reduction options, if available.

c. If the training you are planning has a high risk factor, alert the commander so he can exercise risk reduction options if available.

d. Ensure that your training preparation takes into account those cautions, warnings, and dangers associated with each task.

5. Train each soldier. Show the soldier how to do the task to standard and explain how to do the task, step-by-step. Give each soldier at least one chance to do the task, step-by-step. Maintain consistently high standards of compliance with safety requirements contained in this manual.

6. Emphasize training in Mission-Oriented Protective Posture (MOPP) Level 4 clothing. Studies of soldier

performance in a nuclear/chemical environment show that soldiers have difficulty performing even very simple tasks. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. The best way to improve performance is through practice. Soldiers who are given the opportunity to practice the performance of tasks in MOPP 4 will soon show improvement. It is important to train and evaluate soldiers in MOPP 4 so that they will be better prepared to survive and fight in a nuclear/chemical environment. It is the trainer's responsibility to ensure soldiers are able to perform critical wartime tasks to standards under nuclear/chemical environment.

7. Check each soldier.

a. Evaluate how well each soldier performs the tasks in this manual.

b. Conduct these evaluations during individual training sessions or while evaluating individual proficiency during the conduct of unit collective tasks.

Chapter 2 of this manual contains an evaluation guide for each task.

8. Record the results.

a. Record the GO/NO GO results in the soldier's individual Job Book (JB)/Leader's Book or on DA Form 5165-R (Field Expedient Squad Book).

b. Upon permanent change of station (PCS), ensure this information is current and recorded in the soldier's individual JB for forwarding to the gaining unit.

If the trainer wants to keep a record of the performance measures the soldier passes or fails, use DA Form 5164-R (Hands-on Evaluation).

DA Forms 5164-R and 5165-R are optional and locally reproducible. DA Form 5165-R supports the commander's evaluation and can show training results gathered in the field during "slack time" for all MOSs/SLs. STP 21-24-SMCT contains a copy of these forms and instructions for their use.

9. Record the results for SL 1 and 2 soldiers in the JB/Leader's Book. You can then use this information for planning training. Use the updated JBs to identify those tasks in which soldiers need additional training. If your unit has NCO Leader Books covering common task training, you should also record training results there, as described in FM 25-101.

10. Retrain and evaluate. Work with each soldier until the individual performs the task to specific standards.

Well-planned, integrated training increases the professional competence of each soldier and contributes to the development of an efficient unit. The NCO or first-line supervisor is a vital link in the conduct of training.

SOLDIER'S RESPONSIBILITIES

Each soldier must be able to perform the individual tasks which the first line supervisor has identified based on the unit's METL. The soldier must perform the task to the standards listed in the SM. If a soldier has a question or problem in performance, it is his responsibility to go to the first line supervisor for help. Each task also lists references. Some of these

references can be found at the Learning Center. Extension Training Materials (ETM) such as Training Extension Courses (TEC), Army Correspondence Course Program (ACCP), and references such as technical manuals and field manuals are available at the Learning Centers. It is the soldier's responsibility to use these materials to maintain proficiency. Each soldier must perform every task required on the job and shares the responsibility with the trainer for maintaining those skills. Soldiers are also responsible for all tasks listed in the SMCT for their current SL and below. Since soldiers at SLs 3 and 4 often are solely responsible for their own technical training, most training at this level is their own responsibility and should rely heavily on self-study. The soldier must understand and comply with safety standards because not following these warnings can cause death, injury, or damage to equipment. Each task summary provides the soldier with the following information:

1. Where and when to perform the task and what equipment is needed (conditions statement).

2. How well the soldier must perform the task (standards statement).

3. Other sources of information on how to do the task (reference section).

TASK EVALUATION

For each task summary in this manual there is an evaluation guide. Trainers use the evaluation guides year-round to determine if soldiers can perform to standard. Every evaluation guide contains one or more performance measures which identify what the trainer

needs to observe to score a soldier's performance. Each step is clearly identified by a "P" (for Pass) and "F" (for Fail), located under the "Results" column on each evaluation guide. Some tasks involve a process which the trainer must watch as the soldier performs the task. For other tasks, the trainer must watch as the soldier produces products from doing the task. The following examples of process and product tasks should help to clarify the difference:

1. To evaluate a soldier on the task "Employ an M181A1 Claymore Mine," the trainer must watch the soldier perform the task. Performing certain steps in order (correct sequence) is critical to the successful completion of the task. Only through observation of this process can the trainer determine if the soldier performed the required steps in order. The close observation required assists the identification of incorrect performance.

2. To evaluate the task "Determine the Grid Coordinates of a Point on a Military Map," the trainer only needs to focus on the outcome of task performance. That is, did the soldier identify the correct grid coordinates for a point on the map? The trainer need only look at the answer (eight-digit grid coordinate) that the soldier wrote down and not the steps the soldier took to get the answer. This procedure allows the trainer to evaluate more than one soldier at a time. However, it does present the trainer with some problems in diagnosing the reason for task failure and afterwards focusing remedial training on specific skill deficiencies. When using the evaluation guide to evaluate soldiers, follow these steps:

1. Ensure that the necessary safety equipment and clothing needed for proper performance of the job are on hand at the training site.

2. Prepare the test site according to the Conditions and Evaluation Preparation sections in each task summary. See additional instructions in the Setup section of the Evaluation Preparation instructions of the task summary. Reestablish the site to the original requirements after evaluating each soldier to ensure that conditions are the same for each soldier.

3. Before evaluating, advise each soldier of the information in the Brief Soldier section of the summary (if included).

4. Score each soldier only according to the Performance Measures and Feedback section contained in the evaluation guide.

5. Record the date in the appropriate "GO" or "NO-GO" block on DA Form 5165-R (Field Expedient Squad Book) or the soldier's Job Book and the Leader Book.

TRAINING TIPS

1. Prepare yourself:

a. Get training guidance on when training must take place, on what tasks should be trained, and on the availability of resources and training site from your chain of command.

b. Get training objectives (task, conditions, and standards) from the task summary in this manual.

c. Make sure you can perform the task. Review the task summary and references listed in the Reference

section. Practice doing the task, and if necessary, find someone to train you on performing the task.

d. Choose a training method. Some tasks provide recommended training methods in the Feedback section of the task summary.

e. Prepare a training outline consisting of informal notes on what you want to cover during your training session.

f. Practice your "pitch".

2. Prepare the resources. Obtain required resources as identified in the conditions statement for each task:

a. Gather equipment and ensure it is operational.

b. Coordinate for use of training aids and devices.

c. Prepare the training site using the conditions statement and the Evaluation Preparation section of the task summary as your guide.

d. Do a risk assessment to ensure that training is held under the safest possible conditions.

3. Prepare the soldiers to be trained:

a. Remind soldiers of the importance of safety and security. Ensure complete compliance with safety and security requirements.

b. Provide any necessary training on basic prerequisite skills which soldiers must have before they can be trained on the task.

4. Pretest each soldier. To determine who needs training in what areas, have the soldier perform the task. Use the evaluation guide in each task summary

to make this determination. Train soldiers who failed the pretest:

a. Demonstrate how to do the task or explain specific performance measures to those soldiers who could not perform to standard. Have the soldiers study the appropriate training materials.

b. Evaluate each soldier using the evaluation guide.

c. Have those soldiers who fail to perform to standard continue practicing.

5. Record results in the soldier's individual job book or on DA Form 5165-R and in the Leader Book.

Do not make written entries in the Evaluation Guides to record soldier performance. If the trainer wants to keep a record of the performance measures a soldier passes or fails, he should use DA Form 5164-R, Hands-On Evaluation. This form applies to all tasks in this manual and is locally reproducible. At the time of a local reproduction request, the trainer may take action to have DA Form 5164-R overprinted with information unique to his local training requirements.

TRAINING SUPPORT

Combine training on the individual tasks contained in this manual with the collective tasks contained in the ARTEP. Ensure that the necessary safety equipment and clothing needed for proper performance of the job are on hand at the training site.

DISTRIBUTION

For initial distribution, under pinpoint distribution procedures, users must identify enlisted STP requirements on DA Form 12-99-R, DA Form 12 Series Subscription Change Sheet. To requisition additional copies or for resupply, use DA Form 4569, USAAGPC Requisition Code Sheet. Submit your requirements to: U.S. Army Publications Distribution Center, ATTN: ASQZ-BPC-D, 2800 Eastern Boulevard, Baltimore, MD 21220-2896, or call AUTOVON 584-2533.

CHAPTER 2

COMMON TASK SUMMARIES FOR SKILL LEVEL 1

Report Enemy Information

071-331-0803

CONDITIONS

Given a tactical situation that includes any number of enemy soldiers engaged in any type of activity.

STANDARDS

Make a complete and accurate oral or written report to your leader that describes each point of interest expressed by the letters of the key word SALUTE (size, activity, location, unit, time, equipment). (Location may be descriptive; it need not be grid coordinates.)

TRAINING AND EVALUATION

Training Information Outline

1. Report all information quickly, completely, and accurately. The following example shows how much detail is included in a complete report. "Seven men in civilian clothes, one carrying rifle and bandoleer, six carrying farm tools, entered the village of Friedberg (BN 223227) by southwest gate at 1300 hours. Same seven men, all with rifles and bandoleers, left Friedberg

by northeast gate 1400 hours, walking northeast on road to Ogau (BN 214230)."

2. A good way to remember how and what to report about the enemy is to use the letters of the word SALUTE.

a. Size—describe the number of personnel seen or size of object.

b. Activity—describe what the enemy was doing.

c. Location—give grid coordinates or reference from a known point, including distance and direction (or azimuth) from the known point.

d. Unit—describe any patches or clothing, distinctive signs or symbols, or identification (ID) numbers on vehicles.

e. Time—state the time the activity was observed.

f. Equipment—describe or identify all equipment associated with the activity.

3. Both oral and written reports may be accompanied by maps, photos, overlays, sketches, captured documents, enemy materiel, or anything else which may help convey the full meaning of the information you are reporting.

4. Train by presenting the key word SALUTE and the necessary information represented by each letter of the key word. Present mock tactical situations via photographs or role playing by other soldiers. Tell the soldier to practice reporting orally and in writing what he observes.

Evaluation Preparation

Setup: Position two to four personnel (dressed in aggressor uniforms, if available) where they can be observed with the naked eye (or with binoculars, if available). Direct them to perform some type of activity, such as setting up camp, cleaning weapons, or studying maps. If you require the soldier to write the report, provide paper and pencil or pen.

Brief Soldier: Accompany the soldier to be tested to a location from which he can observe the setup. Tell the soldier to report the activity observed.

Evaluation Guide: 071-331-0303

REPORT ENEMY INFORMATION

Performance Measures		*Results*	
Submits report (oral or written) using the key word SALUTE.			
1.	S—size.	P	F
2.	A—activity.	P	F
3.	L—location.	P	F
4.	U—unit.	P	F
5.	T—time.	P	F
6.	E—equipment.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-75

★ ★ ★ ★ ★

RECOGNIZE FRIENDLY AND THREAT ARMORED VEHICLES AND AIRCRAFT

878-920-1002

CONDITIONS

Given a fully exposed, camouflage-painted combat vehicle or aircraft, during daylight, using no visual aids (binoculars, sights, etc.) at a range of 750m from the observer, and the vehicle or aircraft presenting a front or oncoming, oblique, or flank view to the observer.

STANDARDS

Correctly recognize 10 out of 10 vehicles or aircraft as friendly or threat.

TRAINING AND EVALUATION

Training Information Outline

1. BMP-1/-2 Amphibious Combat Vehicle. Recognize Threat. Main Armament: 73-mm gun (BMP-1), 30-mm gun (BMP-2), antitank guided missile (ATGM). Identification Features:

a. Low silhouette.

b. Six road wheels-three return rollers.

c. Sloping front armor with flat deckline.

d. Centrally located, flat, truncated cone turret with short 73-mm gun.

e. Larger turret with longer gun for BMP-2.

2. BMD Airborne Amphibious Infantry Combat Vehicle. Recognize Threat. Main Armament: 73-mm gun, ATGM. Identification Features:

a. Five road wheels-four return wheels

b. BMP-1-type turret set forward on boat-shaped hull

c. Smooth front deck, flat rear deck, wedge-shaped front, flat sides

d. Prominent cut-away in a rear deck housing

3. BRDM-2 Amphibious Scout Car and Variants. Recognize Threat. Main Armament: 14.5-mm & 7.62-mm machinegun. Identification Features:

a. Two large wheels per side.

b. Retractable belly wheels.

c. Hull is boatlike with undercut nose, sloping upper hull armor and straight sides.

d. BTR-60PB-type turret or ATGM or surface-to-air (SAM) launchers.

4. BTR-60/-70/-80 Amphibious Armored Personnel Carrier. Recognize Threat. Main Armament: 14.5-mm MG. Identification Features:

a. Four large wheels per side.

b. Boat-shaped hull, pointed bow and sloped, flat sides.

c. Turret mounted forward on hull.

d. Turretless variants may carry extra radio antennas.

5. ASU-85 Airborne Assault Gun. Recognize Threat. Main Armament: 85-mm gun. Identification Features:

a. No turret, main gun mounted left of vehicle center line.

b. Double-baffle muzzle brake; bore evacuator one-third back from end of main gun.

c. IR searchlight mounted on top of main gun.

d. Six road wheels, no return rollers.

e. Well sloped side and frontal armor.

6. Old Generation Soviet Tanks (T-54/-55/-62). Recognize Threat. Main Armament: T-54/-55-100-mm gun. T-62-115-mm gun. Identification Features: All have:

a. Low silhouette.

b. Five road wheels, no support rollers T-54/-55.

c. Turret appears rounded from the side.

d. T-54/-55

(1) Definite space between first and second road wheels.

(2) Bore evacuator at end of main gun tube.

e. T-62

(1) Turret appears half-egg shaped from the side T-62.

(2) Definite space between third, fourth, and fifth road wheels.

(3) Bore evacuator one-third back from end of main gun tube.

(4) Longer main gun tube than T-54/-55.

7. New Generation Soviet Tanks (T-64/-72/-80). Recognize Threat. Main Armament: 125-mm gun. Identification Features: All have;

a. Low silhouette.

b. Teacup-shaped turret with long main gun.

c. Sharply sloped upper glacis with V-shaped water and debris deflector.

d. External ammunition/storage boxes on turret sides.

e. Integrated fuel cells and storage containers give a streamlined appearance to the top hull sides.

f. Antiaircraft machine gun (MG), infrared (IR) searchlight

g. T-64: Six small, stamped, evenly spaced road wheels, four support rollers.

h. T-72: Six large, cast evenly spaced road wheels, three support rollers. External ammunition/storage boxes on right side of turret.

i. T-80: Uneven road wheel spacing.

8. Artillery Command and Reconnaissance Vehicle (ACRV). Recognize Threat. Main Armament: Anti-aircraft Machinegun. Identification Features:

a. Seven road wheels, no return rollers.

b. Large, box-like hull.

c. Small turret set back on hull.

d. Many have antiaircraft (AA) MG stop turret and a rectangular box projecting from right side, depending on variant.

9. MI-8/HIP Combat Helicopter. Recognize Threat. Main Armament: Machineguns, rockets, ATGM, Bombs. Identification Features:

a. Large, five-blade main rotor.

b. Two round air intakes just above the cockpit. Rounded exhaust ports on sides of engines.

c. Long, bus-like body with rounded nose and glassed-in cockpit.

d. Upswept rear section.

e. Tricycle landing gear.

f. Tail boom tapers to the small swept-back and tapered fin.

10. MI-24/HIND Combat Helicopter. Recognize Threat. Main Armament: Machineguns, rockets, ATGM, bombs. Identification Features:

a. Five-blade main rotor.

b. Stubby, weapons-carrying wings mounted at mid-fuselage.

c. Two round air intakes just above the cockpit. Rounded exhaust ports on sides of engines.

d. Large oval-shaped body, tandem bubble canopies and either a chin-mounted gun turret or a twin-barreled gun pod in nose.

e. Fuselage tapers to tail boom.

331-758 O - 92 - 2 QL 3

f. Swept-back and tapered tail fin.

g. Tapered tail flats on boom just forward of tail fin.

11. Su-25/FROGFOOT Ground Attack Aircraft. Recognize Threat. Main Armament: Canon, rockets, bombs. Identification Features:

a. High-mounted, straight wings.

b. Pods mounted at the square tips.

c. Twin engines mounted along body under wings.

d. Semicircular air intakes forward, exhausts rear of wings.

e. Long, slender rounded nose with stepped cockpit.

f. Swept-back and tapered tail fin with rounded tip.

12. M1 Abrams Main Battle Tank. Recognize Friend. Main Armament: 105-mm (M1) or 120-mm (M1A1) gun. Identification Features:

a. Seven road wheels per side, armor skirts.

b. Raised rear deck, long front slope.

c. Large, low turret with steep sloped, sharply angled armor.

d. Front edge high off ground.

13. M113 Armored Personnel Carrier. Recognize Friend. Main Armament: .50-cal MG. Identification Features:

a. Rectangular, box-shaped hull with sharply angled front slope.

b. Five road wheels with detachable skirts.

c. Centered commander's cupola.

d. Variants include Air Defense Artillery (ADA), command, and tub-launched, optically tracked, wire-guided (TOW) vehicles.

14. M2/M3 Bradley-Infantry/Cavalry Fighting Vehicles. Recognize Friend. Main Armament: 25-mm gun, TOW. Identification Features:

a. Turret mounted right center on hull.

b. Large, high silhouette.

c. Needle-shaped gun, TOW launcher on turret.

d. Six road wheels covered by vertical skirts.

e. Front, sides above skirts well sloped.

15. M60 Series Main Battle Tank. Recognize Friend. Main Armament: 105-mm gun. Identification Features:

a. High silhouette with commander's cupola.

b. Six road wheels, three support rollers.

c. Bore evacuator 2/3 down gun tube.

d. Large, angled, wedge-shaped turret.

e. Thermal gun shroud (M60A3), detachable square searchlight (M60A1).

16. AH1/Cobra Combat Helicopter. Recognize Friend. Main Armament: Rockets, MG, TOW. Identification Features:

a. Two-bladed main and tail rotors.

b. Long, slender fuselage, single turbine engine.

c. Swept back vertical stabilizer, stubby wings aft of canopy.

d. Flat cockpit glass on later models.

e. Landing skids.

17. AH64 Apache Combat Helicopter. Recognize Friend. Main Armament: 30-mm gun, Hellfire missile, rockets. Identification Features:

a. Four-bladed main and tail rotors.

b. Stubby wings, tapered horizontal stabilizer.

c. Twin engine pods mounted behind and above cockpit.

d. Three-wheeled landing gear, belly-mounted gun.

e. Flat cockpit glass.

18. UH-1 Iroquois (Huey) Utility Helicopter. Recognize Friend. Identification Features.

a. Twin-bladed main and tail rotors.

b. Long, oval fuselage with tapered rear and stepped cockpit.

c. Backswept tail, rectangular horizontal stabilizer.

d. Landing skids.

19. UH-60 Blackhawk Utility Helicopter. Recognize Friend. Identification Features:

a. Four-bladed main and tail rotors.

b. Rectangular fuselage with rounded nose.

c. Tapered, prominent horizontal stabilizer, swept back vertical stabilizer.

d. Three-wheel landing gear.

20. OH-58 Kiowa Utility Helicopter. Recognize Friend. Identification Features:

a. Two-bladed main and tail rotors.

b. Oval fuselage with stepped nose; tapers to thin tail boom.

c. Boomerang-shaped vertical stabilizer, rectangular horizontal stabilizer.

21. A10 Thunderbolt Ground Attack Aircraft. Recognize Friend. Main Armament: 30-mm canon, bombs, missiles, rockets. Identification Features:

a. Low-mounted straight wings with curled tips.

b. Two engines mounted high on fuselage between wing and tail.

c. Twin vertical stabilizers mounted on ends of rectangular horizontal stabilizer.

d. Bubble canopy.

Evaluation Preparation

Setup: Select any 10 armored vehicles or aircraft from those contained in this task. Of the 10 chosen, at least 3 but no more than 5 must be aircraft. Show the soldiers 35-mm slides or flashcards of the selected vehicles and aircraft. Use one slide or card per vehicle. Any view (front, oblique, or flank) is acceptable. Use the 35-mm slides from GTA 17-2-9, or the flashcards from GTA 17-2-11, GTA 17-2-13, and GTA 44-2-10.

Brief soldier: Tell the soldier that he or she will see pictures of 10 armored vehicles or aircraft for 15 seconds each. During the 15-second viewing, the soldier must indicate whether each vehicle is friendly or threat.

Evaluation Guide: 878-920-1002

RECOGNIZE FRIENDLY AND THREAT ARMORED VEHICLES AND AIRCRAFT

Performance Measures	*Results*	
Recognizes 10 of 10 vehicles and aircraft as friendly or threat.	P	F

Feedback

Score the soldier GO if the step is passed. Score the soldier NO-GO if the step is failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 1-402
FM 44-30
FM 100-2-3
GTA 17-2-9
GTA 17-2-11
GTA 17-2-13
GTA 44-2-10

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ESTIMATE RANGE

071-326-0512

CONDITIONS

Given personnel, equipment, and vehicles, all stationary and either partially or fully exposed, at ranges from 50 to 3,000 meters, during daylight or night with good visibility.

STANDARDS

State the range to each target with no more than a 20-percent error (plus or minus).

TRAINING AND EVALUATION

Training Information Outline

Note: *Estimating range is one of the most difficult skills for a soldier to learn, but it is also one of the most indispensable skills when needed. Four methods of estimating range are discussed in this task.*

1. Football-field method. Even though the length of a football field is 100 yards instead of 100 meters, it is a unit of measure that most soldiers are familiar with and can be used in range estimation.

a. Become familiar with the appearance of 100-meter (football-field) intervals on the ground (Figure 1).

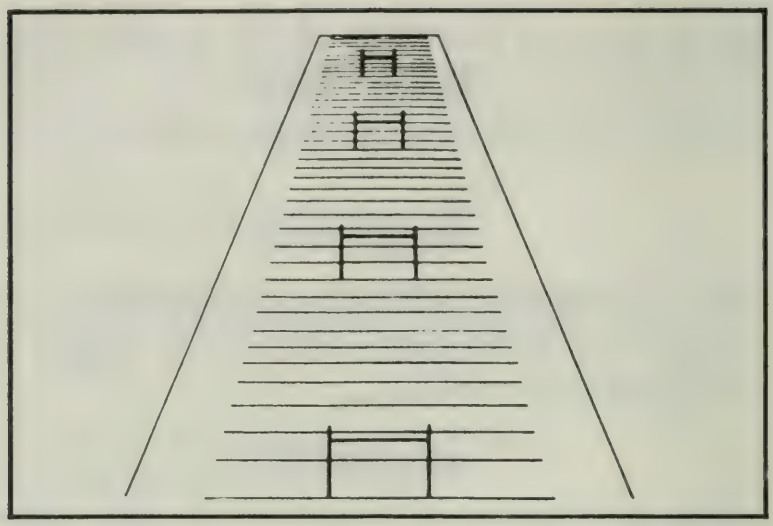


Figure 1. Football field method.

b. For range up to 500 meters, estimate the number of football fields between you and the target.

c. For range between 500 and 1,000 meters, pick a point halfway between you and the target. Then determine the distance to the halfway point as described above. Double the estimate to find the range to the target (Figure 2).

d. In using this method, learn the effects of terrain and weather conditions on target appearance (Table 1).

2. Recognition/appearance-of-objects method.

a. Although the target conditions in Table 1 will have some effect on range estimation, the data in Table 2 will generally hold true. For example, in Table 2, you should be able to identify armored and wheeled vehicles

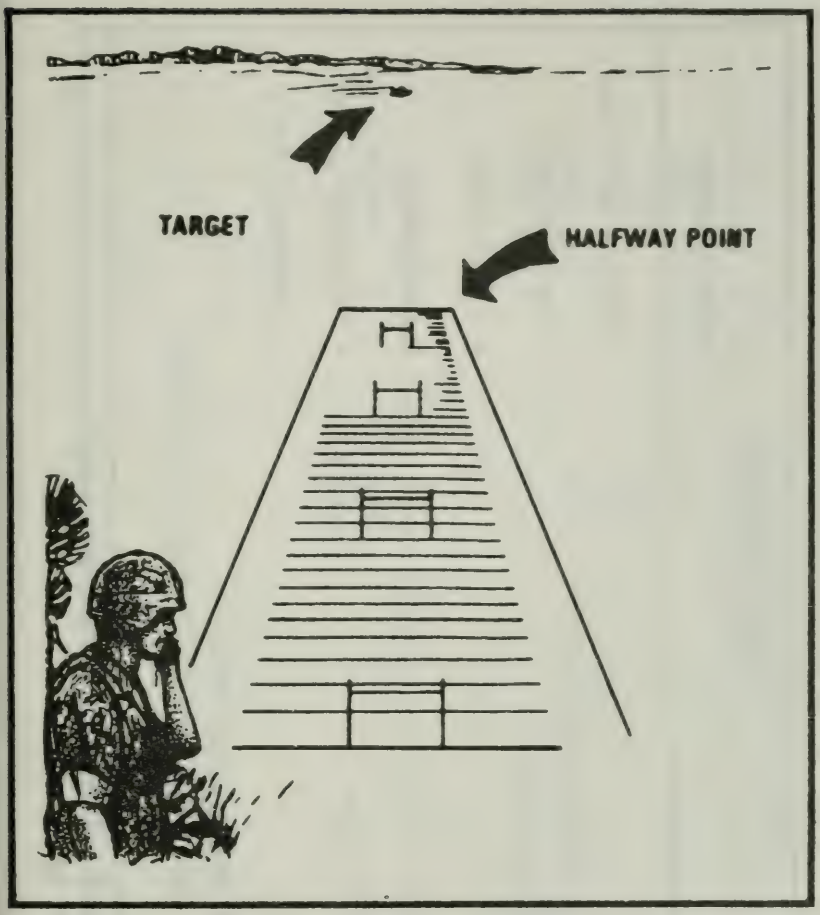


Figure 2. Halfway point.

from 1,500 to 2,000 meters with the naked eye. If you can identify the vehicle as a tank but cannot determine the model, it is between 1,000 and 1,500 meters. As shown in Table 2, binoculars greatly increase the range at which you can identify your target.

TARGET APPEARANCE	
SEEMS CLOSER	SEEMS FARTHER
• BRIGHT CLEAR DAY	• FOG, RAIN, HAZY TWILIGHT
• SUN IN FRONT OF TARGET	• SUN BEHIND TARGET
• HIGHER ELEVATIONS	• LOWER ELEVATIONS
• LARGE TARGETS	• SMALL TARGETS
• BRIGHT COLORS (WHITE, RED, YELLOW)	• DARK COLORS
• CONTRAST	• CAMOUFLAGED TARGETS
• LOOKING ACROSS RAVINES, HOLLOWS, RIVERS, DEPRESSION	
• AT SEA	

Table 1. Effects of terrain and weather on target appearance.

RANGE DETERMINATION RECOGNITION METHOD		
TARGET	NAKED EYE (METERS)	MAGNIFICATION (METERS)
TANK CREW MEMBERS, TROOPS, MACHINE GUN, MORTAR, ANTITANK GUN, ANTITANK MISSILE LAUNCHERS	500	2,000
TANK, ARMORED PERSONNEL CARRIER (APC), TRUCK, BY MODEL	1,000	4,000
TANK, HOWITZER, APC, TRUCK	1,500	5,000
ARMORED VEHICLE, WHEELED VEHICLE	2,000	6,000

Table 2. Range determination.

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b. If possible, study the appearance of men and objects at various distances until you know how far away they are by how big or clear they seem to be.

3. Flash-to-bang method.

a. In this technique, range is determined by measuring the time between the flash and the gun report (Figure 3).

b. Sound travels through the air at a fairly constant speed, about 330 meters per second. Comparatively, light travels in no time at all.

c. Observe the flash of the target or weapon firing.

d. Count the number of seconds until you hear the weapon fire. This time interval may be measured on a stopwatch, or by estimation, using a steady count such as one-thousand-one, one-thousand-two, one-thousand-three, for a 3-second count, or count "1 and 2 and 3," for a 3-second count. If you must count higher than 10 seconds, start over at one.

e. Multiply the number of seconds by 330 meters to get your approximate range from the target to your position.

4. Binocular-reticle/mil-relation method.

a. The one drawback to the binocular-reticle/mil-relation method of range estimation is that you must know the width, length, or height of the target. For an explanation of the mil and meter relationship, see Figure 4.

b. To determine the width, length, or height of the target in mils using your binocular reticle, see Figures 5 and 6.

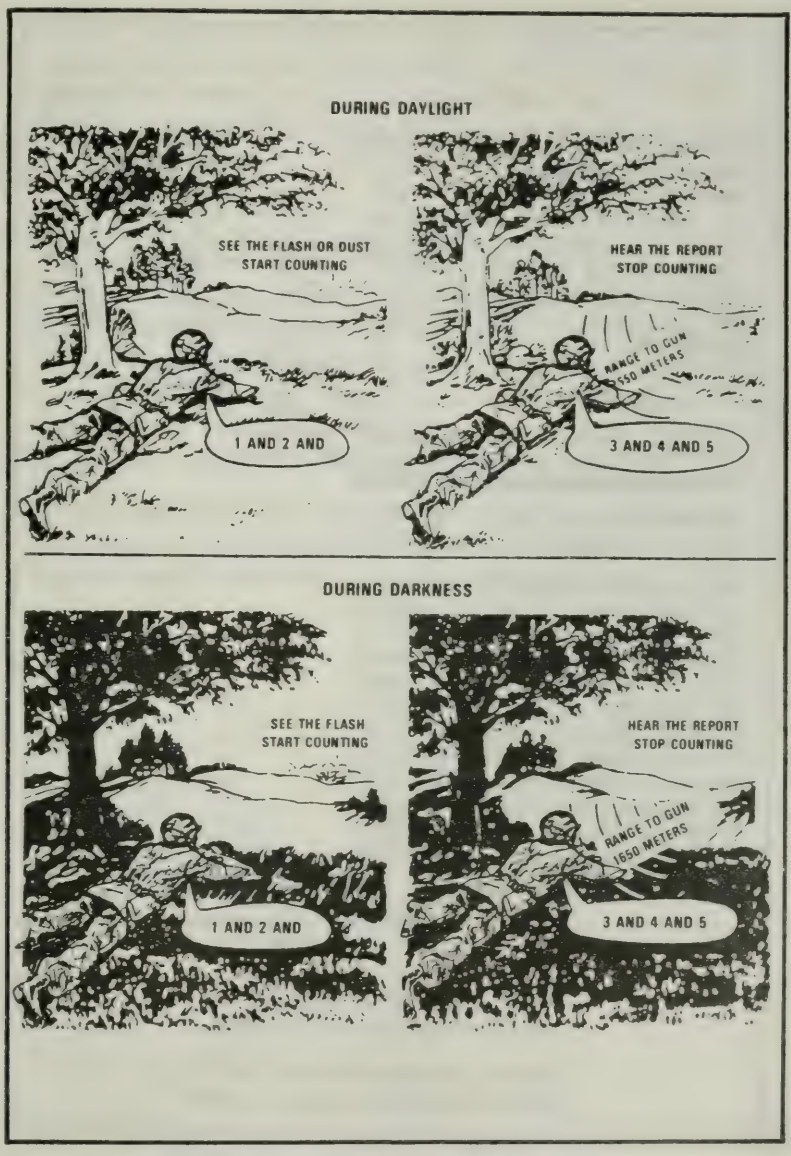
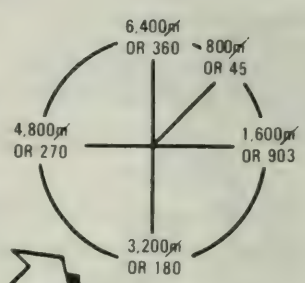


Figure 3. Flash-to-bang method.

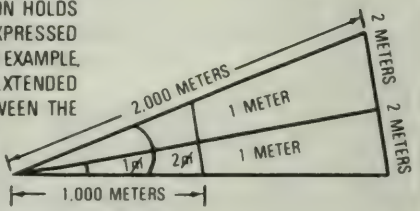
MIL RELATION. THE MIL IS A UNIT OF ANGULAR MEASUREMENT EQUAL TO 1/6,400 OF A CIRCLE. THERE ARE APPROXIMATELY 18 MILS IN 1 DEGREE. ONE MIL CAN BE WRITTEN 1㎜. THE MIL IS USED BECAUSE OF THE PRECISE CALCULATIONS AND ADJUSTMENT REQUIRED. FIRE CONTROL EQUIPMENT IS GRADUATED IN MILS TO CONFORM TO THE MIL METHOD OF MEASUREMENT.



A COMPARISON OF MILS AND DEGREES

ONE MILE EQUALS WIDTH (W) (OR HEIGHT) OF 1 METER AT A RANGE (R) of 1,000 METERS.

THIS RELATION IS CONSTANT AS THE ANGLE INCREASES FROM 1 MIL TO 2 MILS AND THE RANGE INCREASES FROM 1,000 METERS TO 2,000 METERS. BECAUSE THE MIL RELATION IS CONSTANT, OTHER UNITS OF MEASURE SUCH AS YARDS, FEET, OR INCHES CAN BE SUB— STITUTED FOR METERS IN EXPRESSING WIDTH OR RANGE. HOWEVER, THE RELATION HOLDS TRUE ONLY IF BOTH W AND R ARE EXPRESSED IN THE SAME UNIT OF MEASURE FOR EXAMPLE, IF THE SIDES OF A 1 MIL ANGLE ARE EXTENDED TO 1,000 YARDS THE WIDTH BETWEEN THE ENDS OF THE SIDES IS 1 YARD.



1 MIL AT 1,000 METERS EQUALS 1 METER
1 MIL AT 2,000 METERS EQUALS 2 METER

2 MILS AT 1,000 METERS EQUALS 2 METERS
2 MILS AT 2,000 METERS EQUALS 4 METERS

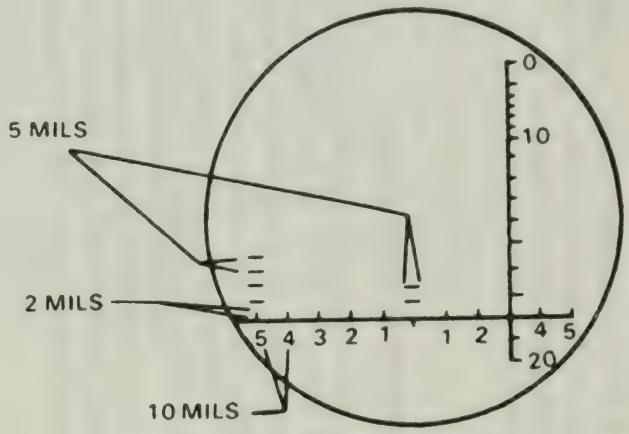
Figure 4. Mil-relation method.

c. Using the known width, length, or height in meters and measured mil value you can determine the range by using the mil-relation formula, R = W - m. Table 3 shows the computation for targets at various ranges.

Evaluation Preparation

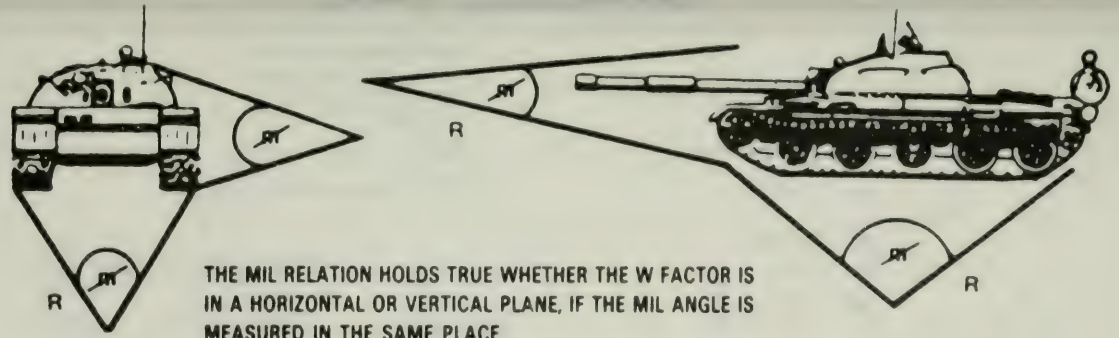
Setup: Position personnel, equipment, and/or vehicles (or silhouettes of same) to serve as five targets so that each target is partially or fully exposed at ranges from 50 to 3,000 meters. Have binoculars available for the soldier to use in estimating the range using the binocular reticle/mil-relation method.

Brief Soldier: Tell the soldier that he must state the distance to at least three of the five targets, with no more than 20-percent error in the distance to each.



BINOCULAR RETICLE

DETERMINING RANGE USING THE MIL RELATION.
SINCE THE RELATIONSHIP OF THE ANGLE IN MILS(m), THE LENGTH OF THE SIDES IN THOUSANDS (R), AND THE WIDTH BETWEEN THE ENDS OF THE SIDES (W) IS CONSTANT, WIDTH OF THE TARGET, RANGE TO THE TARGET, OR MIL VALUE OF THE TARGET CAN BE DETERMINED IF THE OTHER TWO ARE KNOWN.



THE MIL RELATION HOLDS TRUE WHETHER THE W FACTOR IS IN A HORIZONTAL OR VERTICAL PLANE, IF THE MIL ANGLE IS MEASURED IN THE SAME PLACE.

AS A MEMORY AID USE THE WORD "WORM" WHICH STANDS FOR:

	W IDTH	IN METERS	W
	O VER		———
	R ANGE	IN THOUSANDS	R X mil
TIMES	**M** ILS		

Figure 5. Bino-recticle method.

071-326-0512

5 MILS
6 5 METERS
TARGET
5 MILS
0
5
10
15
20
5 4 3 2 1 1 2 4 5
WHAT YOU SEE
THROUGH BINOCULARS
PROCEDURE:
W W
— = — = R
R X
6.5 = 1.3
5
RANGE TO TARGET = 1,300 METERS

MIL ANGLE MEASUREMENT			1	2	3	4	5	6	7	8	9	10
THREAT MEDIUM TANK	LENGTH: 6.5 METERS		6,500	3,300	2,200	1,600	1,300	1,100	900	800	700	700
	WIDTH: 3.5 METERS		3,500	1,800	1,200	900	700	600	500	400	400	400
		RANGE										
THREAT HEAVY TANK	LENGTH: 7.5 METERS		7,500	3,800	2,500	1,900	1,500	1,300	1,100	900	800	800
	WIDTH: 3.5 METERS		3,500	1,800	1,200	900	700	600	500	400	400	400

Table 3. Mil angle measurement and range.

071-326-0512

Evaluation Guide: 071-326-0512

ESTIMATE RANGE

Performance Measures		*Results*	
States the distance to at least three targets for each method of estimating range with no more than 20-percent error in the distance.			
1.	Using football field method.	P	F
2.	Using recognition/appearance-of-objects method.	P	F
3	Using flash-to-bang method.	P	F
4.	Using binocular-reticle/mil-relation method.	P	F

Feedback

Score the soldier GO if the steps are passed. Score the soldier NO-GO if any of the steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 17-12
FM 21-75

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PERFORM SEARCH AND SCAN PROCEDURES

441-091-1101

CONDITIONS

You are assigned a sector of search or as an airguard in a convoy. Visibility is in excess of 3,000 meters.

STANDARDS

1. Estimate 20 degrees upper search limits.
2. Perform two search and scan procedures.

TRAINING AND EVALUATION

Training Information Outline

1. Physical factors affecting aircraft detection. Several physical factors influence the ability to detect an aircraft.

a. Size of aircraft and viewing aspect. The distance at which aircraft can be detected increases with aircraft size (large troop transports as opposed to small reconnaissance aircraft) and aspect (apparent size is much larger at broadside than for incoming or outgoing aircraft).

b. Contrast with background. The probability of detection improves with increased contrast between the aircraft and the background against which it is viewed (a black object against a white background may be visible at a great distance). The smoke trails produced

by some jet aircraft are valuable aids in detecting the aircraft at long ranges. Also, some motion relative to the background improves the probability of detection.

c. Visibility conditions. The presence of dust, fog, haze, rain, or snow will reduce the detection distance.

d. Terrain masking. The enemy is expected to preplan his flight path to take advantage of available terrain masking such as mountains, hills, and vegetation, as well as other natural or manmade objects.

2. Search Technique.

a. As you search (especially above the horizon), your eyes have a tendency to relax and distant objects become blurred. To prevent that from happening, frequently focus your eyes on a distant object, a land feature, or even a cloud.

b. Protect yourself from the blinding effect of the sun by extending your arm and blocking the glare. If you look into the sun without shielding your eyes, you may damage your eyes, and even a temporary blinding effect will cause you to miss targets coming from the sun's direction.

c. If you have trouble focusing at long ranges, squint your eyes. Squinting changes the eyes' focal length, which aids in bringing distant targets into focus.

d. Once an aircraft is spotted, keep your eyes on it. Looking away may cause you to lose the target and have to search for it again. If you must look away, try to remember exactly where it was and its heading direction from a specific point, such as a cloud or terrain feature. This will allow you to pick up the target again in less time.

e. Observers will normally be assigned a search sector size (left and right boundaries) of 90 degrees, 45 degrees to each side of the primary target line (PTL). Studies have indicated that narrow search sectors produce earlier detection of aircraft.

3. Estimation of upper search limits.

a. When scanning the sky for aircraft, unskilled observers often limit their search too near the horizon and miss high-flying aircraft and/or expand the upper limits of their search too high above the horizon and miss low-flying aircraft. The correct upper limit of search is 20 degrees above the horizon.

b. One way to estimate 20 degrees is to extend one hand straight in front of you with fingers fully spread. Point the little finger at the ground and your thumb will be at approximately 20 degrees. The tip of your thumb is the upper search limit (Figure 7).

4. Systematic methods of search and scan. Observers may use two systematic methods of search to look for aircraft in any type of terrain.

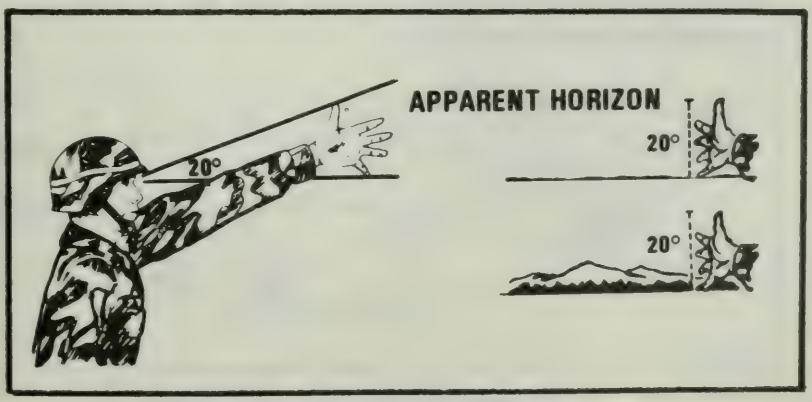


Figure 7. Estimating 20 degrees.

a. Horizontal search and scan. The observer searches the horizon to 20 degrees above the horizon by moving his eyes in short movements across the sky, working his way up and across. He continues the scan pattern to below the horizon to detect aircraft flying nap-of-the-earth (Figure 8).

b. Vertical search and scan. The observer searches the sky using the horizon as a starting point and prominent terrain features as points of reference. He moves his eyes in short movements up the sky, then back down, continuing this movement across the terrain. He scans in the same pattern below the horizon to detect aircraft flying nap-of-the-earth (Figure 9).

Evaluation Preparation

Setup: Test the soldier's knowledge by asking the soldier to demonstrate and explain the performance measures.

Brief soldier: Tell the soldier that he must demonstrate and explain the method of estimating the 20 degree upper search limit and the two systematic methods of search and scan.



Figure 8. Horizontal scanning.

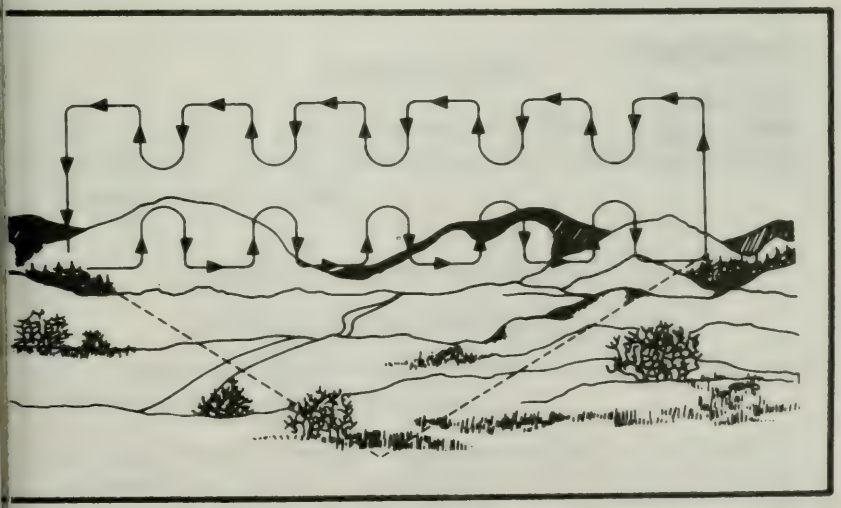


Figure 9. Vertical scanning.

Evaluation Guide: 441-091-1101

PERFORM SEARCH AND SCAN PROCEDURES

	Performance Measures	*Results*	
1.	Estimates 20 degree upper search limit.	P	F
2.	Detects aircraft using the two methods of search scan.	P	F
	a. Horizontal scan.		
	b. Vertical scan.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 44-8
FM 44-30

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SEND A RADIO MESSAGE

113-571-1016

CONDITIONS

Given:

1. Two operational radio sets, both warmed up and set to the same frequency.

2. Frequency (obtained from local command).

3. Message to be transmitted.

4. Call signs for sender and receiver.

5. Situation: Net is in the clear, and there is no need to encrypt.

STANDARDS

Send a voice radio message using correct radio procedures, correct prowords, and correct phonetic alphabet and numbers.

TRAINING AND EVALUATION

Training Information Outline

1. Listen to make sure the net is clear. Do not interrupt any ongoing message.

2. Call distant station using the call sign, and tell the operator you have a message for his or her station. (Refer to ACP 125(E), para 312)

3. Receive response from the distant station's operator that he/she is ready to receive.

4. Send your message using correct prowords and correct pronunciation of letters and numbers. (See figures 10 thru 12)

5. Get receipt for the message.

6. Complete all steps in sequence.

Example

Given below is a priority message which shows the correct radio procedures and correct pronunciation of letters and numerals. Your radio and the station you

SOME COMMON PROWORDS LISTED ALPHABETICALLY

PROWORD	EXPLANATION
ALL AFTER	I refer to all of the message that follows . . . .
ALL BEFORE	I refer to all of the message that precedes . . . .
BREAK	I now separate the text from other parts of the message.
CORRECTION	There is an error in this transmission. Transmission will continue with the last word correctly transmitted.
GROUPS	This message contains the number of groups indicated by the numeral following . . . .
I SAY AGAIN	I am repeating transmission or part indicated.
I SPELL	I shall spell the next word phonetically.
MESSAGE	A message that requires recording is about to follow. (Transmitted immediately after the call. This proword is not used on nets primarily employed for conveying messages. It is intended for use when messages are passed on tactical or reporting net.)

Figure 10. Prowords.

SOME COMMON PROWORDS LISTED ALPHABETICALLY	
PROWORD	**EXPLANATION**
MORE TO FOLLOW	Transmitting station has additional traffic for the receiving station.
OUT	This is the end of my transmission to you and no answer is required or expected.
OVER	This is the end of my transmission to you and a response is necessary. Go ahead; transmit.
RADIO CHECK	What is my signal strength and readability, i.e., how do you hear me?
ROGER	I have received your last transmission satisfactorily, loud and clear.
SAY AGAIN	Repeat all of your last transmission. Followed by identification data means "Repeat — (portion indicated)."
THIS IS	This transmission is from the station whose designator immediately follows.
TIME	That which immediately follows is the time or date-time group of the message.
WAIT	I must pause for a few seconds.
WAIT-OUT	I must pause longer than a few seconds.
WILCO	I have received your transmission, understand it, and will comply. To be used only by the addressee. Since the meaning of ROGER is included in that of WILCO, the two prowords are never used together.
WORD AFTER	I refer to the word of the message that follows . . .
WORD BEFORE	I refer to the word of the message that precedes . . . .

Figure 10. Prowords (continued).

A **ALPHA** (AL FAH)	B **BRAVO** (BRAH VOH)	C **CHARLIE** (CHAR LEE)	D **DELTA** (DELL TAH)
E **ECHO** (ECK OH)	F **FOXTROT** (FOKS TROT)	G **GOLF** (GOLF)	H **HOTEL** (HOH TELL)
I **INDIA** (IN DEE AH)	J **JULIETT** (JEW LEE ETT)	K **KILO** (KEY LOH)	L **LIMA** (LEE MAH)
M **MIKE** (MIKE)	N **NOVEMBER** (NO VEM BER)	O **OSCAR** (OSS CAH)	P **PAPA** (PAH PAH)
Q **QUEBEC** (KEH BECK)	R **ROMEO** (ROW ME OH)	S **SIERRA** (SEE AIR RAH)	T **TANGO** (TANG GO)
U **UNIFORM** (YOU NEE FORM)	V **VICTOR** (VIK TAH)	W **WHISKEY** (WISS KEY)	X **XRAY** (ECKS RAY)
Y **YANKEE** (YANG KEY)	Z **ZULU** (ZOO LOO)	1 **ONE** (WUN)	2 **TWO** (TOO)
3 **THREE** (TREE)	4 **FOUR** (FOW ER)	5 **FIVE** (FIFE)	6 **SIX** (SIX)
7 **SEVEN** (SEV EN)	8 **EIGHT** (AIT)	9 **NINE** (NIN ER)	Ø **ZERO** (ZE RO)

Figure 11. Phonetic alphabet.

NUMERAL	SPOKEN AS
44	FOW-ER FOW-ER
90	NIN-ER ZE-RO
136	WUN TREE SIX
500	FIFE ZE-RO ZE-RO
1200	WUN TOO ZE-RO ZE-RO
1478	WUN FOW-ER SEV-EN AIT
7000	SEV-EN TOU-SAND
16000	WUN SIX TOU-SAND
812681	AIT WUN TOO SIX AIT WUN

Figure 12. Alphanumeric pronunciation.

are calling are on the same frequency. Your call sign is "Z94D," and the distant station's call sign is "D81D."

1. After listening to make sure the net is clear, you are ready to transmit to the distant station.

2. Call the distant station and inform its operator you have a priority message for his or her station.

"D8lD, This is Z94D (Priority) Over."

Your call should sound like this:

DELL TAH AIT WUN DELL TAH—THIS IS ZOO LOO NIN ER FOW ER DELL TAH. (PRIORITY) OVER.

3. The distant station's operator should respond like this:

Z94D, this is D8lD - Over.

His or her response should sound like this:

ZOO LOO NIN ER FOW ER DELL TAH - THIS IS DELL TAH AIT WUN DELL TAH - OVER.

4. Send your message:

D8lD—This is Z94D.
Priority
Time—010205Z Jan 90
From—Z94 to D81
Break
Unclassified
AT 1800Z PROCEED TO HONG KONG ARRIVE 16 MAY LOAD 1000 TROOPS FOR RETURN TO NINGPO.
Break
Over."

You should pronounce your message like this:

DELL TAH AIT WUN DELL TAH—THIS IS ZOO LOO NIN ER FOW ER DELL TAH.

PRIORITY

TIME ZE RO WUN ZE RO TOO ZE RO FIFE ZOO LOO JANUARY NIN ER ZE RO
FROM ZOO LOO NIN ER FOW ER TO DELL TAH AIT WUN
BREAK
UNCLASSIFIED
AT WUN AIT ZE RO ZE RO ZOO LOO PROCEED TO HONG KONG ARRIVE WUN SIX MAY LOAD WUN TOU SAND TROOPS FOR RETURN TO NINGPO I SPELL NO VEM BER IN DEE AH NO VEM BER GOLF PAH PAH OSS CAH NINGPO.

BREAK
OVER.

5. Get receipt for your message from the distant station:

"Z94D—This is D8lD.
Roger.
Out."

It should sound like this:

ZOO LOO NIN ER FOW ER DELL TAH—THIS IS DELL TAH AIT WUN DELL TAH.
Roger.
Out.

Evaluation Preparation

Setup: Position two operational radio sets in different rooms or tents or at least 70 feet apart outside. Secure two call signs and a radio frequency through the normal command chain. Select a message 15-25 words in length, containing some number groups such as map coordinates and times. Print the call signs for the sender and the receiver, along with the message to be sent, on a 5 x 8 card. Perform a communications check to ensure operation of the radios. Have an assistant who is proficient in radio operation man the receiving station. Provide the assistant with the call signs.

If the soldier has not demonstrated sufficient progress to complete the task within 5 minutes, give him a NO-GO. This time limit is an administrative requirement, not a doctrinal one; so if the soldier has almost completed the task correctly, you may decide to allow him to finish.

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Brief Soldier: Give the soldier to be tested the card containing the message and call signs. Tell him or her the radio is ready for operation and to send the message and get a receipt from the receiving station. Tell the soldier, if sufficient progress in completing the task within 5 minutes has not been demonstrated, he/she will receive a NO-GO for the task.

Evaluation Guide

Performance Measures	*Results*	
1. Listens to make sure the net is clear.	P	F
2. Contacts the distant station.	P	F
3. Receives response from distant station that station is ready to receive a message.	P	F
4. Sends a message, using correct radio procedures, correct pro-words (Fig 10), and correct phonetic alphabet and numbers (Fig 11 and 12).	P	F
5. Gets receipt for the message.	P	F
6. Completes all steps in sequence.	p	F

Feedback

Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show what was done wrong and how to do it correctly.

REFERENCES

ACP 125(E)
FM 24-18

★ ★ ★ ★ ★

IDENTIFY TOPOGRAPHIC SYMBOLS ON A MILITARY MAP

071-329-1000

CONDITIONS

Given a standard 1:50,000-scale military map.

STANDARDS

Correctly identify the topographic symbols, colors, and marginal information on a military map.

TRAINING AND EVALUATION

Training Information Outline

1. Topographic symbols.

a. The ideal situation would be that every feature on that portion of the earth being mapped could be shown on the map in its true shape and size. Unfortunately, that is impossible.

b. The amount of detail shown on a map increases or decreases, depending on its scale; therefore, a map with a scale of 1:50,000 will show more detail than a map of 1:250,000 scale.

c. Details are shown by topographic symbols. Those symbols are shown using six basic colors:

(1) Black—for cultural (man-made) features other than roads.

(2) Blue—for water.

(3) Brown—for all relief features (usually shown by contour lines) on old maps, or cultivated land on red-light readable maps.

(4) Green—for vegetation.

(5) Red—for major roads, built-up areas, and special features on old maps.

(6) Red-brown—all relief features and main roads on red-light readable maps.

2. Topographic symbols are grouped by category.

a. Drainage features (blue). These symbols include lakes, streams, rivers, marshes, swamps, and coastal waters.

b. Relief features (brown). These features are normally shown by contour lines, intermediate contour lines, and form lines. In addition to contour lines, there are relief symbols to show cuts, fills, levees, sand, sand dunes, ice fields, strip mines, and glaciers.

c. Vegetation features (green). These symbols include woods, scrub, orchard, vineyard, tropical grass, mangrove and marshy areas or tundra.

d. Roads (red, black, or red-brown). These symbols show hard-surface, heavy-duty roads, hard-surface, medium-duty roads, improved light-duty roads, unimproved dirt roads, and trails. On foreign road maps, symbols may differ slightly; check the map legend for proper identification of roads.

e. Railroads (black). These symbols show single-track railroads in operation; single-track railroads not in operation; double- or multiple-track railroads in

operation; double- or multiple-track railroads not in operation; and railroad sidings, yards, or snowsheds.

f. Buildings (black) and populated places (yellow/red/pink). These symbols show built-up areas, schools, churches, ruins, lighthouses, windmills, and cemeteries.

3. Use and understand topographic symbols.

a. The shape of an object on the map will usually tell what it is—for example, a black, solid square is a building or a house; a round or irregular blue item is a lake or pond.

b. Logic and what the color means must work together in determining a map feature. For example, blue is water. You see a symbol that is blue and has what looks like clumps of grass. What is wet with grass? A swamp.

c. The size of the symbol shows the approximate size of an object. Most symbols are enlarged 6 to 10 times so that you can see them under dim light, but relative size will show.

d. Remember to use the legend. It will have most of the symbols used on the map.

4. Identify and use marginal information.

a. Marginal information at the top of the map sheet.

(1) In the top left corner will be given the geographic location of the map area and the scale of the map.

(2) In the top center is the name of the map sheet.

(3) The top right corner contains the map edition, map series, and the map sheet number.

b. Marginal information is at the bottom of the map sheet.

(1) The legend is in the lower left corner of the map, as are the agency that prepared the map, the map sheet number, and the map sheet name.

(2) In the bottom center are the bar scales in meters, yards, miles, and nautical miles; the contour interval of the contour lines; the grid reference box; and the declination diagram.

(3) In the lower right corner are the elevation guide; the adjoining map sheet diagram; and the boundaries box, which shows any boundaries that may be on the map.

Evaluation Preparation

Setup: On a 1:50,000-scale topographic map, circle an example of each item of marginal information found on the map as listed in the standards. Randomly letter the circled items A through I. Circle an item or feature shown on the map by color. Randomly number each colored item 1 through 5. Have a sheet of paper and two pencils available for the tested soldier. For each soldier tested, provide a duplicate set of the map and paper and pencils.

Brief Soldier: Tell the soldier to letter the paper A through I and 1 through 5. Tell the soldier to write down the name of the item contained in each lettered and numbered circle on the map.

Evaluation Guide: 071-329-1000

IDENTIFY TOPOGRAPHIC SYMBOLS ON A MILITARY MAP

	Performance Measures	*Results*	
1.	Identifies the sheet name.	P	F
2.	Identifies the sheet number.	P	F
3.	Identifies the contour interval.	P	F
4.	Identifies the G-M angle (mils or degrees).	P	F
5.	Identifies the legend.	P	F
6.	Identifies the bar scales.	P	F
7.	Identifies the declination diagram.	P	F
8.	Identifies the grid reference box.	P	F
9.	Identifies the adjoining sheets diagram	P	F
10.	Identifies the black, man-made features;for example, school, church.	P	F
11.	Identifies the water (blue).	P	F
12.	Identifies the vegetation (green).	P	F
13.	Identifies the red or red-brown man-made features. For example, main road or built-up area.	P	F

14. Identifies brown or red-brown contour lines brown. P F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-26
FM 21-31

★ ★ ★ ★ ★

IDENTIFY TERRAIN FEATURES ON A MAP

071-329-1001

CONDITIONS

Given a standard 1:50,000-scale military map.

STANDARDS

Identify the five major and three minor features on the map.

TRAINING AND EVALUATION

Training Information Outline

Note: *During instruction, demonstrate to the soldiers how they can learn terrain features using the fist. It can be used to show what each terrain feature would look like on the ground (Figures 13 and 14).*

1. Identify major terrain features.

a. Terrain features are identified in the same manner on all maps, regardless of the contour interval, but you must realize that a hill in the Rocky Mountains will be much bigger than one in south Florida. You must be able to recognize all the terrain features to locate a point on the ground or to navigate from one point to another.

b. The five major terrain features on a map are:

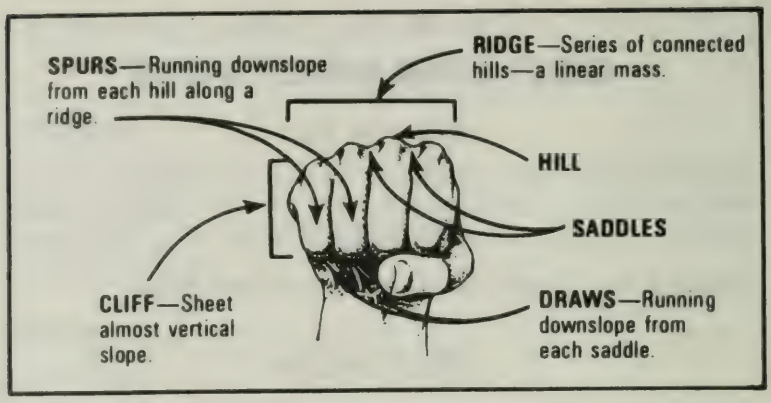


Figure 13. Using Fist to Explain Terrain Features

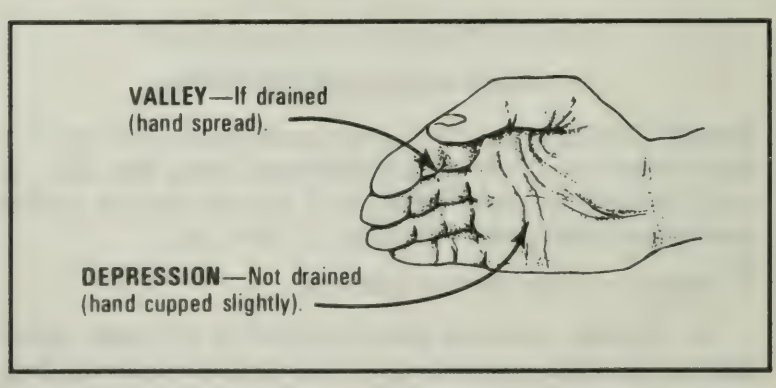


Figure 14. Using Hand to Explain Terrain Features

(1) Hill (Figure 15). A point or small area of high ground. When you are on a hilltop, the ground slopes down in all directions. A hill is depicted on a map by contour lines forming concentric circles.

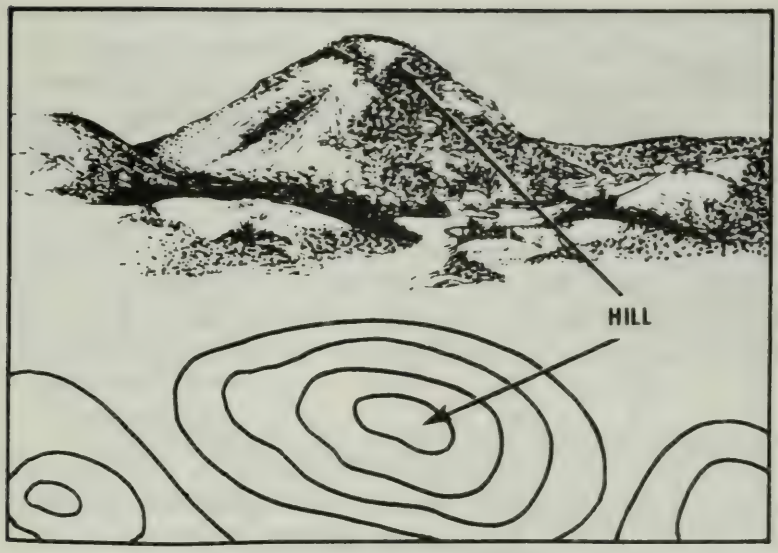


Figure 15. A Hill.

(2) Ridge (Figure 16). A line of high ground with height variations along its crest. The ridge is not simply a line of hills; all points of the ridge crest are higher than the ground on both sides of the ridge. A ridge is depicted on a map by contour lines forming a "U" or "V" with the closed end pointing away from high ground.

(3) Valley (Figure 17). Reasonably level ground bordered on the sides by higher ground. A valley may or may not contain a stream course. A valley generally has maneuver room within its confines. Contour lines indicating a valley are U-shaped and tend to parallel a stream before crossing it. The course of the contour line crossing the stream will always point upstream.

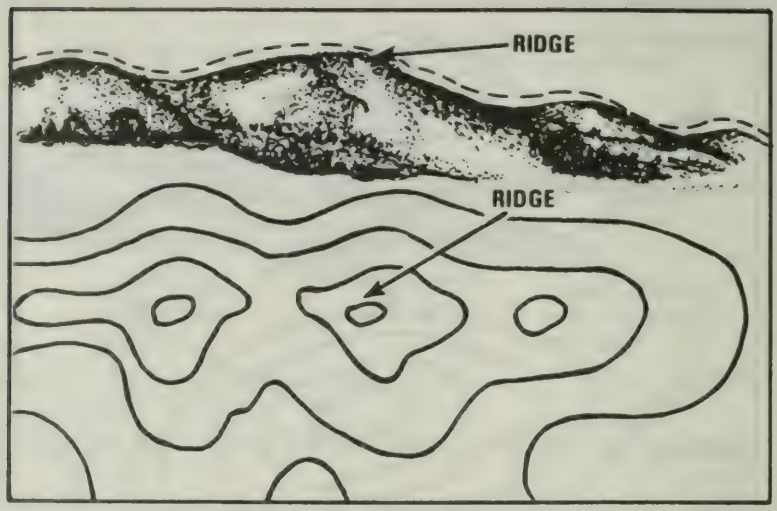


Figure 16. A Ridge.

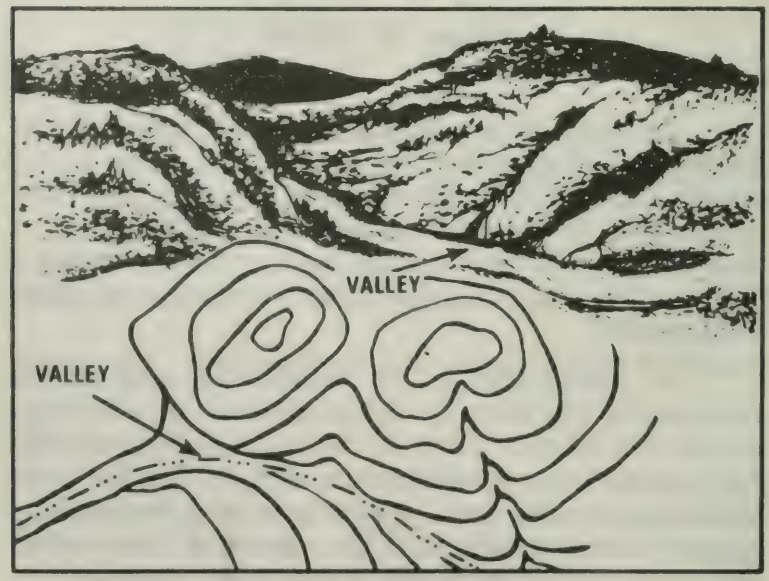


Figure 17. A Valley.

(4) Saddle (Figure 18). A dip or low point along the crest of a ridge. A saddle is not necessarily the lower ground between two hilltops; it may be a break along an otherwise level ridge crest.

(5) Depression (Figure 19). A low point or hole in the ground, surrounded on all sides by higher ground.

2. Identify minor terrain features. Although these features are not as important as the major terrain features, a navigator can plan a route more successfully if he can identify all of the terrain features the route will cross over.

a. Draw (Figure 20). Similar to a valley, except that it normally is a less-developed stream course in which there is generally no level ground and, therefore, little or no maneuver room. The ground slopes upward on

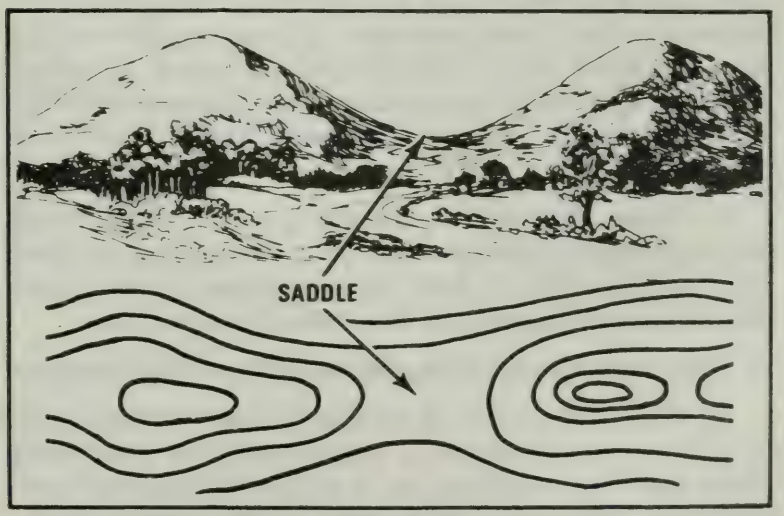


Figure 18. A Saddle.

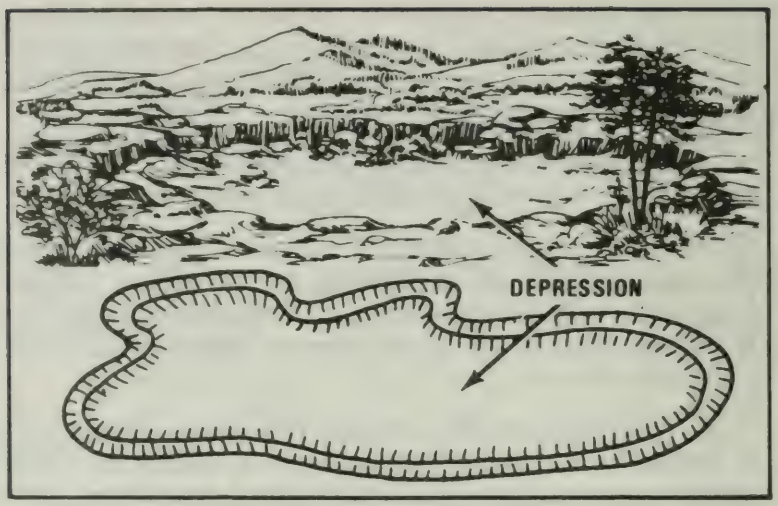


Figure 19. A Depression.

each side and toward the head of the draw. Draws are caused by flash floods and can be found on flat terrain but are more often found along the sides of ridges. Contour lines indicating a draw are V-shaped with the point of the "V" toward the head of the draw (high ground).

b. Spur (Figure 21). Usually a short, continuously sloping line of higher ground, normally jutting out from the side of a ridge. A spur is often formed by two parallel streams cutting draws down the side of a ridge.

3. There are also three supplementary terrain features.

a. Cliff (Figure 22). A vertical or near-vertical slope. A cliff may be shown on a map by contour lines being close together, touching, or by a ticked "carrying" contour line. The ticks always point toward lower ground.

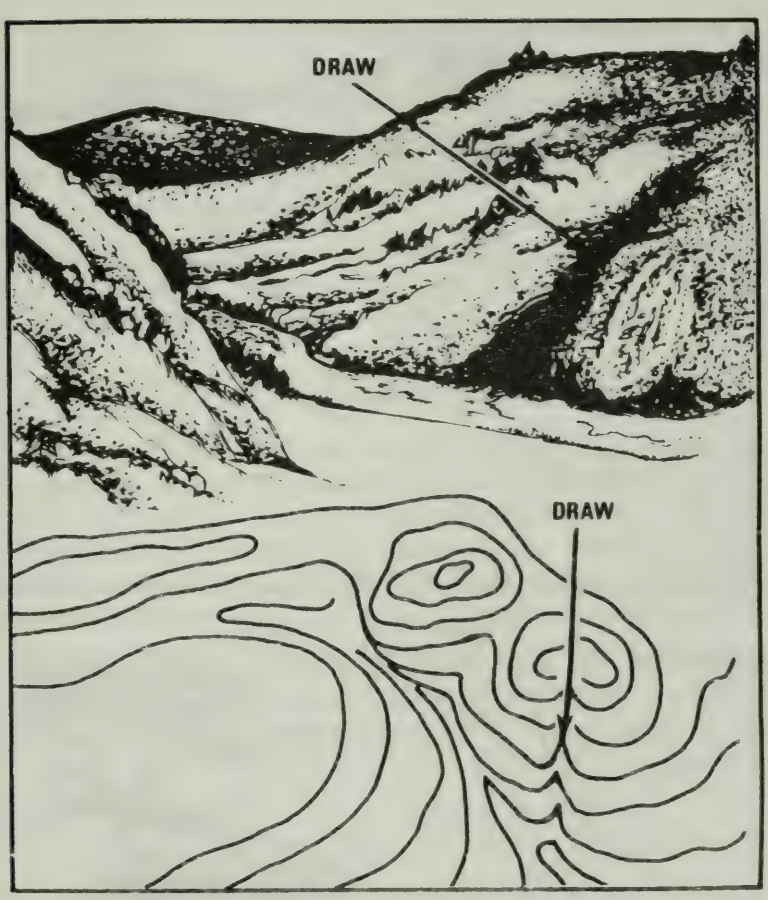


Figure 20. A Draw.

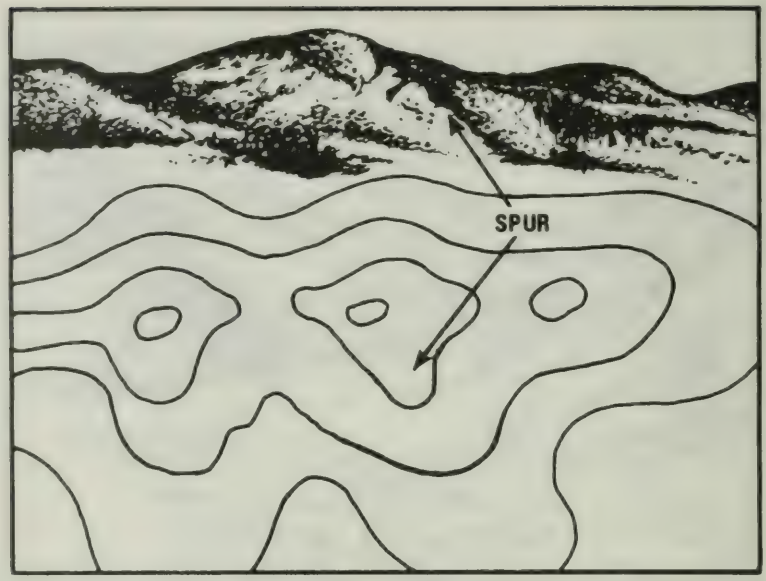


Figure 21. A Spur.

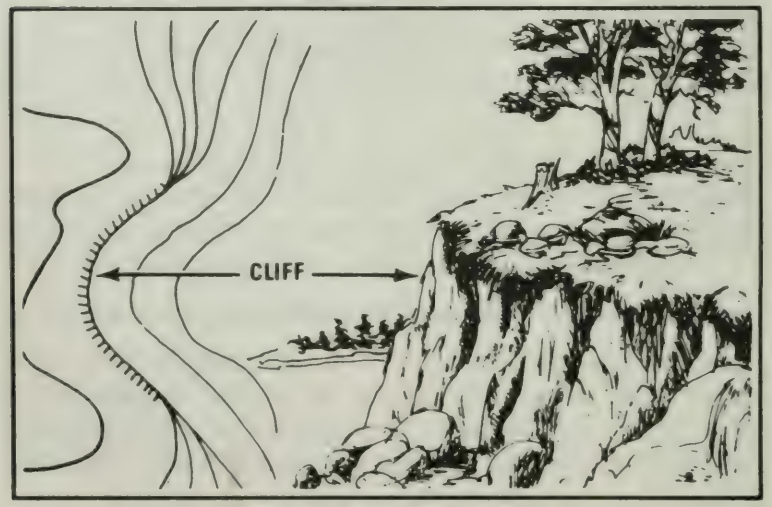


Figure 22. A Cliff.

b. Cut. A cut is a man-made feature, such as when a hill is cut away to lay a railroad track bed. It is shown on a map when it is at least 10 feet high. The contour line extends along the length of the cut and the tick marks point toward the roadbed (Figure 23).

c. Fill. A fill is where a low area has been filled in to level off an area, such as for a railroad track bed. The contour lines extend along the fill area and the tick marks point toward lower ground (Figure 23).

Evaluation Preparation

Setup: On a 1:50,000-scale military map, circle one example of each major terrain feature and one example of each minor terrain feature as listed in the task conditions. Randomly, letter the circled terrain features a through h. Provide each soldier being tested with duplicate sets of the map, paper, and two pencils.

Brief Soldier: Tell the soldier to letter the paper a through h. Tell the soldier to write down the terrain feature that corresponds to each circled area on the map.

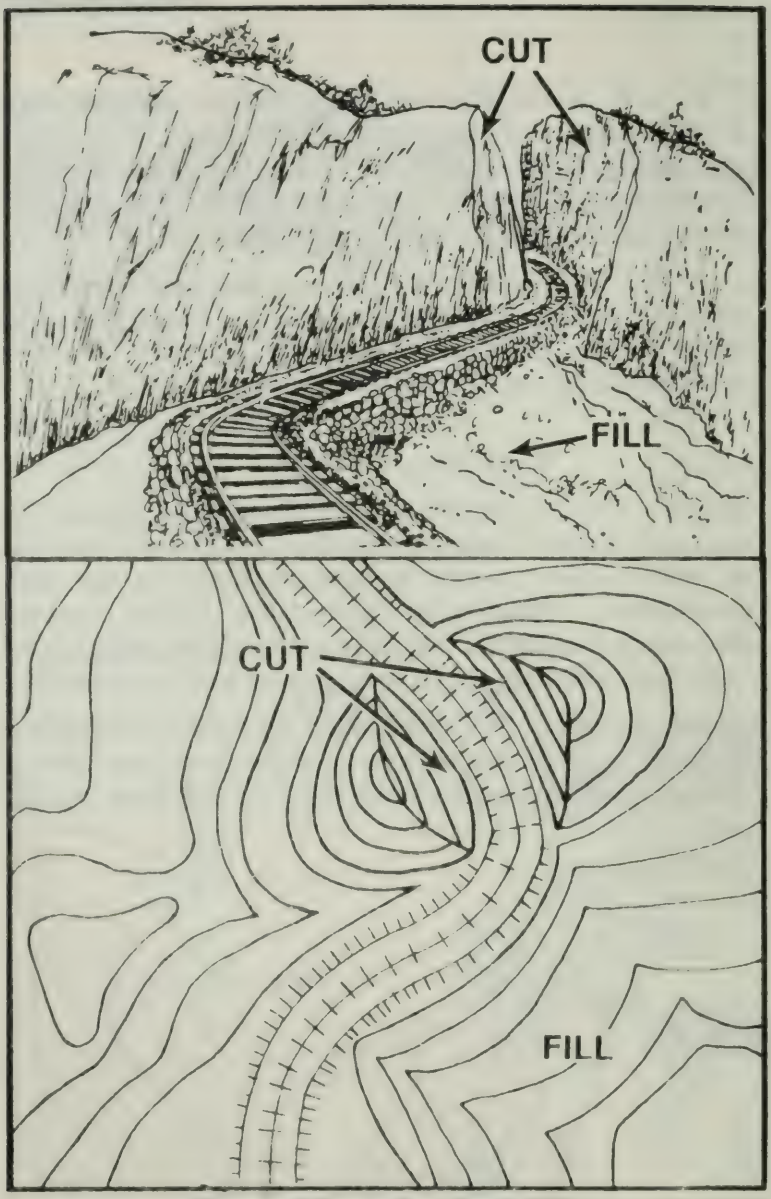


Figure 23. A Cut And Fill.

Evaluation Guide: 071-329-1001

IDENTIFY TERRAIN FEATURES ON A MAP

Performance Measures	*Results*	
The soldier identifies the following.		
1. Hill.	P	F
2. Ridge.	P	F
3. Valley.	P	F
4. Saddle.	P	F
5. Depression.	P	F
6. Draw	P	F
7. Spur.	P	F
8. Cliff.	P	F
9. Cut.	P	F
10. Fill.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-26

★ ★ ★ ★ ★

ORIENT A MAP TO THE GROUND BY MAP TERRAIN ASSOCIATION

071-329-1012

CONDITIONS

Given a standard 1:50,000-scale military map in the field in daylight.

STANDARDS

Orient the map to north to within 30 degrees.

TRAINING AND EVALUATION

Training Information Outline

Note: *Before a map can be used, it must be oriented. A map is oriented when it is in a horizontal position with its north and south corresponding to north and south on the ground.*

1. Look at the map and the ground to find two terrain features common to both, such as hilltops, saddles, valleys, ridges, and depressions. By aligning the terrain features on the map with the same terrain features on the ground (Figures 24 and 25), the map is oriented.

2. Check orientations obtained by this method to keep from orienting the map in the wrong direction (that is, 180 degrees out). This reversal may be prevented by aligning two or more features.

Figure 24. Features used to orient a map.

Map of the same area as in figure 24.

Figure 25. Features on the map.

Evaluation Preparation

Setup: Use an area of terrain with identifiable terrain features, natural and/or man-made. Provide a field table and a map of the area.

Note: *Check orientation of map by placing a compass along one of the north-south grid lines. Incorporate the declination constant in determining the 30 degrees.*

Brief Soldier: Tell the soldier that by using the terrain features around him, he must orient the map to the north. Tell the soldier he must orient the map to within 30 degrees of north.

Evaluation Guide: 071-329-1012

ORIENT A MAP TO THE GROUND BY MAP TERRAIN ASSOCIATION

	Performance Measures	*Results*	
1.	Identifies prominent terrain features.	P	F
2.	Orients the map to within 30 degrees of north.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-26

★ ★ ★ ★ ★

DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP

071-329-1002

CONDITIONS

Given a standard 1:50,000-scale military map, a 1:50,000 grid coordinate scale, pencil, paper, and a point on the map for which coordinates must be determined.

STANDARDS

1. Determine the six-digit grid coordinates for the point on the map with a 100-meter tolerance (grid coordinates must contain the correct two-letter 100,000-meter-square identifier).

2. Determine the eight-digit grid coordinates for the point on the map with a 50-meter tolerance (grid coordinates must contain the correct two-letter 100,000-meter-square identifier).

TRAINING AND EVALUATION

Training Information Outline

Notes: *1. To keep from getting lost, you have to know how to find out where you are. There are no street addresses in a combat area, but a military map can spot your location accurately. The map has vertical lines (top to bottom) and horizontal lines (left to right).*

These lines form small squares 1,000 meters on each side called grid squares.

2. The lines that form grid squares are numbered along the outside edge of the map picture. No two grid squares will have the same number.

3. The precision of a point location is shown by the number of digits in the coordinates; the more digits, the more precise the location.

1996—A 1,000-meter grid square.

192961—To the nearest 100 meters.

19269614—To the nearest 10 meters.

1. Look at Figure 26. Your address is grid square 1181. How do you know this? Start from the left and read right until you come to 11, the first half of our address.

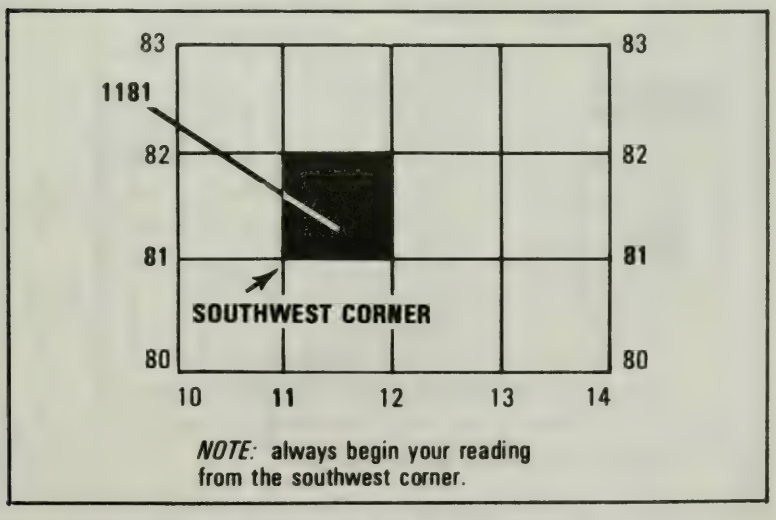


Figure 26. Grid square 1181.

Then read up to 81, the other half. Your address is somewhere in grid square 1181.

2. Grid square 1181 gives your general neighborhood, but there is a lot of ground inside that grid square. To make your address more accurate, just add another number to the first half and another number to the other half so your address has six numbers instead of four.

a. To get those extra numbers, pretend that each grid square has 10 lines inside it running north and south, and another 10 running east and west. This makes 100 smaller squares. You can estimate where these imaginary lines are (Figure 27).

b. Suppose you are halfway between grid line 11 and grid line 12. Then the next number is 5 and the first half of your address is 115. Now suppose you are also 3/10 of the way between grid line 81 and grid line 82.

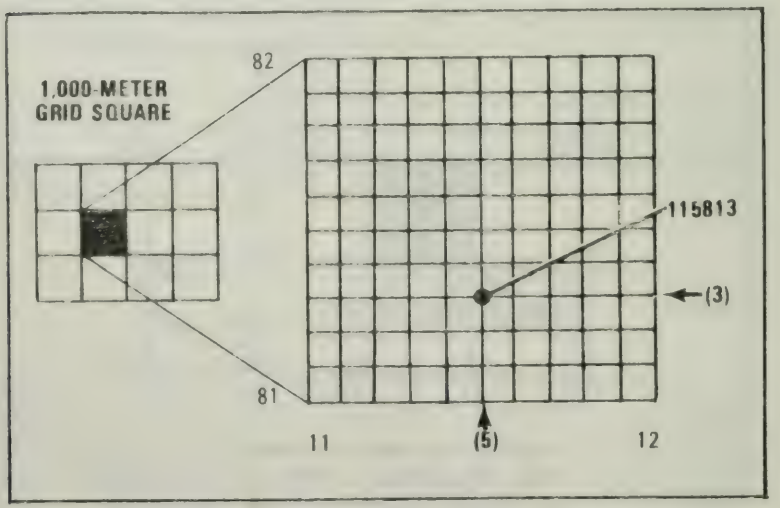


Figure 27. Grid square 1181 divided.

Then the second half of your address is 813. Your address would be 115813 (Figure 27). (If you are exactly on line 81, the second part would be 810.)

3. The most accurate way to determine the coordinates of a point on a map is to use a coordinate scale. You do not have to use imaginary lines because you can come up with the exact coordinates. This scale is on the coordinate scale and the protractor (GTA 5-2-12) (Figure 28) or the plotting scale (Figure 29). On both of

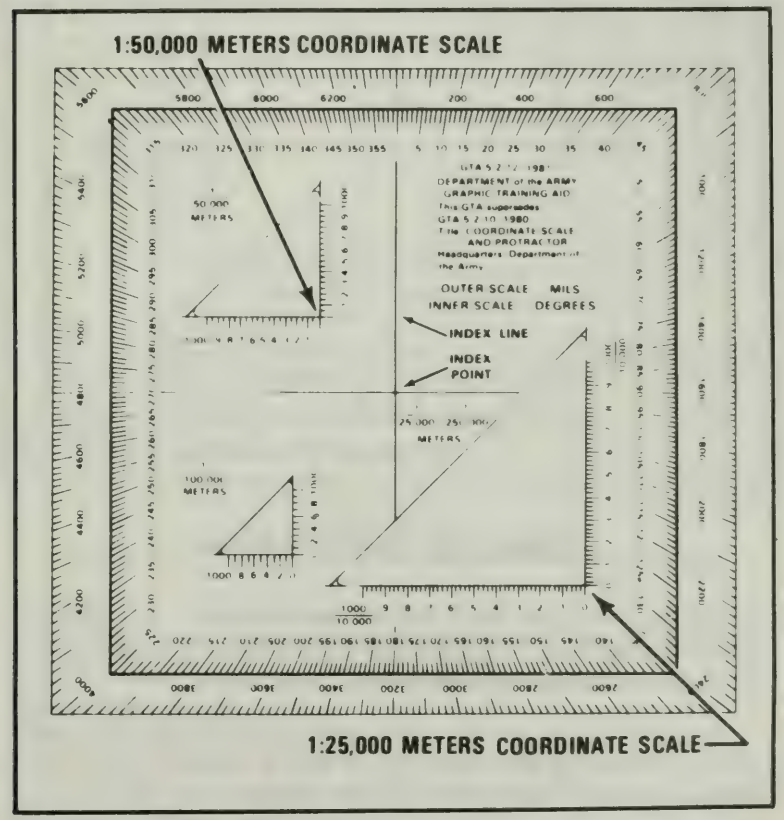


Figure 28. Coordinate scale and protractor.

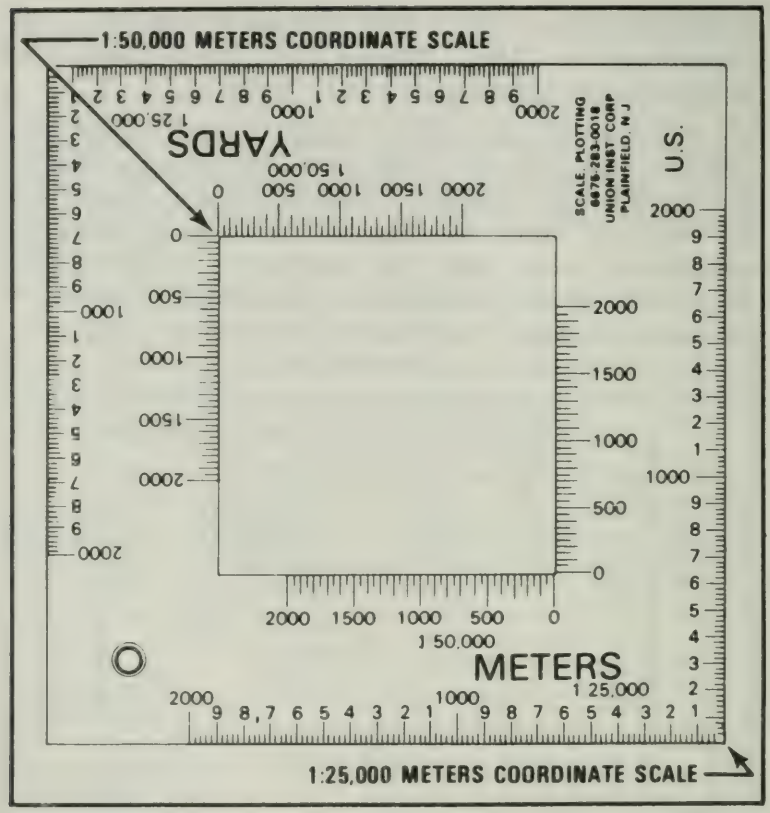


Figure 29. Plotting scale.

these devices are two coordinate scales, 1:25,000 and 1:50,000 meters. Make sure that when you use either of these devices, you use the correct scale.

a. First, locate the grid square in which the point (for example, Point A, Figure 30) is located (the point should already be plotted on the map).

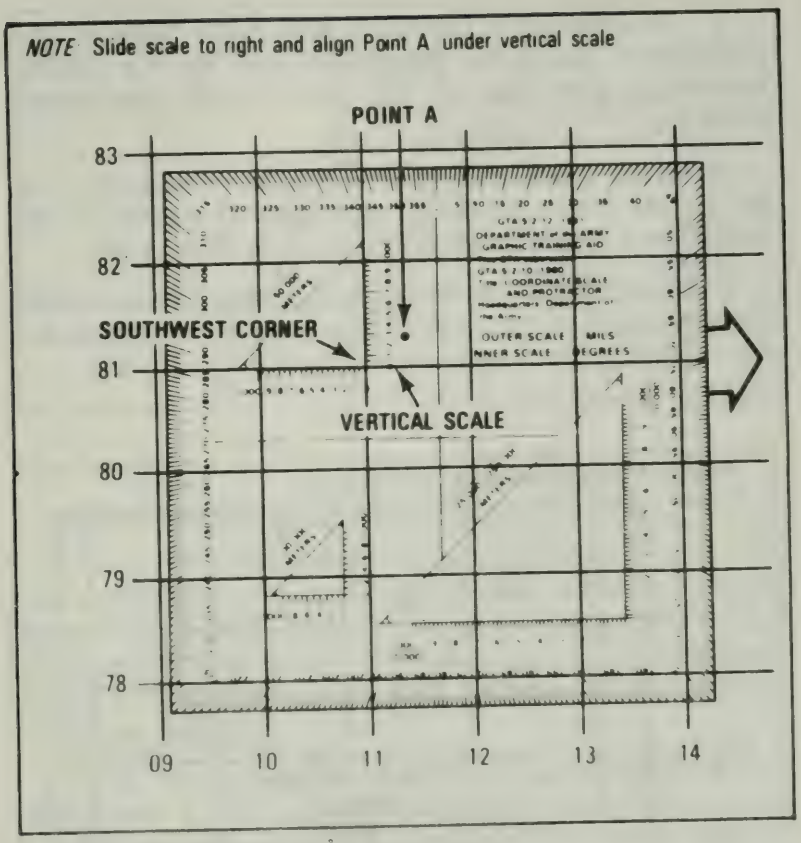


Figure 30. Placement of the coordinate scale.

b. The number of the vertical grid line on the left (west) side of the grid square is the first and second digits of the coordinates.

c. The number of the horizontal grid line on the bottom (south) side of the grid square is the fourth and fifth digits of the coordinates.

d. To determine the third and sixth digits of the coordinates, place the coordinate scale on the bottom horizontal grid line of the grid square containing Point A.

e. Check to see that the zeros of the coordinate scale are in the lower left-hand (south-west) corner of the grid square where Point A is located in (Figure 30).

f. Slide the scale to the right, keeping the bottom of the scale on the bottom grid line until Point A is under the vertical (right-hand) scale (Figures 31 and 32).

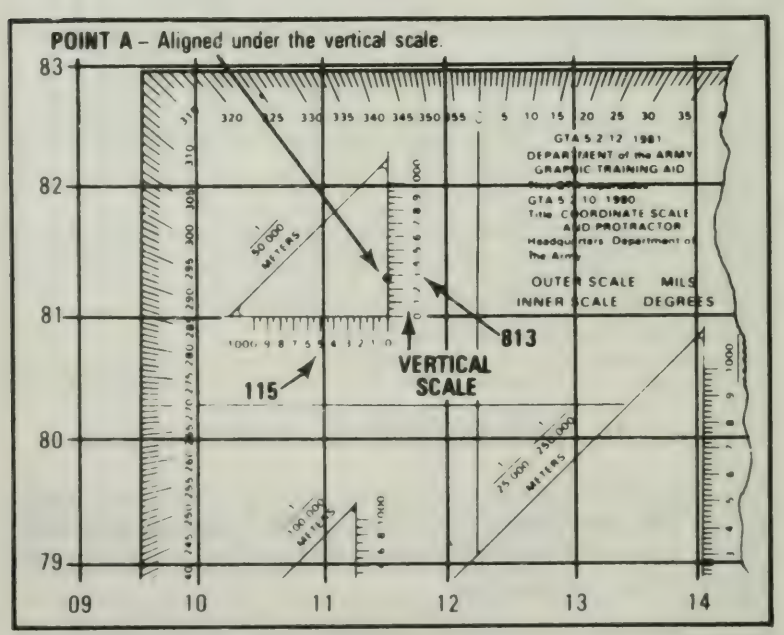


Figure 31. Aligning the coordinate scale.

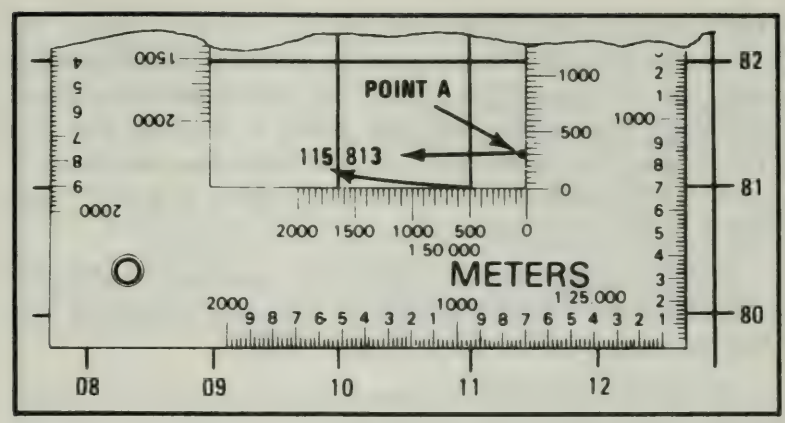


Figure 32. Aligning the plotting scale.

(1) To determine a six-digit coordinate, the 100-meter mark on the bottom scale, which is nearest the vertical grid line, is the third digit, 115. The 100-meter mark on the vertical scale, which is nearest Point A, is the sixth digit, 813. Putting these together, you have 115813.

(2) To determine an eight-digit coordinate, which will locate a point on the ground to within 10 meters, you must keep in mind that there are 100 meters between each 100-meter mark (number) on the scale, with a short tick mark to indicate 50 meters between each 100-meter mark. As shown in Figure 33, the grid line crosses the bottom scale right on the 500-meter mark, which would make the third and fourth digits 1150. If the grid line crossed the scale somewhere between the 500- and 600-meter marks, you must interpolate how many meters it is beyond 500 meters. To determine the seventh and eighth digits, read the

right-hand scale where the point is on the scale. As shown in Figure 33, the point is between the 300 mark and the 50-meter tick mark. At this point, you must estimate how many 10s the point is beyond the 300 mark. In this case it is 3, which gives you the seventh and eighth digits, 8133. putting these together, you have 11508133 (Figure 33).

g. To determine the correct two-letter 100,000-meter-square identifier, look at the grid reference box in the margin of the map (Figure 34).

h. Place the 100,000-meter-square identifier in front of the coordinate, GL 11508133.

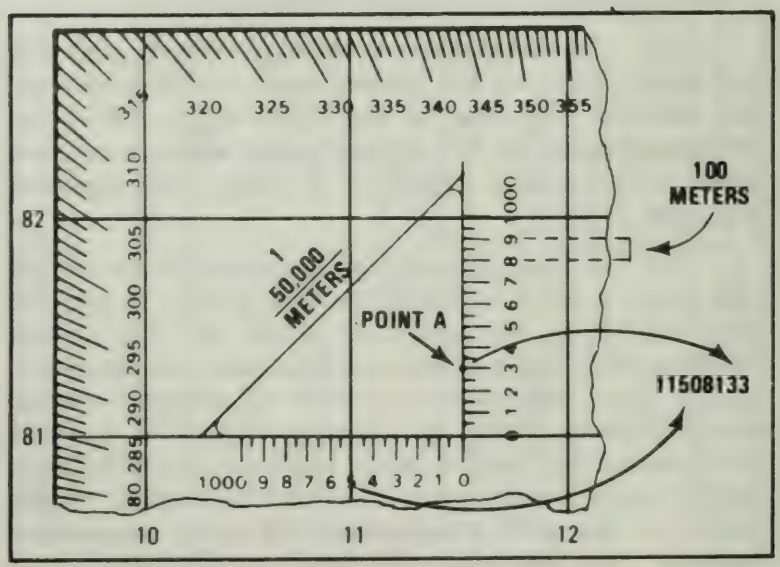


Figure 33. Determining the 100-meter square identifier.

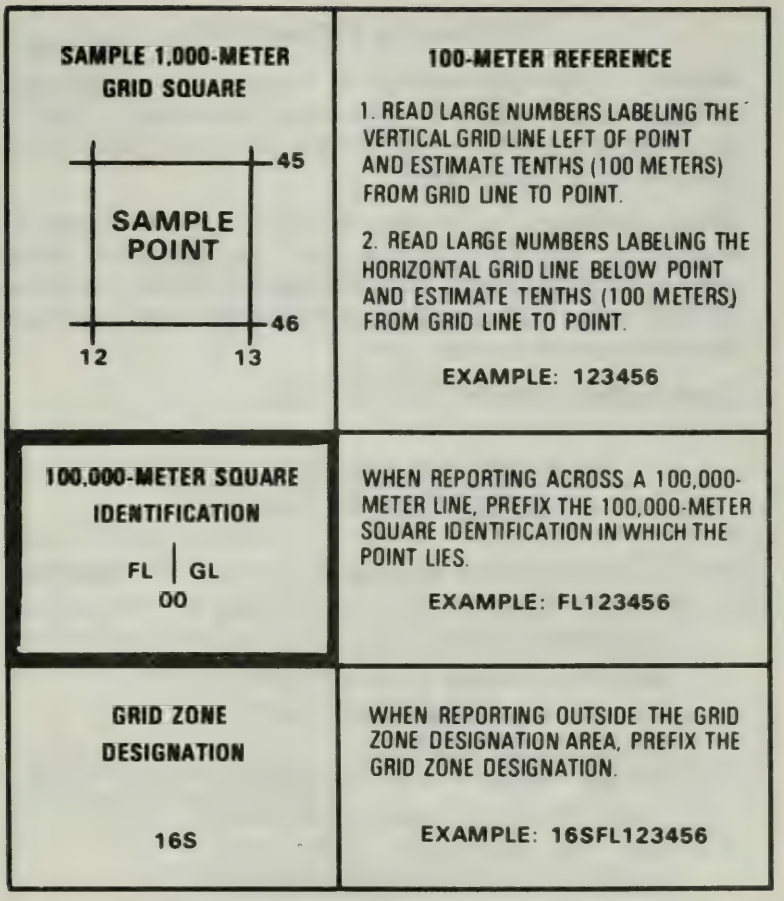


Figure 34. Grid reference box.

331-758 0 - 92 - 4 : QL 3

Evaluation Preparation

Setup: Give the soldier a standard 1:50,000-scale military map, a 1:50,000 grid coordinate scale, a piece of paper, and a pencil. Designate a different point on the map for each requirement.

Brief Soldier: Tell the soldier to write down the two-letter, 100,000-meter-square identifier and the six-digit grid coordinates for one point and the two-letter, 100,000-meter-square identifier and the eight-digit grid coordinates for another point.

Evaluation Guide: 071-329-1002

DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP

Performance Measures	*Results*	
1. Writes down the two-letter 100,000-meter-square identifier and the six-digit grid coordinates for the designated point with a 100-meter tolerance.	P	F
2. Writes down the two-letter, 100,000-meter-square identifier and the eight-digit grid coordinates for the designated point with a 50-meter tolerance.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-26
GTA 5-2-12

★ ★ ★ ★ ★

DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION

071-329-1005

CONDITIONS

In the field during daylight, while at an unknown location on the ground, given a standard 1:50,000-scale military map of the area, a coordinate scale and protractor, and a known point on the ground.

STANDARDS

Determine the six-digit coordinate of your location with a 100-meter tolerance.

TRAINING AND EVALUATION

Training Information Outline

1. Determine the type of terrain feature on which you are located. (See the task Identify Terrain Features on a Map, task number 071-329-1001.)

2. Determine what types of terrain features surround your location.

3. Orient a map. (See the task Orient a Map to the Ground by Map Terrain Association, task number 071-329-1012).

4. Determine the four cardinal directions (north, south, east, west). (See the task Determine the Grid Coordinates of a Point on a Military Map, task number 071-329-1002.)

a. Relate the terrain feature on the ground to those shown on the map.

b. Having determined where the terrain features on the ground and those on the map coincide, determine the coordinates of your location using the coordinate scale and protractor.

Evaluation Preparation

Setup: Select a field site that has terrain features that are shown on the map. At the test site, provide a field table, map, pencil, paper, and a coordinate scale.

Brief Soldier: Tell the soldier he must determine a six-digit coordinate of his location within 7 minutes. Tell the soldier one of the cardinal directions (north, south, east, or west).

Evaluation Guide: 071-329-1005

DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION

Performance Measures	*Results*	
1. Determines remaining three cardinal directions.	P	F
2. Identifies type terrain feature on which located.	P	F
3. Identifies terrain features around his location.	P	F
4. Identifies same terrain features on the map.	P	F
5. Orients map to identified terrain features.	P	F
6. Determines own location on the map	P	F
7. Determines six-digit grid of own location (point selected must be within 100 meters of the location).	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-26

★ ★ ★ ★ ★

DETERMINE A MAGNETIC AZIMUTH USING A LENSATIC COMPASS

071-329-1003

CONDITIONS

Given a compass and a designated point on the ground.

STANDARDS

Determine the correct magnetic azimuth to the designated point within 3 degrees using the compass-to-cheek method, or within 10 degrees using the center-hold method.

TRAINING AND EVALUATION

Training Information Outline

1. Read your compass (Figure 35).

a. The floating dial is used to determine the direction in which you are pointing your compass.

b. The outer, black ring of numbers and tick marks are used for finding direction in mils (Figure 36).

c. The inner, red ring of numbers and tick marks are used for finding direction in degrees.

(1) There are 360 degrees or 6400 mils in a circle. These are marked with a tick mark every 5 degrees and 20 mils. However, not every tick mark is numbered.

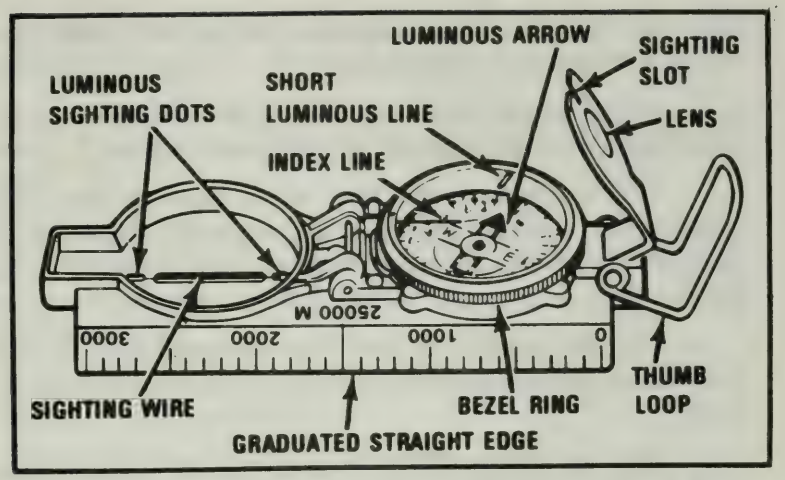


Figure 35. Lensatic compass.

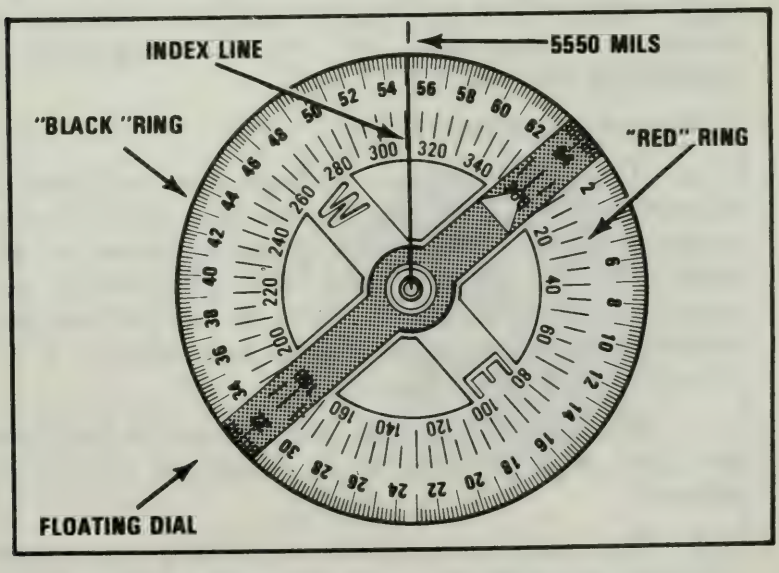


Figure 36. Lensatic compass floating dial.

You will have to determine the number for these lines using the numbers that are shown.

(2) To read direction, point the compass in the direction you want to go or want to determine.

(3) Look beneath the index line on the outer glass cover and estimate to the nearest degree or 10 mils the position of the index line over the red or black scale.

(4) Be careful to hold the compass still so that the dial remains stationary while you are reading the scale.

(5) In Figure 36, the readings are 312 degrees (red scale) and 5500 mils (black scale).

(6) If you understand these readings and can apply either of the holding and sighting techniques of shooting an azimuth, you will be proficient in performing this task.

2. Shoot an azimuth.

a. Use your compass to determine or follow an azimuth. The arrow on the compass points toward magnetic north. The arrow is also attracted by any mass of metal; a truck, your rifle, your helmet, and even electrical power lines. Thus, be sure you use your compass away from metal objects so it will not give a wrong reading.

b. The lensatic compass must always be held level and firm when sighting on an object and reading an azimuth.

c. There are two methods of holding the lensatic compass and sighting.

(1) Compass-to-cheek method (Figure 37). To use this method:

(a) Open the cover to a 90-degree angle to the base. Position the eyepiece at a 45-degree angle to the base.

(b) Place your thumb through the thumb loop, form a steady base with your third and fourth fingers, and extend your index finger along the side of the compass base.

(c) Place the hand holding the compass into the palm of the other hand.

(d) Bring both hands up to the face and position the thumb that is through the thumb loop against the cheekbone.

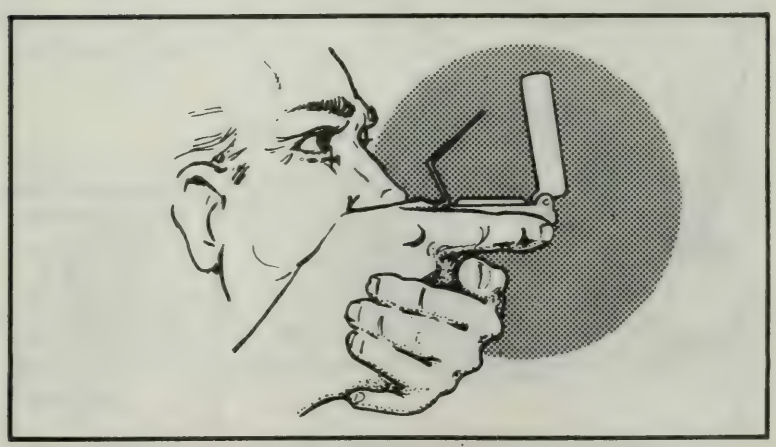


Figure 37. Compass-to-cheek method.

(e) Look through the lens of the eyepiece. If the dial is not in focus, move the eyepiece up or down until the dial is in focus.

(f) Align the sighting slot of the eyepiece with the sighting wire in the cover on the point to which the azimuth is being determined. Look through the lens of the eyepiece and read the azimuth under the index line.

(2) Center-hold method (Figure 38). To use this method:

Note: *This method is used only when a precise direction is not required.*

(a) Open the compass so that the cover forms a straight edge with the base. The lens of the compass is moved out of the way.

(b) Next, place your thumb through the thumb loop, form a steady base with your third and fourth

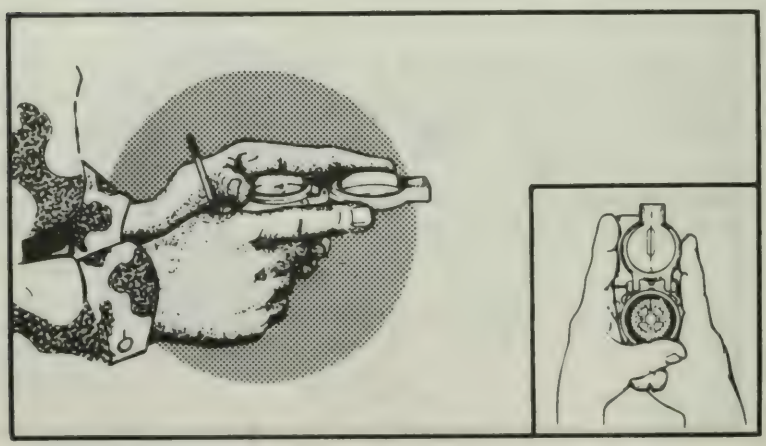


Figure 38. Center-hold method.

fingers, and extend your index finger along the side of the compass.

(c) Place the thumb of the other hand between the eyepiece and the lens, extend the index finger along the remaining side of the compass, wrap the remaining fingers around the fingers of the other hand, and pull your elbows firmly into your side. This will place the compass between your chin and your belt.

(d) To measure an azimuth, turn your entire body toward the object and point the compass cover directly at the object. Look down and read the azimuth from beneath the fixed black index line. This method can be used at night.

(e) To keep from going in circles when you are land navigating, stop occasionally to check the azimuth along which you are moving. Also, you can move from object to object along your path by shooting an azimuth to each object and then moving to that object. Repeating this process while you navigate should keep you straight.

Evaluation Preparation

Setup: Select a point to use as a target and determine the azimuth to the point using the compass that the soldier will use.

Brief Soldier: Point out the selected spot to the soldier. Tell the soldier to shoot an azimuth to that spot using the compass-to-cheek method or center-hold method.

Evaluation Guide: 071-329-1003

DETERMINE A MAGNETIC AZIMUTH USING A LENSATIC COMPASS

Performance Measures	*Results*	
1. Determines correct azimuth.	P	F
a. Within 3 degrees using compass-to-cheek method.		
b. Within 10 degrees using center-hold method.		
2. Uses correct compass-to-check method or center-hold method.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-26

★ ★ ★ ★ ★

DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS

071-329-1018

CONDITIONS

In bright sunlight, given a stick or branch and two stones, a wristwatch (not digital); and at night with a clear view of the Big Dipper.

STANDARDS

Determine direction using the three field-expedient methods.

TRAINING AND EVALUATION

Training Information Outline

Note: *All of the procedures given in this task will give approximate directions. For accurate directions, a compass must be used.*

1. Use the shadow-tip field-expedient method to determine direction without a compass.

a. Place a stick or branch into the ground vertically at a fairly level spot where the sun will cast a distinct shadow. Mark the shadow with a stone, twig, or other means (Figure 39).

b. Wait 10 or 15 minutes until the shadow tip moves a few inches. Mark the new position of the shadow tip just like the first (Figure 40).

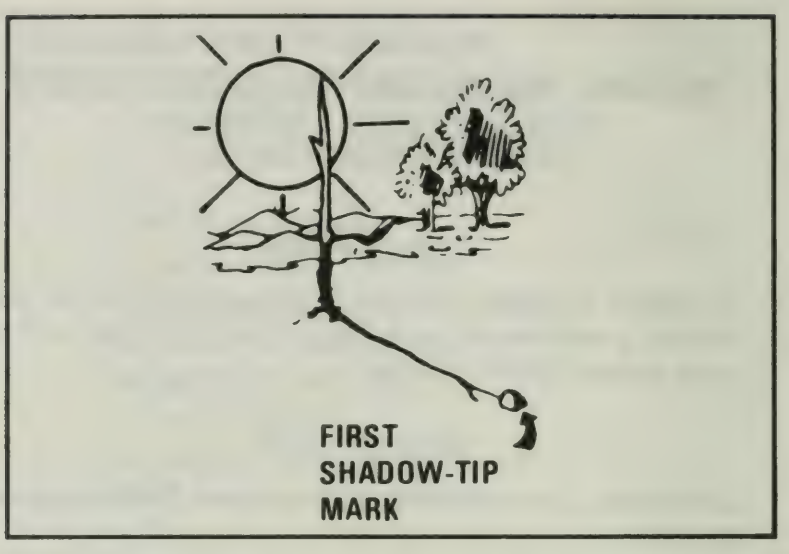


Figure 39. First shadow tip mark.

c. Draw a straight line through the two marks you made on the shadow tips. This line is an east-west line (Figure 41).

d. Determine which is the east end of the line and which is the west end.

(1) The sun rises in the east and sets in the west.

(2) The shadow tip moves in the opposite direction.

(3) The first shadow-tip mark you make is always west, and the second mark is always east.

e. Find north and south.

(1) Draw a line at right angle to the east-west line at any point (Figure 42).

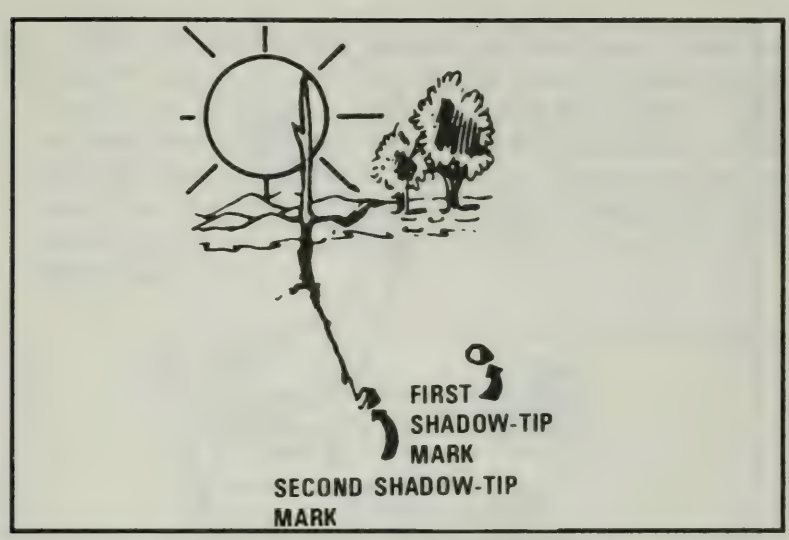


Figure 40. Second shadow tip mark.

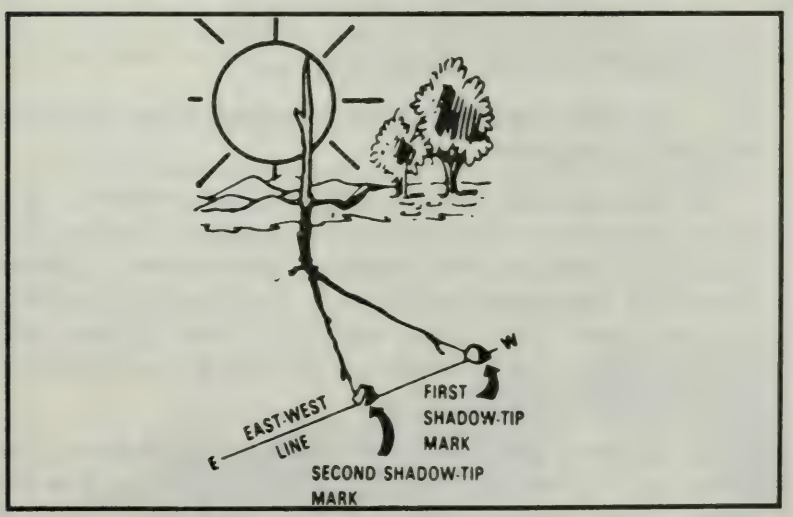


Figure 41. East-West line.

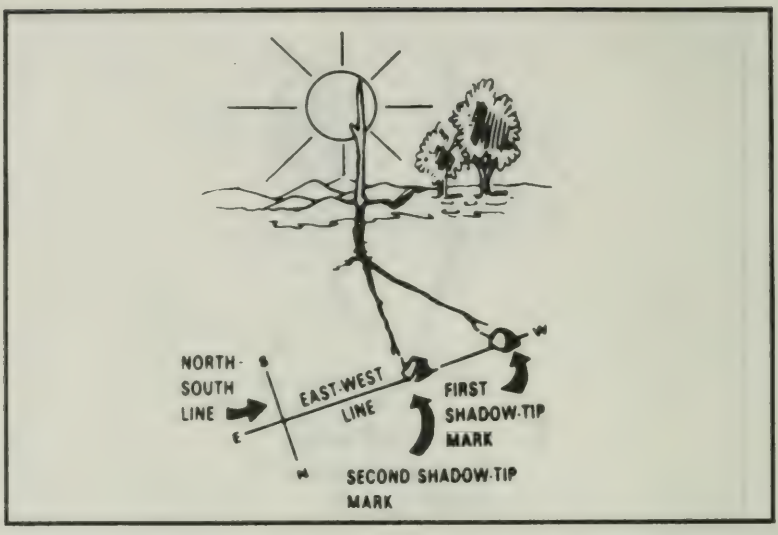


Figure 42. North-South line.

(2) This is the north-south line.

2. Use the watch method to determine direction without a compass.

a. You can also find direction with your watch. It is not as accurate as the shadow-tip method. North of the equator (Northern Hemisphere), this is how it works: Point the hour hand at the sun. South will be halfway between your hour hand and 12 o'clock (Figure 43). (Try this in a place where you already know the directions to prove that it works.)

b. South of the equator (Southern Hemisphere), you must use the watch differently: Point 12 o'clock at the sun. Then, halfway between 12 o'clock and the hour hand is north.

3. Use the North Star method to determine direction at night. At night, you can locate north by finding the North Star (Polaris). First, find the Big Dipper. The last two stars in the cup point directly at Polaris, which is about five times as far out as the distance between those two stars in the cup. Facing Polaris, you are looking north, with east on your right and west on your left (Figure 44).

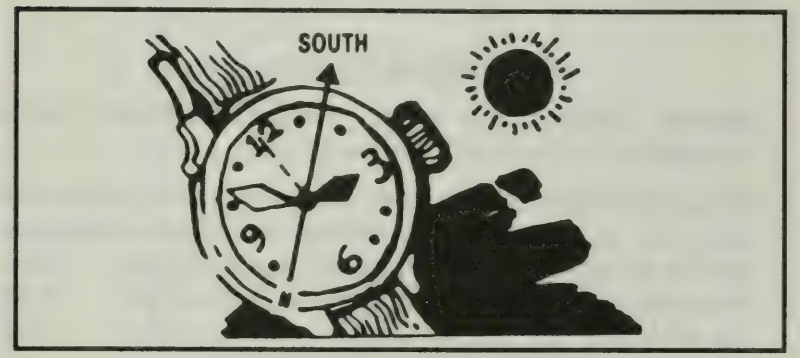


Figure 43. Watch method.

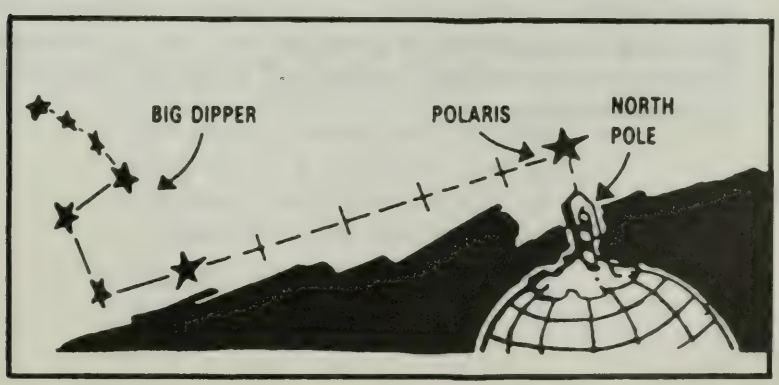


Figure 44. North Star method.

Notes: *During the training session, stress these three facts:*

1. The sun rises in the east and sets in the west.

2. When you face north, east is to your right, west is to your left, and south is to your back.

3. The Big Dipper is a pattern of stars that resembles a soup ladle.

Evaluation Preparation

Setup: Directionally orient yourself to an area that is unfamiliar to the soldier to be tested.

Brief Soldier: Accompany the soldier to the area and tell him to use a field-expedient method to determine which direction is north, south, east, or west. Use a compass direction of your choice. The soldier will not be told how he did on performance measure 1 until completion of performance measure 2.

Note: *Before the soldier is scored a GO for this task, he must display proficiency in all three field-expedient methods of determining direction without a compass. However, performance measure 3 must be tested in a different location.*

Evaluation Guide: 071-329-1018

DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS

Performance Measures	*Results*
1. Determines direction using the shadow-tip field expedient method.	P F
a. Places stick vertically into ground at level spot.	
b. Marks tip of stick's shadow to represent west.	
c. Waits 10 to 15 minutes.	
d. Marks new position of tip of stick's shadow to represent east.	
e. Draws an east-west line through the two shadow-tip marks.	
f. Draws a north-south line at a right angle to the east-west line.	
g. Points in direction specified by the trainer.	
2. Determines direction using the watch field-expedient method.	P F
a. In Northern Hemisphere, points hour hand of watch at sun; in Southern Hemisphere, points 12 o'clock position of watch at sun.	
b. Points in direction specified by the trainer.	

		P	F
3.	Determines direction using the North Star field-expedient method.		
	a. Locates the Big Dipper.		
	b. Locates Polaris, the North Star.		
	c. Points in direction specified by the trainer.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-26

★ ★ ★ ★ ★

MEASURE DISTANCE ON A MAP

071-329-1008

CONDITIONS

Given a standard 1:50,000 military map, a strip of paper or a straight edge, and a pencil.

STANDARDS

1. Determine the straight-line distance, in meters, between two points with no more than 5 percent error.

2. Determine the road (curved line) distance, in meters, between two points with no more than 10 percent error.

TRAINING AND EVALUATION

Training Information Outline

Note: *You can use your map to measure the distance between two places. The map is drawn to scale. This means that a certain distance on the map equals a certain distance on the earth. The scale is printed at the bottom and at the top of the map (Scale 1:50,000). This means that 1 inch on the map equals 50,000 inches on the ground.*

1. To change map distance to miles, meters, or yards, use the bar scales at the bottom of the map (Figure 45).

a. Take a ruler or the edge of a piece of paper and mark on it the straight-line distance between two points (Figure 46).

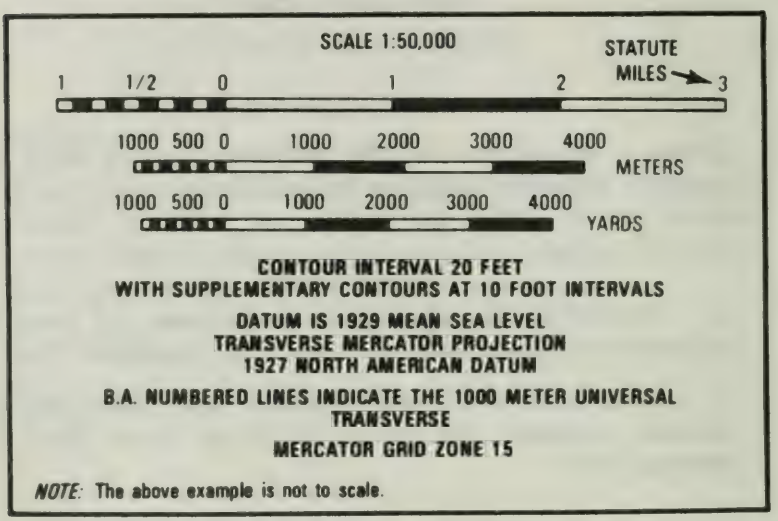


Figure 45. Bar scale.

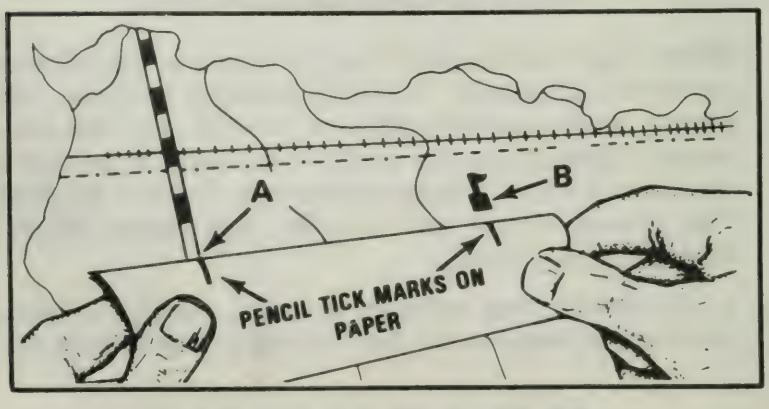


Figure 46. Measuring distance.

b. Then, put the ruler or the paper just under one of the bar scales and read the ground distance in miles, meters, or yards. The bar scale in Figure 47 shows a ground distance of 1,520 meters.

c. Suppose you want to find the distance between A and B around a curve in a road. Take a strip of paper, make a small tick mark on it, and line up the tick mark with point A. Align the paper with the road edge until you come to the curve, make another mark on the paper and on the map, and then pivot the paper so that it continues to follow the road edge. Keep repeating this until you get to B. Always follow the road edge with your paper. Make a mark on your paper where it hits B, and then go to the bar scales to get the distance (Figure 48).

2. Normally, you will be required to measure distance in meters, and you may receive a problem that goes off the bar scale. The meter bar scale allows you to

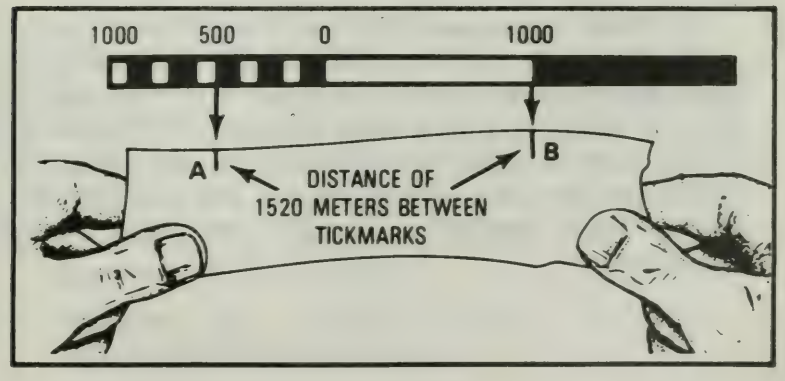


Figure 47. Determining distance.

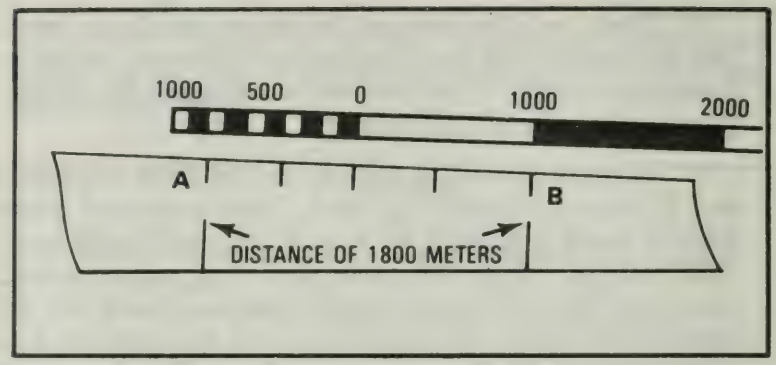


Figure 48. Map distance-1800 meters.

measure distances up to 5,000 meters. If you have to measure distances greater than 5,000 meters, follow this procedure:

a. Place your starting point on the paper under the zero on the bar scale. Measure off 4,000 meters and place a new tick mark at that point on your paper.

b. Place this second tick mark also under the zero on the bar scale and determine if the distance on the paper now falls within the bar scale. If it does, add this value to 4,000 to give a total distance. If it does not, repeat step 2a until the distance on the paper falls within the bar scale. Remember to add this last value to the total number of meters you have already measured.

Evaluation Preparation

Setup: In the field or a classroom, give the soldier a 1:50,000 military map, a pencil, and a strip of paper with a straight edge. On the map, plot a straight-line distance of 3,000 to 4,000 meters. Mark this distance points A and B. On a road or trail, plot a curved-line distance of 3,000 to 4,000 meters with at least two changes of direction. Mark this distance points C and D.

Brief Soldier: Tell the soldier he must determine the straight-line distance between points A and B with no more than 5 percent error, and the curved-line distance between points C and D with no more than 10 percent error. He must either write down the correct answers or state the answer when asked by the scorer.

Evaluation Guide: 071-329-1008

MEASURE DISTANCE ON A MAP

Performance Measures	*Results*	
1. Measures the straight-line distance on the map using the straight edge.	P	F
2. Places the paper under the meter bar scale.	P	F
3. Determines the distance with no more than 5 percent error.	P	F
4. Measures the curved-line distance using the strip of paper.	P	F

5.	Places the paper under the meter bar scale.	P	F
6.	Determines the distance with no more than 10 percent error.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-26

★ ★ ★ ★ ★

MAINTAIN AN M16A1 OR M16A2 RIFLE

071-311-2025

CONDITIONS

Given an M16A1 or M16A2 rifle, magazine, 5.56-mm ammunition, and small arms maintenance equipment case.

STANDARDS

Perform maintenance on the rifle, magazines, and ammunition in such a manner that rifle, magazine, and ammunition function correctly.

TRAINING AND EVALUATION

Training Information Outline

1. Clear your rifle.

a. Turn the selector to "SAFE". If the weapon is not cocked, the lever cannot be turned to safe (Figure 49).

Note: *If a magazine is in the rifle, remove it.*

b. To lock the bolt open, pull the charging handle rearward, press the bottom of the bolt catch, and allow the bolt to move forward until it engages the bolt catch. Return your charging handle to the forward position. (If you have not already done so, move the selector to safe.) (Figure 50)

c. Look in the receiver and chamber to ensure these areas contain no ammunition (Figure 51).

d. With the selector lever on safe, allow the bolt to go forward by pressing the upper portion of the bolt catch (Figure 52).

2. Disassemble your rifle.

a. First, clear your rifle.

b. Remove the sling.

Note: *Remove handguards only if dirt and corrosion can be seen through vent holes. The handguards for the M16A2 are interchangeable. Each is identical.*

c. Remove the handguards (Figure 53).

d. Push the takedown pin as far as it will go. Pivot the upper receiver from the lower receiver (Figure 54).

e. Push the receiver pivot pin (Figure 55).

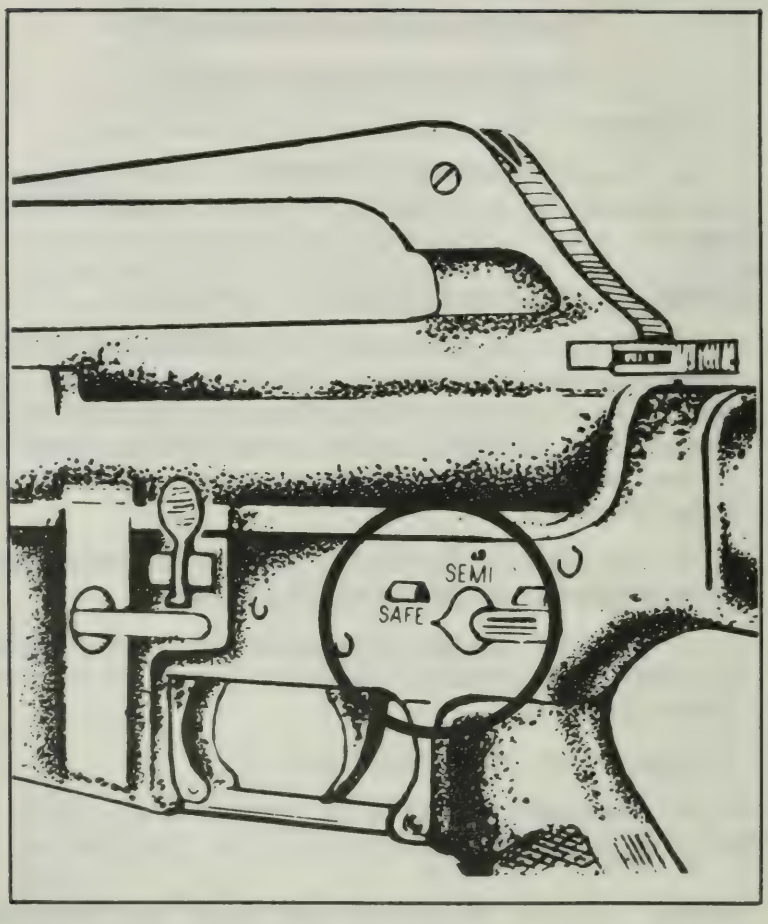


Figure 49. Selector lever on safe.

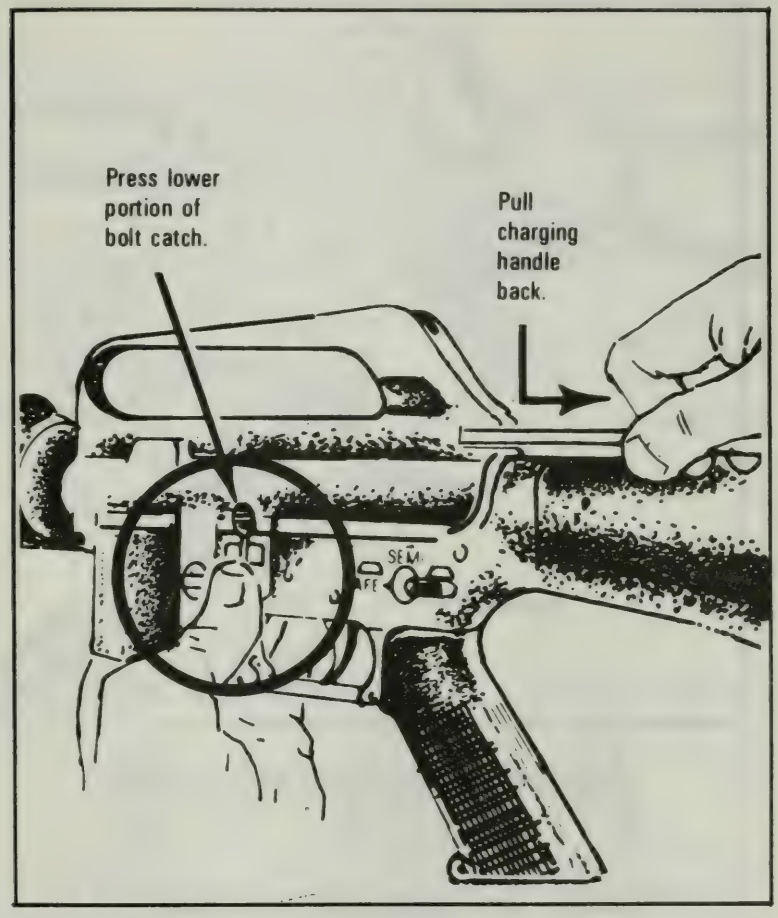


Figure 50. Locking the bolt open.

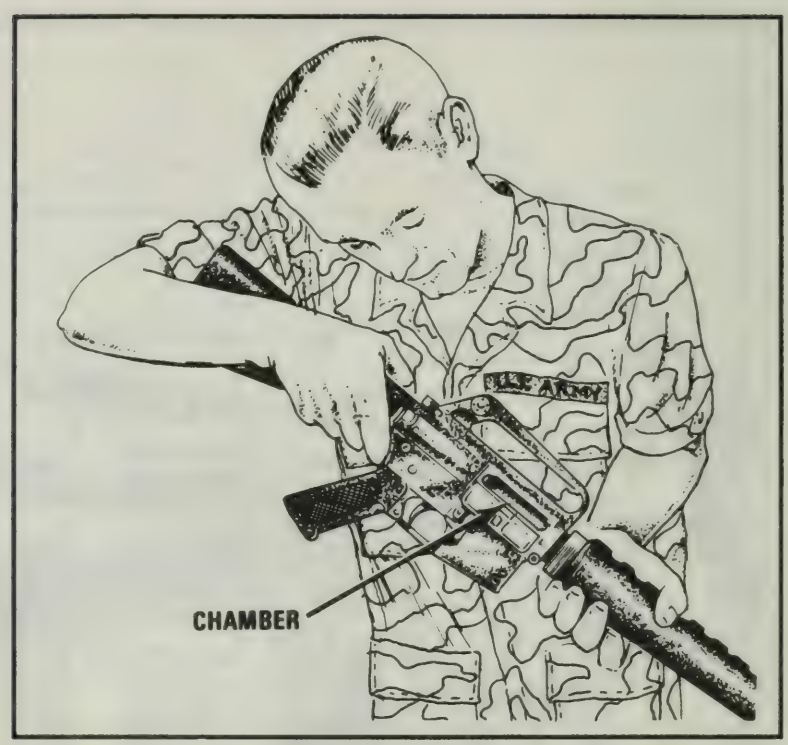


Figure 51. Inspecting the chamber.

f. Separate the upper and lower receivers (Figure 56).

g. Pull back the charging handle (Figure 57).

h. Remove the bolt carrier and bolt (Figure 58).

i. Remove the charging handle (Figure 59).

j. Remove the firing pin retaining pin (Figure 60).

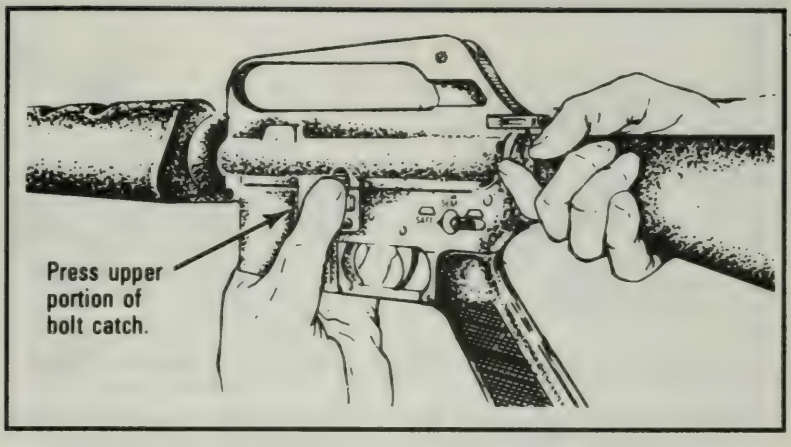


Figure 52. Releasing the bolt.

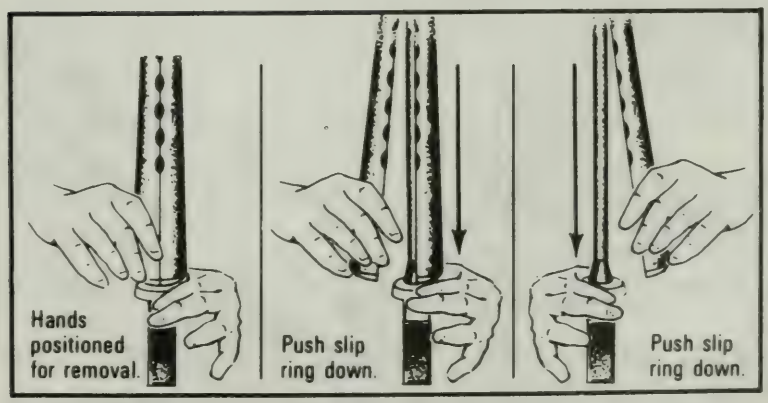


Figure 53. Removing the hand guards.

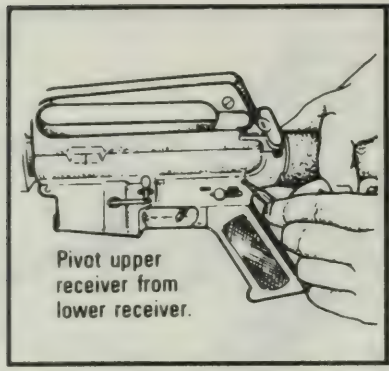


Figure 54. Pushing the takedown pin.

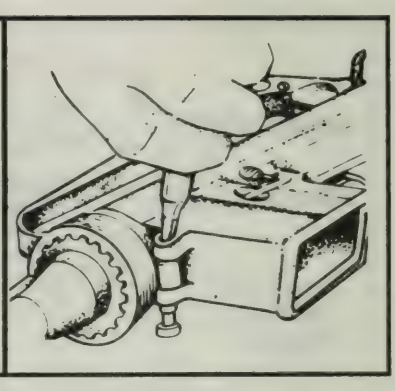


Figure 55. Pushing the receiver pivot pin.

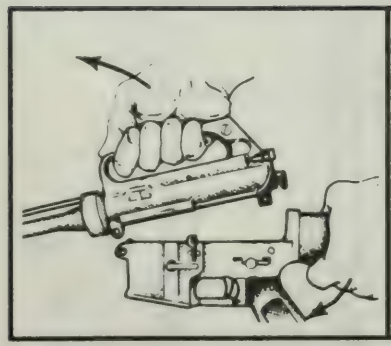


Figure 56. Separate the upper and lower receivers.

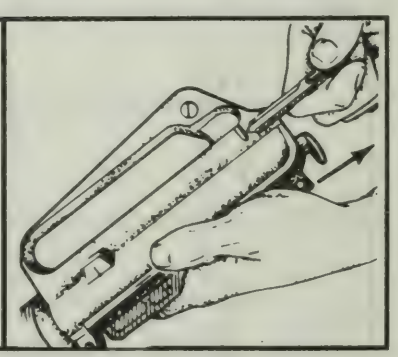


Figure 57. Pulling on the charging handle.

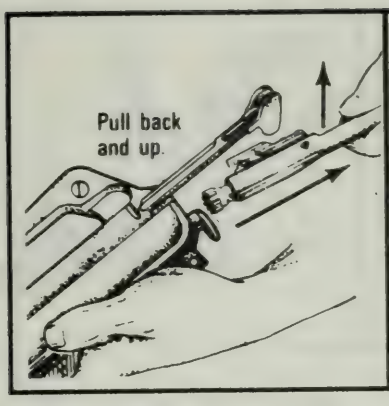


Figure 58. Removing the bolt and bolt carrier.

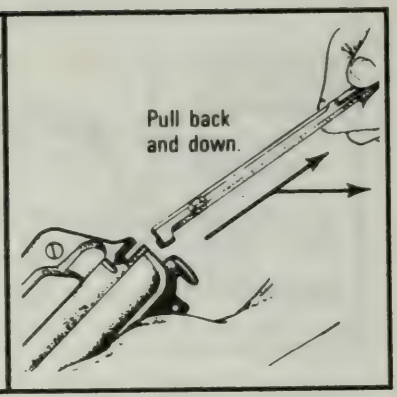


Figure 59. Removing the charging handle.

k. Put the bolt assembly in the locked position by pushing in the bolt assembly (Figure 61).

l. Remove the firing pin by letting it drop out of the rear of the bolt carrier into your hand (Figure 62).

m. Remove the bolt cam pin (Figure 63). Turn the cam pin one-quarter turn and lift it out.

n. Pull the bolt assembly from the bolt carrier (Figure 64).

Note: *Perform steps o through r only when parts are dirty or damaged.*

o. Remove the extractor pin (Figure 65) by using the firing pin to push it out. Do not damage the tip of the firing pin.

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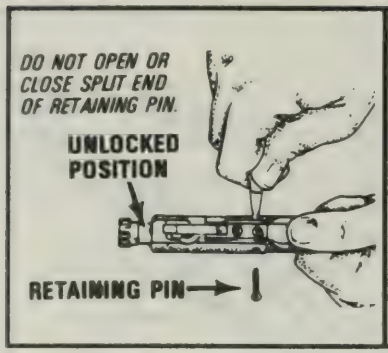


Figure 60. Removing the firing pin retaining pin

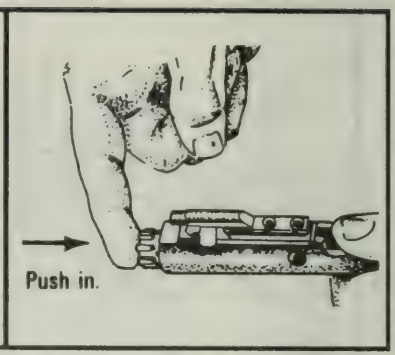


Figure 61. Bolt in the locked position.

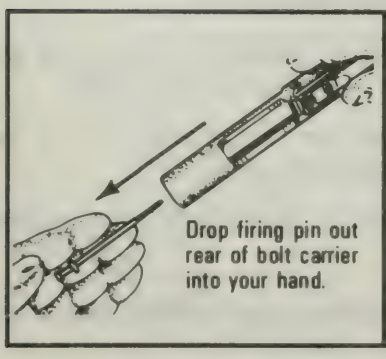


Figure 62. Removing the firing pin.

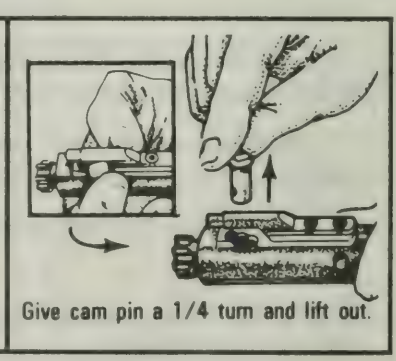


Figure 63. Removing the bolt cam pin.

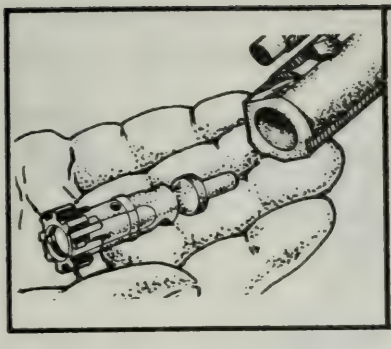


Figure 64. Removing the bolt.

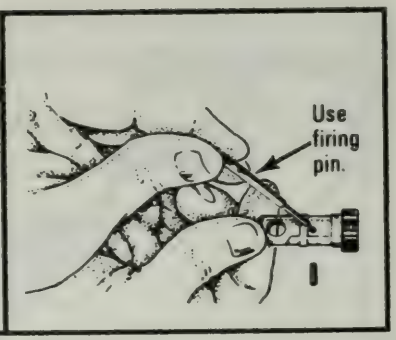


Figure 65. Removing the extractor pin.

p. Lift out the extractor and spring (Figure 66).

Note: *Do not separate the spring from the extractor.*

Note: *Press the top of the extractor to check spring function.*

q. Press in the buffer, depress the retainer, and release the buffer (Figure 67).

r. Remove the buffer and action spring. Separate the buffer from the spring (Figure 67).

Note. *No further disassembly allowed.*

3. Clean, inspect, and lubricate your rifle. With the rifle disassembled, thoroughly clean, inspect, and lubricate it, so you will have a reliable weapon. Cleaning materials such as swabs, pipe cleaners, and cleaner lubricant preservative (CLP) are expendable items available from company supply. After firing ball or blank ammunition, clean your weapon one time only with CLP, ensuring all carbon buildup is removed.

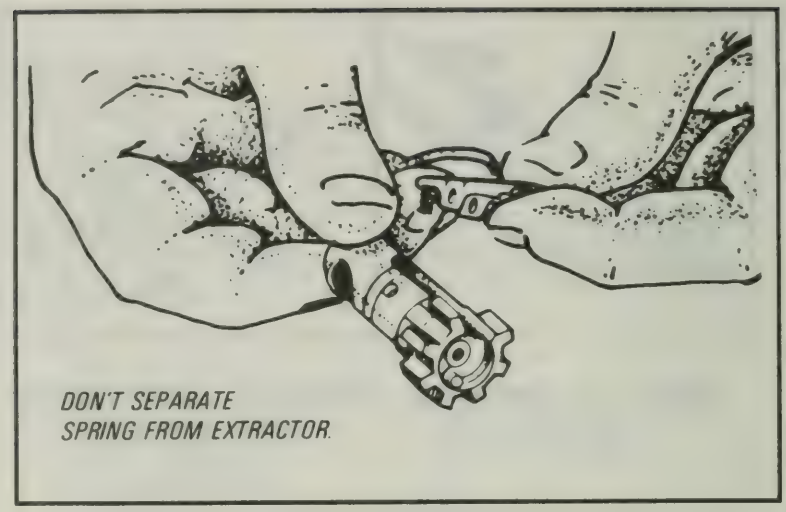


Figure 66. Removing the extractor and spring.

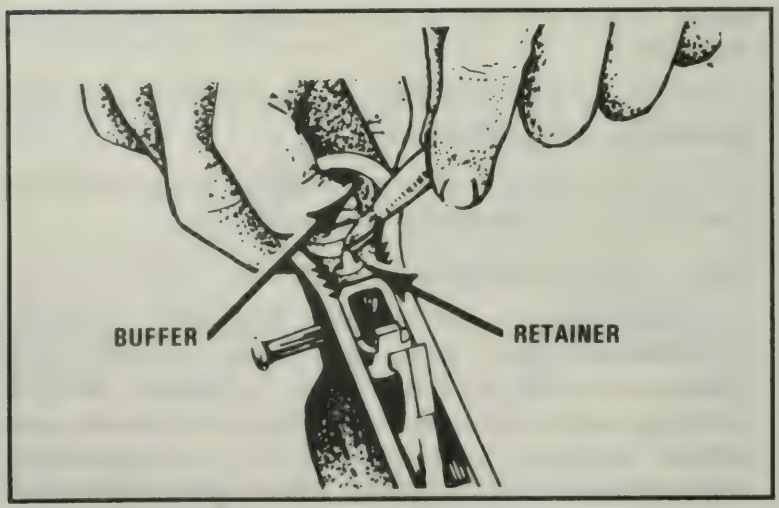


Figure 67. Separating the buffer and spring.



Figure 67. Separating the buffer and spring (continued).

Wipe dry and lubricate according to lubrication instructions. If any parts are missing or defective, see your armorer.

Note: *Lubricating oil, semifluid weapons; lubricating oil, arctic weapons; and rifle bore cleaner are authorized to be used during cleaning and lubricating.*

a. Clean the upper and lower receiver group (Figure 68).

b. Clean the bolt carrier group (Figure 69).

(1) Clean the outer and inner surfaces of the bolt carrier.

(2) Clean the carrier key.

(3) Clean the firing pin recess and firing pin.

(4) Clean the firing pin hole with a pipe cleaner.

(5) Clean the carbon deposits and dirt from the locking lugs.

(6) Clean the areas behind the bolt ring and under lip of the extractor.

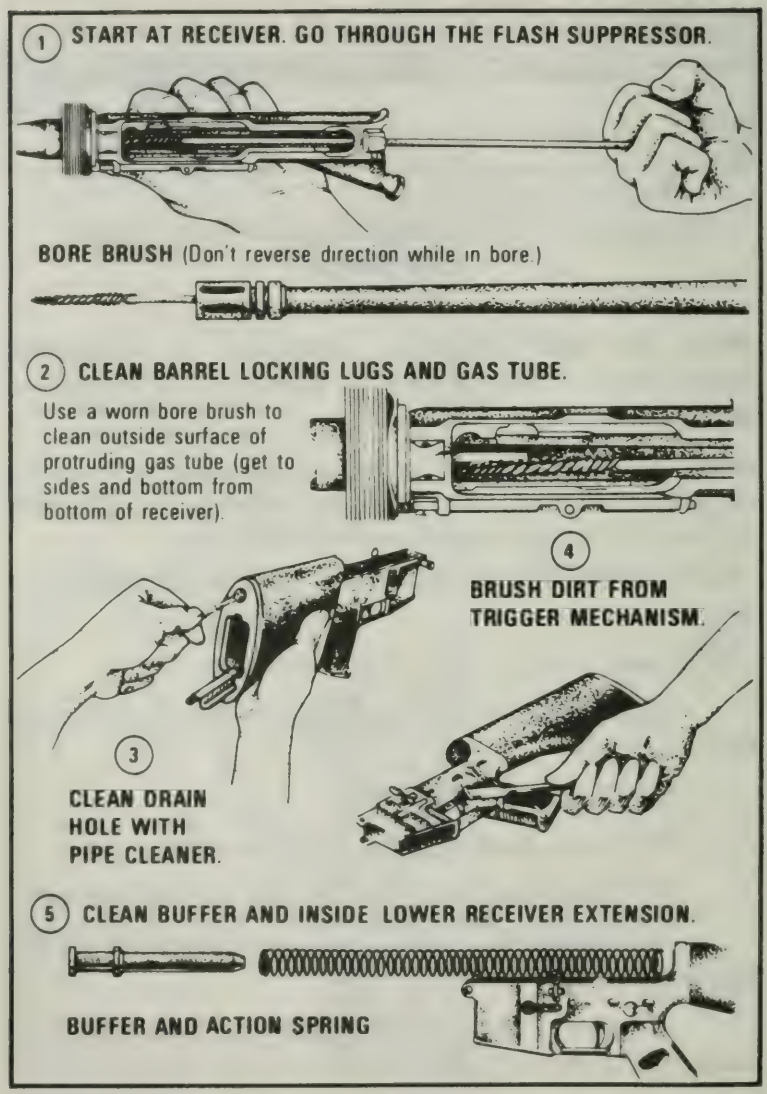


Figure 68. Cleaning the receivers.

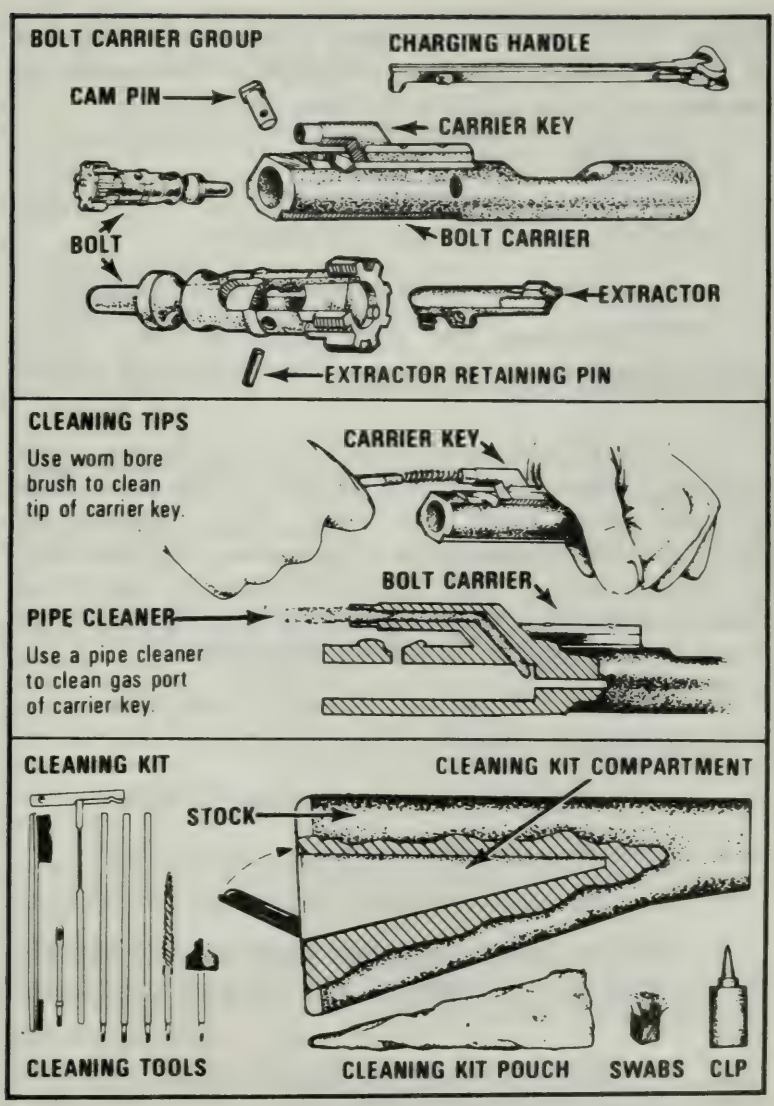


Figure 69. Cleaning the bolt carrier group.

Note: *Under all but the coldest arctic conditions, CLP is the lubricant to use on your rifle. Remember to remove excessive oil from the bore before firing.*

c. Clean the rifle.

(1) Clean and lightly lubricate with CLP the lugs in the barrel extension, bore, and chamber.

(2) Clean and lightly lubricate the bolt carrier.

(3) Lubricate the slide cam pin area, piston rings, outside the bolt body, and inside the bolt carrier key.

d. Use CLP to clean powder fouling in the upper receiver. Clean the outside surface of the protruding gas tube with a worn bore brush. Coat all other surfaces with lubricant. Apply a light coat of CLP to buffer, action spring, and inner surfaces of the lower receiver extension. Use a generous amount inside the lower receiver and on all other components.

4. Inspect your rifle before assembly (Figure 70).

5. Assemble your rifle.

a. Insert the spring and buffer (Figure 71).

b. Insert the extractor and spring (Figure 72).

c. Push the extractor pin in (Figure 73).

d. Slide the bolt into carrier until the bolt cam pin hole in both the bolt carrier and the bolt are aligned (Figure 74).

e. Put the bolt cam pin in the bolt carrier and then turn it one-quarter turn (Figure 75).

f. Drop in and seat the firing pin (Figure 76).

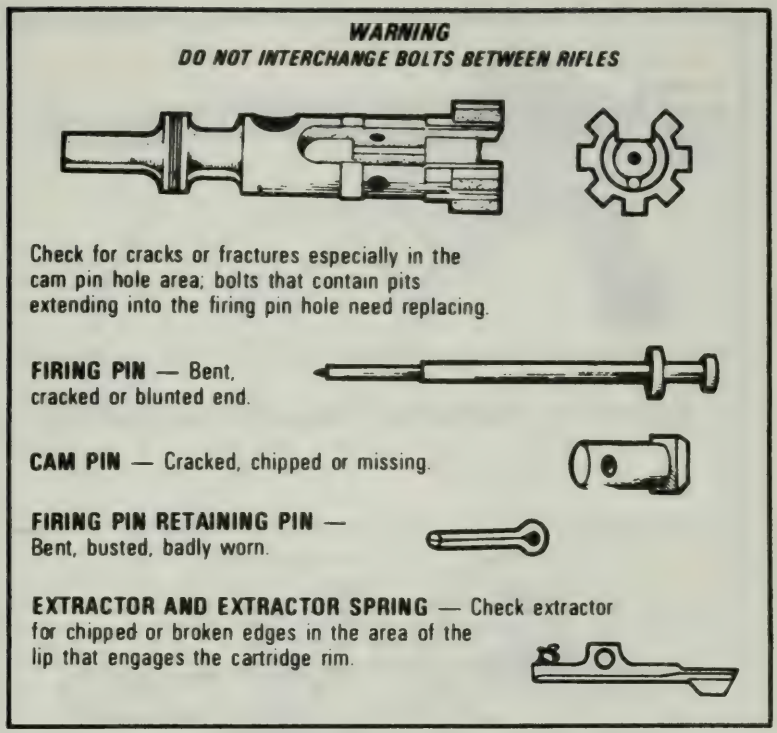


Figure 70. Inspecting the bolt assembly.

g. Put the firing pin retaining pin in the bolt carrier (Figure 77).

h. Pull the bolt back (Figure 78).

i. Engage, then push the charging handle part of the way in (Figure 79).

j. Slide the bolt carrier into the upper receiver (Figure 80).

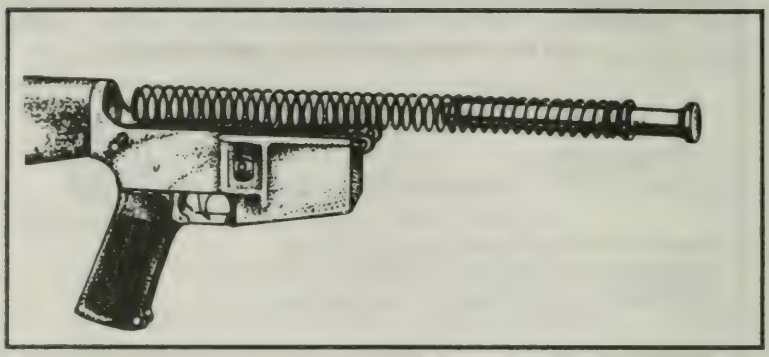


Figure 71. Replacing the spring and buffer.

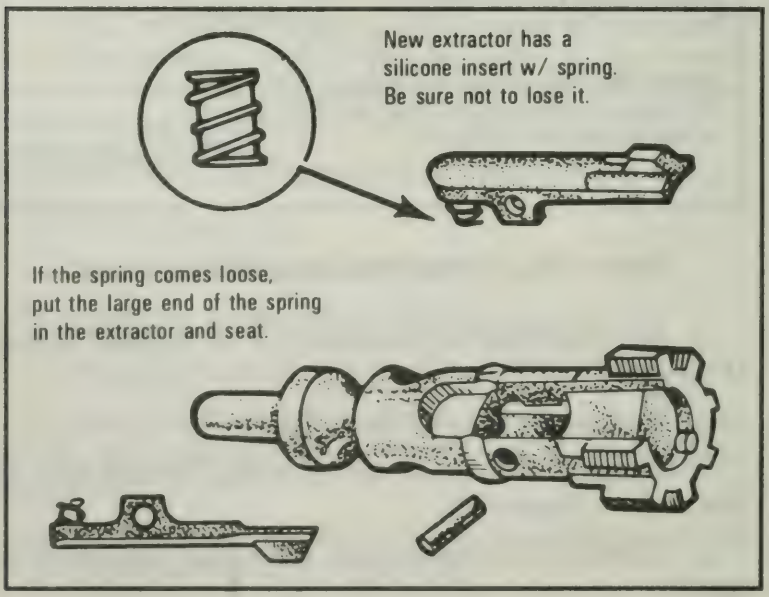


Figure 72. Replacing the extractor and spring.

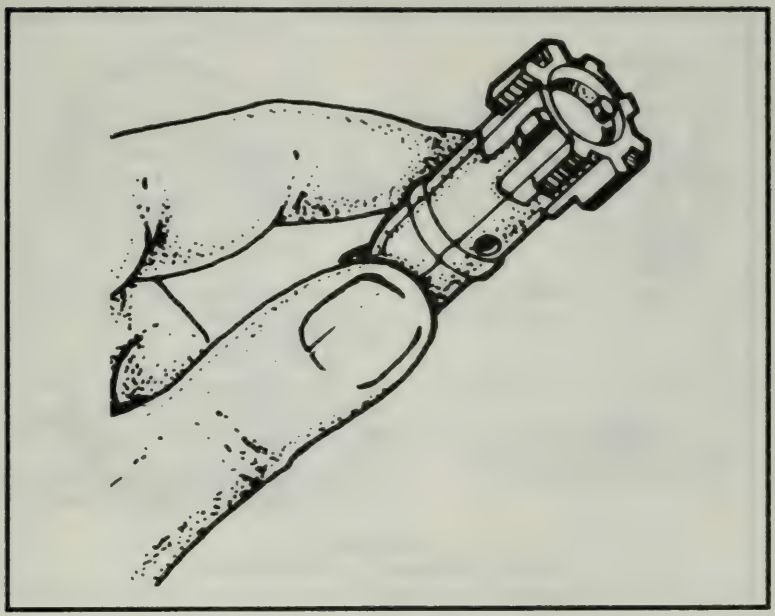


Figure 73. Holding the extractor pin in.

k. Push the charging handle and bolt carrier group together in the upper receiver (Figure 81).

l. Join the upper and lower receivers (Figure 82).

m. Engage the receiver pivot pin (Figure 83).

n. Close the upper and lower receiver groups. Push in the takedown pin (Figure 84).

o. Put the handguards in place (Figure 85).

p. Replace the sling (Figure 86).

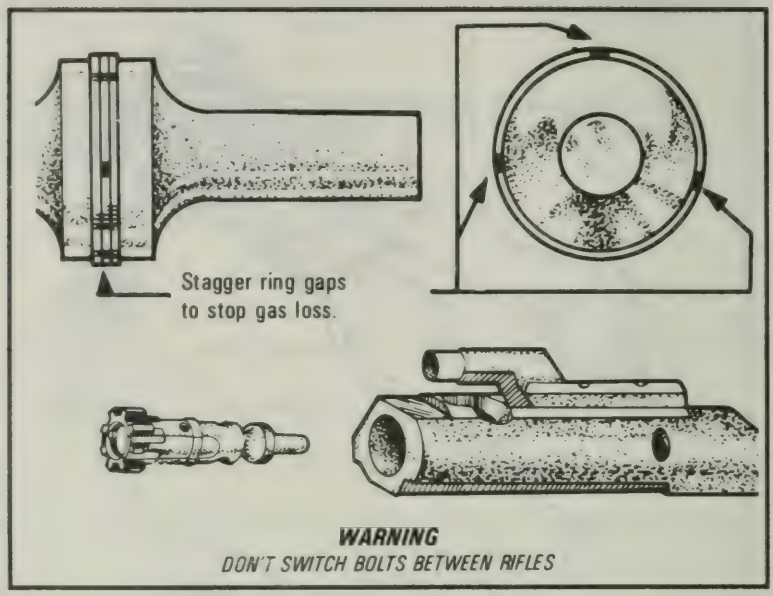


Figure 74. Placing the bolt in the carrier.

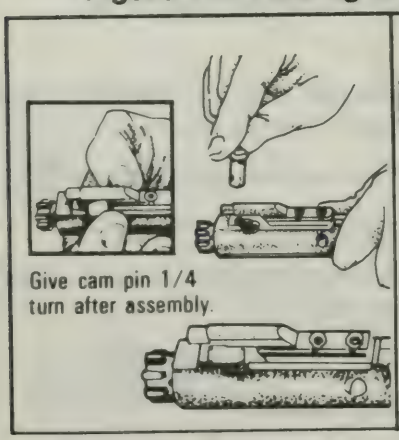


Figure 75. Replacing the bolt cam pin.

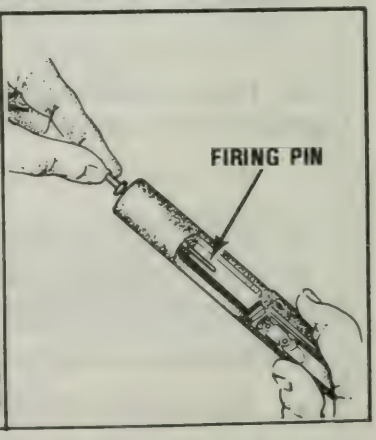


Figure 76. Replacing the firing pin.

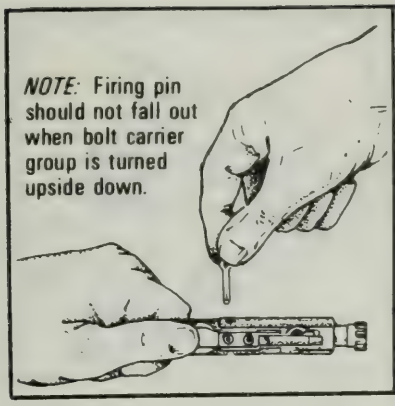


Figure 77. Replacing the firing pin retaining pin.

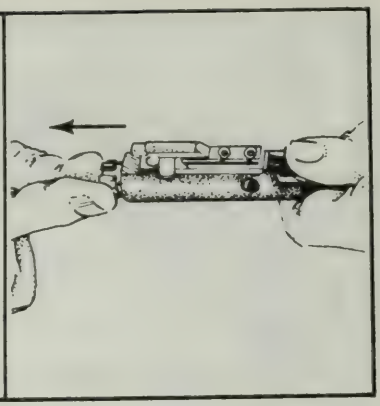


Figure 78. Pulling back on the bolt.

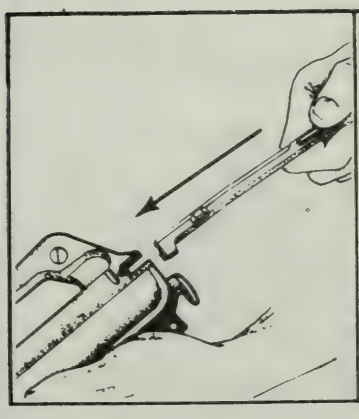


Figure 79. Placing the charging handle in the receiver.

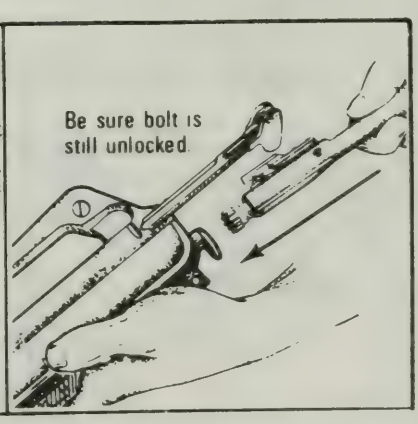


Figure 80. Replacing the bolt carrier.



Figure 81. Replacing the charging handle and the bolt carrier.

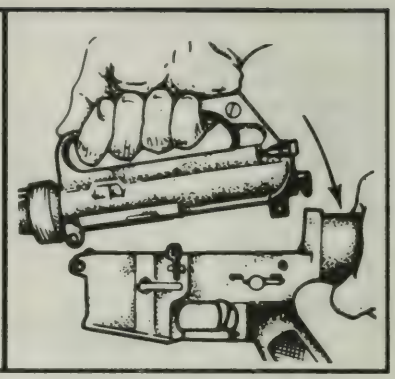


Figure 82. Joining the upper/lower receivers.

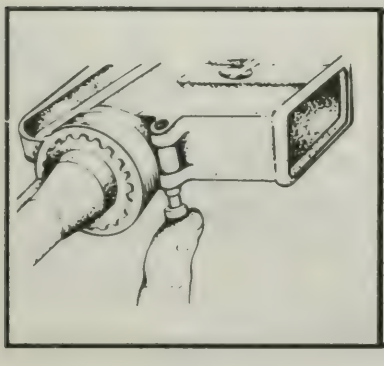


Figure 83. Engaging the receiver pivot pin.

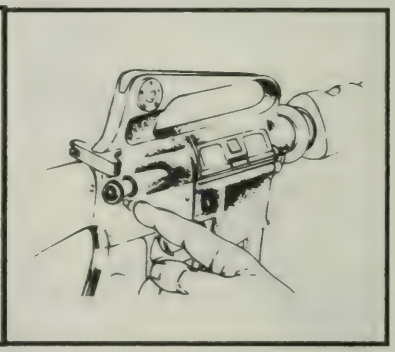


Figure 84. Seat the takedown pin.

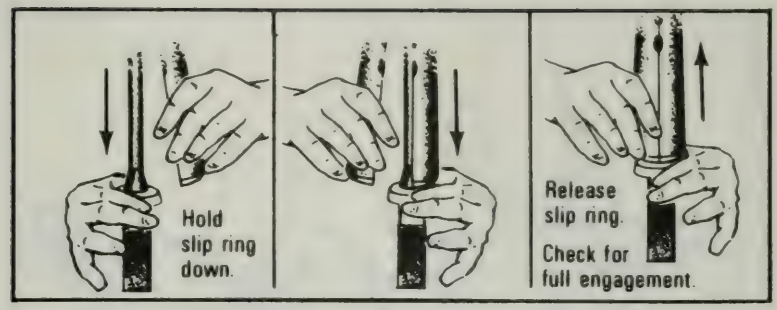


Figure 85. Replacing the handguards.

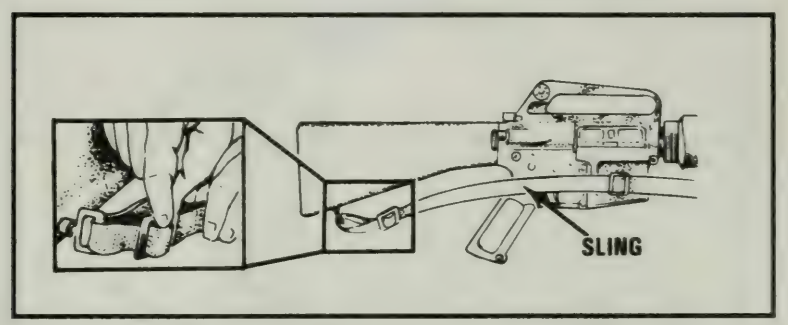


Figure 86. Replacing the sling.

6. Disassemble the magazine.

   a. Release the base catch (Figure 87).

   b. Remove the base (Figure 88).

   c. To remove the spring and follower, jiggle spring and follower (Figure 89.)

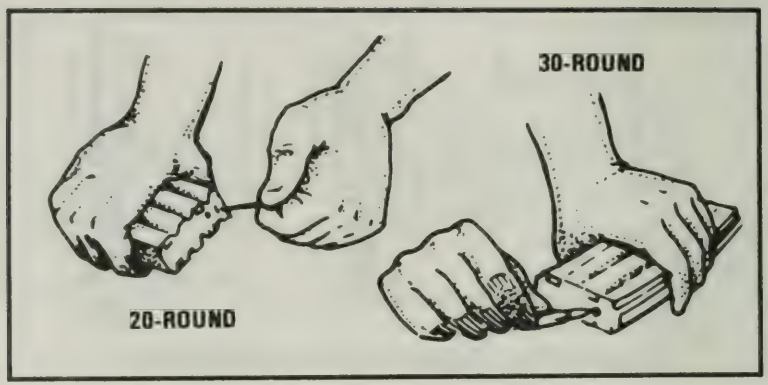


Figure 87. Releasing the base catch of the magazine.

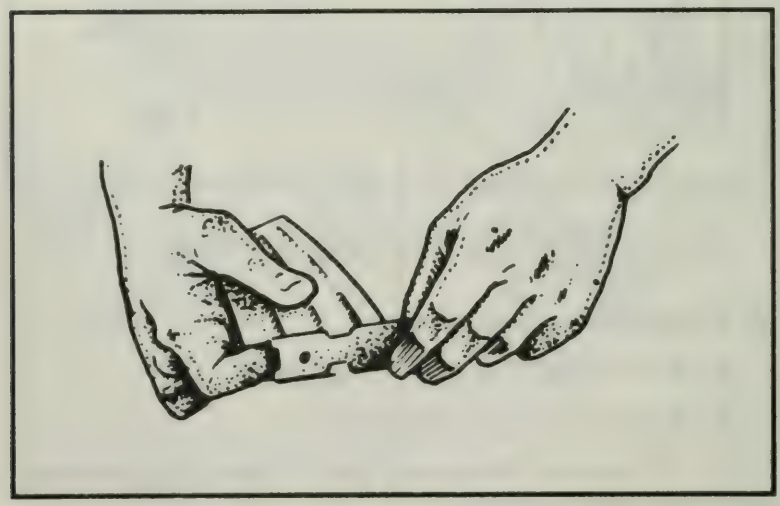


Figure 88. Removing the base of the magazine.

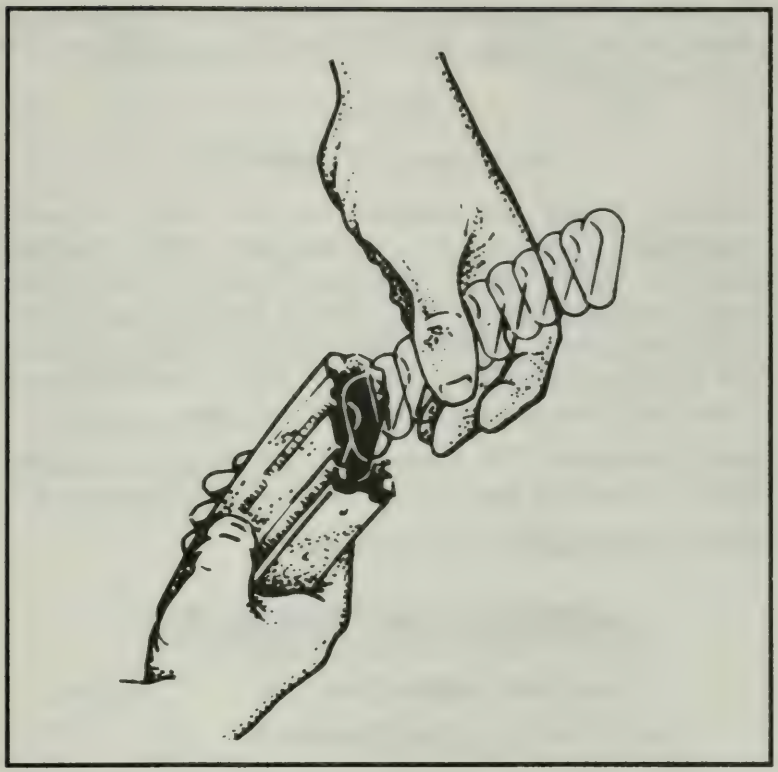


Figure 89. Removing the magazine spring and the follower.

7. Clean and lubricate. Wipe dirt from tube, spring, and follower; then lightly lubricate the spring.

8. Assemble the magazine.

a. Jiggle the spring and follower to install them in the magazine.

b. Slide the base under all four tabs. Make sure print is on the outside.

9. Clean the ammunition. Use a clean, dry cloth to wipe dirt and foreign matter from the ammunition. Do not coat with oil.

Evaluation Preparation

Setup: Have the soldier use his own rifle and magazine. Provide the soldier with rifle cleaning patches, CLP, pipe cleaners, and, if available, preservative lubricant (PL) special lubricating oil, and rifle bore cleaner (RBC). The soldier should not select the PL special or RBC for use. Also, provide several rounds of dummy ammunition, if available.

Brief Soldier: Tell the soldier that he is to clean the rifle. The soldier must follow normal safety practices.

Evaluation Guide: 071-311-2025

MAINTAIN AN M16A1 OR M16A2 RIFLE

	Performance Measures	*Results*	
1.	Clears the rifle before disassembly.	P	F
2.	Disassembles the rifle (no required sequence).	P	F
3.	Cleans the rifle, using the correct material.	P	F
4.	Lubricates the rifle.	P	F
5.	Assembles the rifle.	P	F
6.	Disassembles the magazine. Does not remove the follower from the spring.		

7.	Cleans and lubricates the magazine.	P	F
8.	Assembles the magazine.	P	F
9.	Cleans the ammunition.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

TM 9-1005-249-10
GTA 21-1-3

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PERFORM A FUNCTION CHECK ON AN M16A1 OR M16A2 RIFLE

071-311-2026

CONDITIONS

Given an M16A1 or M16A2 rifle.

STANDARDS

Perform a function check to ensure that the rifle operates properly when the selector lever is placed in each position.

TRAINING AND EVALUATION

Training Information Outline

Note: *A function check is performed each time the rifle is reassembled or any time there is a doubt as to whether the selector lever and rifle are functioning properly.*

1. Perform a function check on an M16A1 rifle.

a. SAFE. Pull the charging handle to the rear and release. Place the selector on SAFE (Figure 90). Pull the trigger; the hammer should not fall.

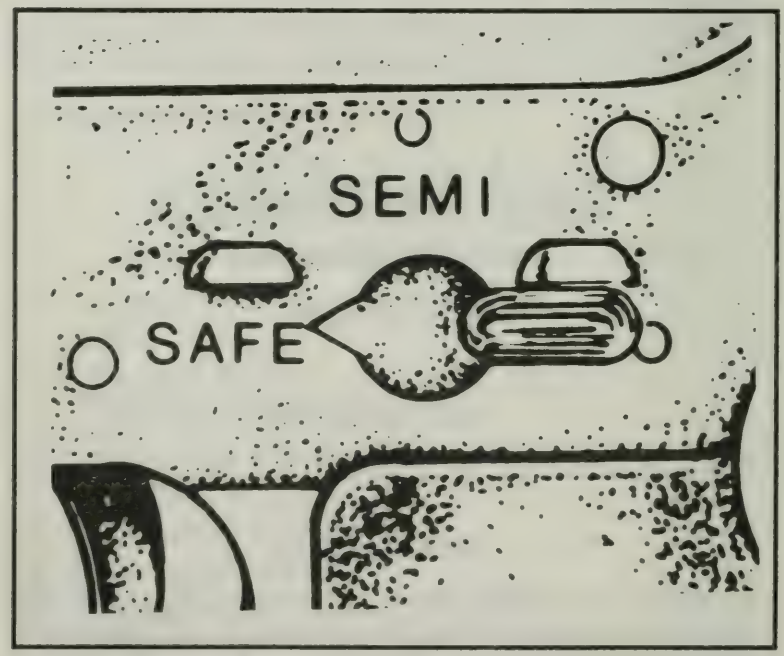


Figure 90. Selector on SAFE.

b. SEMI. Place the selector on SEMI (Figure 91). Pull the trigger and hold to the rear. The hammer should fall. Continue to hold the trigger to the rear, pull the charging handle to the rear, and release it. Release the trigger with a slow, smooth motion until the trigger is fully forward. The hammer should not fall. Pull the trigger. The hammer should fall.

c. AUTO. Place the selector on AUTO (Figure 92). Pull the charging handle to the rear and release. Pull the trigger and hold to the rear; the hammer should fall. Pull the charging handle to the rear and release.

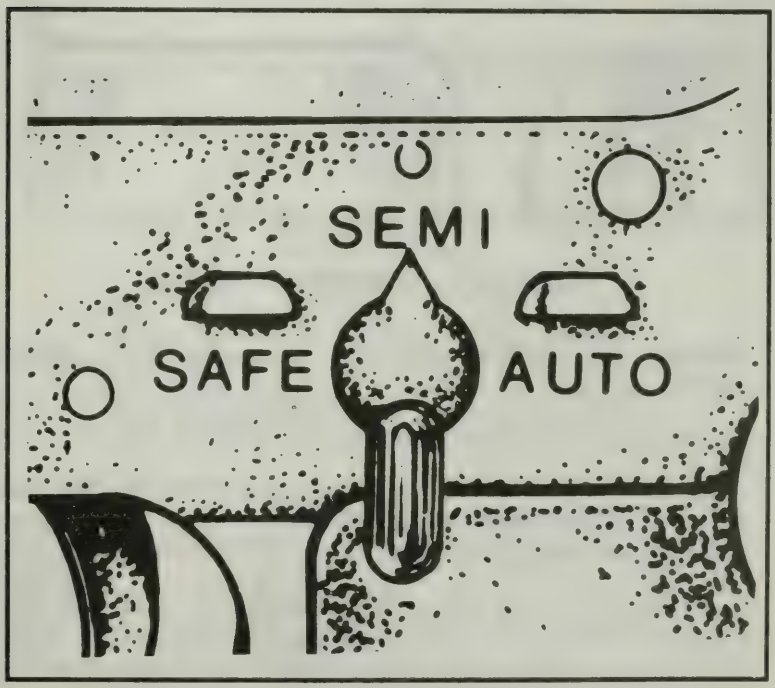


Figure 91. Selector on SEMI.

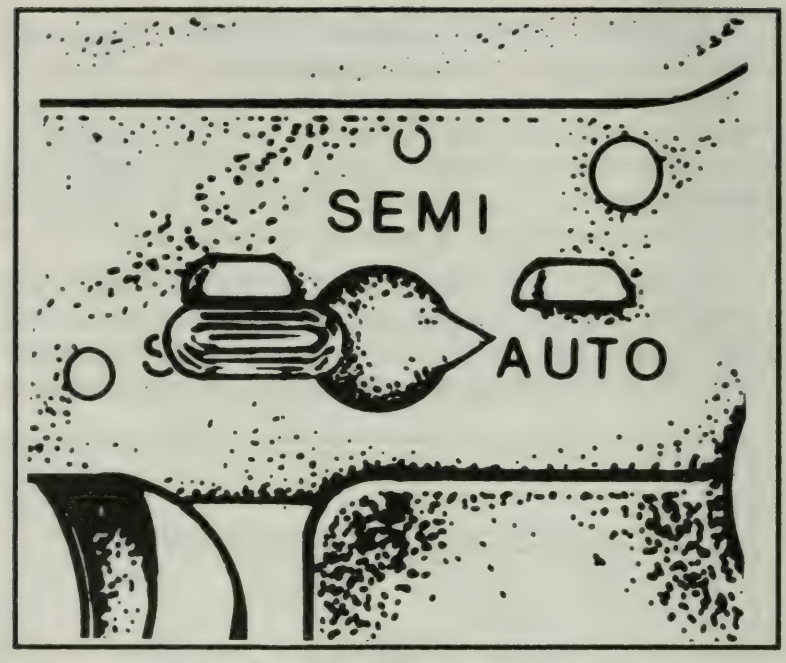


Figure 92. Selector on AUTO.

Release the trigger and pull it again; the hammer should not fall.

2. Perform a function check on an M16A2 rifle.

a. SAFE. Pull the charging handle to the rear and release. Place the selector on SAFE. Pull the trigger; the hammer should not fall.

b. SEMI. Place the selector on SEMI. Pull the trigger and hold to the rear; the hammer should fall. With the trigger still held to the rear, pull the charging

handle to the rear and release. Release the trigger and pull it again; the hammer should fall.

c. BURST. Place the selector lever on BURST (Figure 93). Pull the charging handle to the rear and release. Pull the trigger and hold to the rear; the hammer should fall. Pull the charging handle to the rear three times and release. Release the trigger and pull it again; the hammer should fall.

3. Give the rifle to the unit armorer if at any time during the function check the rifle fails to function properly.

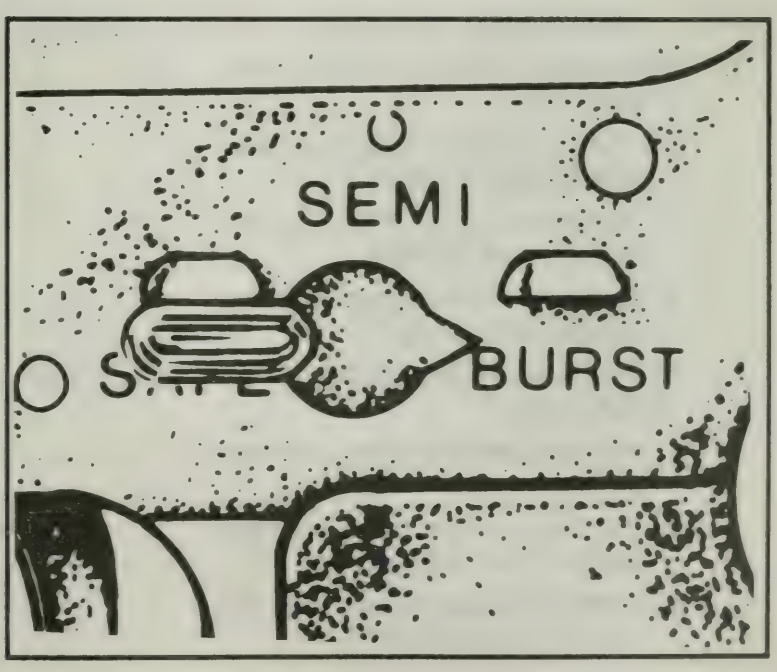


Figure 93. Selector on BURST.

Evaluation Preparation

Setup: At the test site, provide an M16A1 or M16A2 rifle. The soldier will be tested on the rifle with which he is armed and has been trained.

Brief Soldier: Tell the soldier to perform a function check on the rifle. The soldier is to inform you of a failure in any step of the function check.

Evaluation Guide: 071-311-2026

PERFORM A FUNCTION CHECK ON AN M16A1 OR M16A2 RIFLE

	Performance Measures	*Results*	
1.	Performs a function check on an M16A1 rifle.	P	F
	a. Performs function check with the selector lever on SAFE.		
	b. Performs function check with the selector lever on SEMI.		
	c. Performs function check with the selector lever on AUTO.		
2.	Performs a function check on an M16A2 rifle.	P	F
	a. Performs function check with the selector lever on SAFE.		
	b. Performs function check with the selector lever on SEMI.		
	c. Performs function check with the selector lever on BURST.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1005-249-10

★ ★ ★ ★ ★

LOAD AN M16A1 OR M16A2 RIFLE

071-311-2027

CONDITIONS

Given an M16A1 or M16A2 rifle with a magazine loaded with ammunition.

STANDARDS

Load the rifle in such a manner that proper chambering of a round is accomplished.

TRAINING AND EVALUATION

Training Information Outline

1. Operate selector lever.

   a. Use of M16A1 selector lever.

   (1) SAFE. Rifle will not fire. Selector lever cannot be placed on SAFE unless the rifle is cocked. Always place the rifle on SAFE when loading or unloading.

   (2) Semiautomatic (SEMI). Rifle will fire one round each time the trigger is pulled.

   (3) Automatic (AUTO). Rifle will continue to fire as long as the trigger is held to the rear or until ammunition is exhausted.

   b. Use of M16A2 selector lever.

(1) SAFE. Rifle will not fire. Selector lever cannot be placed on SAFE unless the rifle is cocked. Always place the rifle on SAFE when loading or unloading.

(2) SEMI. Rifle will fire one round each time the trigger is pulled.

(3) BURST. Rifle will fire a three-round burst each time the trigger is pulled.

(a) Helps save ammunition.

(b) Rifle gets back on target quicker than if rifle were fired like a machine gun (auto on M16A1).

2. Load the rifle for semi fire (M16A1 and M16A2) or auto with the M16A1.

a. Point the muzzle of the rifle in a safe direction.

b. Cock the rifle and return the charging handle to the forward position.

c. With the rifle cocked and bolt open, place the selector lever on safe (Figure 94).

d. Look into the chamber to ensure that it is clear (Figure 95).

e. Insert the magazine and push upward until the magazine catch engages and holds the magazine (Figure 96).

f. Tap upward on the bottom of the magazine to make sure it is seated.

Note: *Magazine may be loaded with bolt assembly open or closed.*

3. Preparing the M16A2 to fire three-round bursts.

a. Place the selector lever on burst (Figure 97).

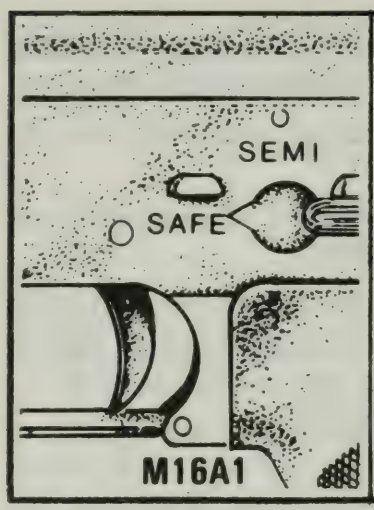


Figure 94. Selector lever on SAFE.

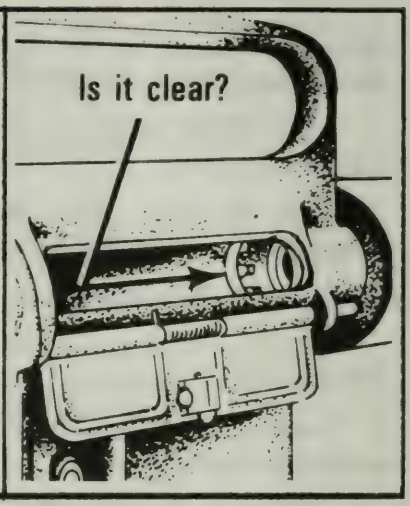


Figure 95. Inspecting the chamber.

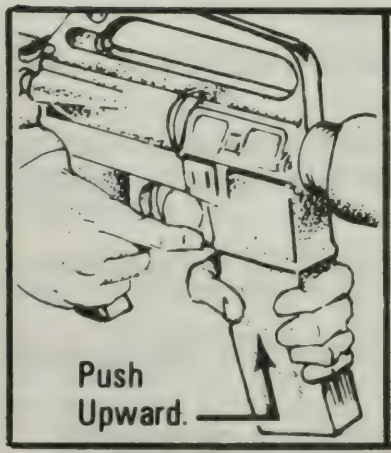


Figure 96. Magazine inserted.

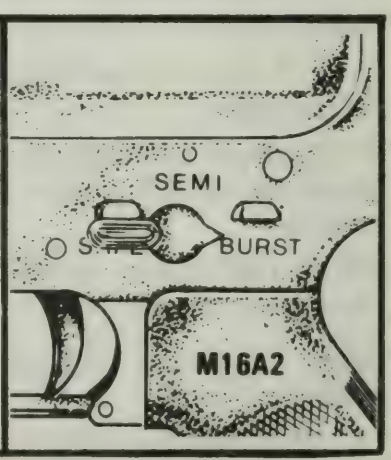


Figure 97. Selector level on BURST.

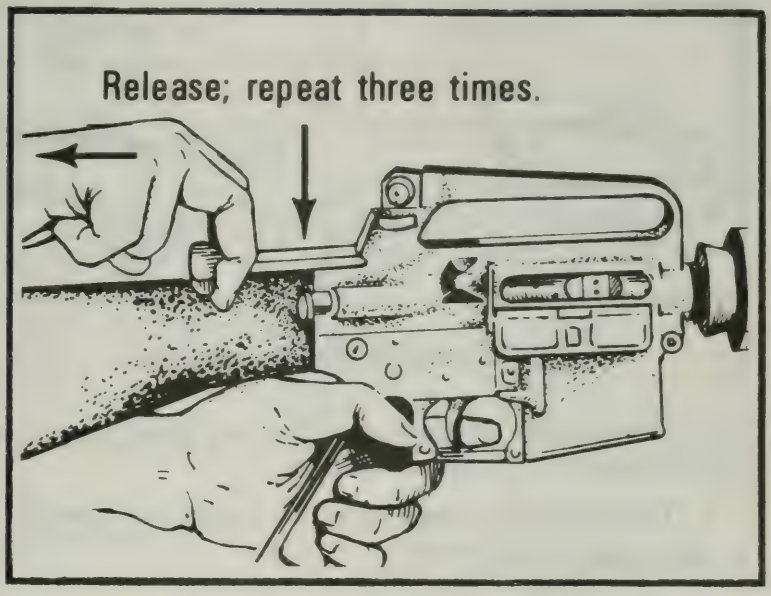


Figure 98. Charging handle.

b. Pull the trigger and hold it to the rear.

c. Pull the charging handle to the rear and let it go. Repeat this three times (Figure 98).

d. Pull the charging handle one more time; hold it to the rear.

e. Let go of the trigger.

f. Push in on the bottom portion of the bolt catch, thereby locking the bolt to the rear (Figure 99).

g. Slide the charging handle all the way forward.

h. Place the selector lever on SAFE.

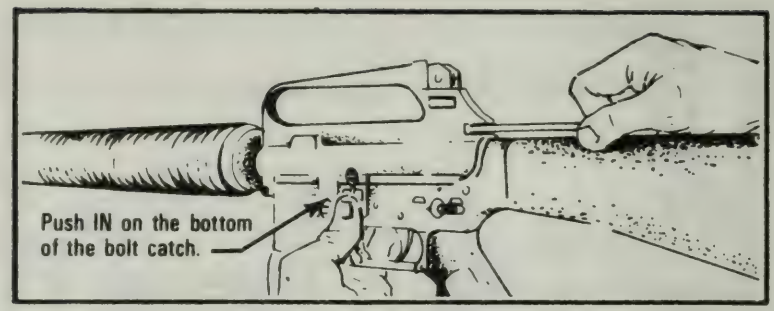


Figure 99. Bolt locked to the rear.

i. Insert magazine and push upward until magazine catch engages and holds magazine.

j. Tap upward to make sure the magazine is seated.

4. Chamber a round.

a. When the bolt assembly is open:

(1) Depress the upper portion of the bolt catch to release the bolt (Figure 100).

(2) Tap the forward assist to ensure that the bolt is fully forward and locked (Figure 101).

WARNING

ENSURE THE LOADED RIFLE IS POINTED AWAY FROM PERSONNEL AND IN A SAFE DIRECTION AT ALL TIMES.

(3) If the rifle is not to be fired immediately, place the selector lever on SAFE and close the ejection port dust cover.

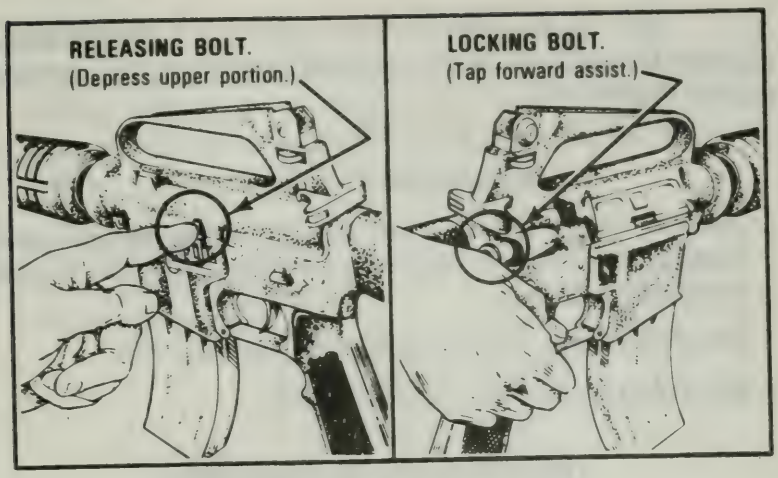


Figure 100. Bolt catch. **Figure 101. Forward assist.**

b. When the bolt assembly is closed:

(1) Pull the charging handle rearward as far as it will go.

(2) Release the charging handle.

(3) Never "ride" the charging handle. Let it go on its own.

(4) Tap the forward assist to ensure the bolt is fully forward and locked.

WARNING
THE RIFLE IS NOW LOADED. ENSURE IT IS POINTED IN A SAFE DIRECTION.

(5) If the rifle is not to be fired immediately, place the selector lever on SAFE and close the ejection port dust cover.

Evaluation Preparation

Setup: Have the soldier use his assigned rifle and magazine. Blank or dummy ammunition will be used in testing this task.

Brief Soldier: Tell the soldier to load the rifle.

Evaluation Guide: 071-311-2027

LOAD AN M16A1 OR M16A2 RIFLE

	Performance Measures	*Results*	
1.	Loads the M16A1 rifle	P	F
	a. Loads the M16A1 for semi-automatic fire.		
	b. Loads the M16A1 for automatic fire.		
	c. Places the M16A1 on SAFE.		
2.	Loads the M16A2 rifle	P	F
	a. Loads the M16A2 for semi-automatic fire.		
	b. Loads the M16A2 to fire burst fire.		
	c. Places the M16A2 on SAFE.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

TM 9-1005-249-10
TM 9-1005-319-10

331-758 O - 92 - 6 QL 3

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UNLOAD AN M16A1 OR M16A2 RIFLE

071-311-2028

CONDITIONS

Given a loaded M16A1 or M16A2 rifle.

STANDARDS

Clear the rifle in such a manner that no ammunition remains in the rifle, and the rifle is in a safe condition.

TRAINING AND EVALUATION

Training Information Outline

1. Clear the rifle.

   a. Point the rifle in a safe direction.

   b. Turn the selector lever to SAFE. If the rifle is not cocked, the selector lever cannot be turned to SAFE.

   c. Remove the magazine from the rifle.

   d. To lock the bolt open, pull the charging handle rearward, press the bottom of the bolt catch, and allow the bolt to ease forward until it engages the bolt catch. Return the charging handle to forward position. (If you have not already done so, move the selector lever to SAFE.)

   e. Look in the receiver and chamber to ensure these areas contain no ammunition.

f. Allow the bolt to go forward by pressing the upper portion of the bolt catch.

2. Release the pressure on the firing pin spring. Although not a part of clearing the rifle, releasing the pressure on the firing pin by pulling the trigger should be the last action in clearing, if the rifle is not to be used immediately.

Evaluation Preparation

Setup: At the test site, provide an M16A1 or M16A2 rifle loaded with dummy ammunition.

Brief Soldier: Tell the soldier that he is to clear the rifle. Tell the soldier that he will not be required to pull the trigger after releasing the bolt.

Evaluation Guide: 071-311-2028

UNLOAD AN M16A1 OR M16A2 RIFLE

	Performance Measures	*Results*	
1.	Places the selector lever on SAFE.	P	F
2.	Removes the magazine.	P	F
3.	Locks the bolt open.	P	F
4.	Returns the charging handle forward.	P	F
5.	Checks the receiver and chamber.	P	F
6.	Allows the bolt to go forward.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1005-249-10

★ ★ ★ ★ ★

CORRECT MALFUNCTIONS OF AN M16A1 OR M16A2 RIFLE

071-311-2029

CONDITIONS

Given a loaded M16A1 or M16A2 rifle that has a malfunction and has stopped firing.

STANDARDS

Eliminate the stoppage using immediate action procedures in such a manner that firing is resumed.

TRAINING AND EVALUATION

Training Information Outline

1. Perform immediate action. If your rifle malfunctions, remember S-P-O-R-T-S. That key word

will help you remember these actions: slap, pull, observe, release, tap, shoot.

a. Slap upward on the magazine to make sure it is properly seated.

b. Pull the charging handle all the way back.

c. Observe the ejection of the case or cartridge. Look into the chamber and check for obstructions.

d. Release the charging handle to feed a new round in the chamber. Do not ride the charging handle.

e. Tap the forward assist.

f. Shoot. If it still will not fire, look for the trouble and apply remedial action.

2. Remedial action.

a. If your rifle still fails to fire after performing steps 1a through 1f, check again for a jammed cartridge case in the chamber.

b. If a cartridge case is in the chamber, tap it out with a cleaning rod.

WARNING

IF YOUR RIFLE MALFUNCTIONS WITH A LIVE ROUND IN THE CHAMBER OF A HOT BARREL, QUICKLY REMOVE THE ROUND. IF YOU CANNOT REMOVE THE ROUND WITHIN 10 SECONDS, REMOVE THE MAGAZINE AND WAIT 15 MINUTES WITH THE RIFLE POINTED IN A SAFE DIRECTION. KEEP YOUR FACE AWAY FROM THE EJECTION PORT WHILE CLEARING A HOT CHAMBER TO AVOID POSSIBLE INJURY FROM A COOKOFF.

c. If your rifle still fails to fire, the rifle should be disassembled to determine the cause of the malfunction.

Evaluation Preparation

Setup: Provide an M16A1 or M16A2 loaded with dummy ammunition.

Brief Soldier: Tell the soldier that the rifle has stopped firing. Tell the soldier that the weapon is cool and that he is to perform immediate action on the rifle.

Evaluation Guide: 071-311-2029

CORRECT MALFUNCTIONS OF AN M16A1 OR M16A2 RIFLE

	Performance Measures	*Results*	
1.	Performs in sequence the actions of S-P-O-R-T-S to correct malfunction.	P	F
	a. Slaps upward on the magazine.		
	b. Pulls the charging handle.		
	c. Observes the ejection port.		
	d. Releases the charging handle.		
	e. Taps the forward assist.		
	f. Shoots the rifle.		
2.	Performs remedial action, as necessary.	P	F
	a. Check for a jammed cartridge.		
	b. Remove cartridge.		

Note: *The performance measures will be sequence scored.*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1005-249-10

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ZERO AN M16A1 RIFLE

071-311-2004

CONDITIONS

On a 25-meter firing range, given an M16A1 rifle, 18 rounds of 5.56-mm ammunition, a 25-meter zero target, and sandbags for support.

STANDARDS

Using 18 rounds or less, the soldier must battlesight zero his rifle by achieving five out of six rounds in two consecutive shot groups within the 4-centimeter circle. Bullets that break the line of the 4-centimeter circle will be used in evaluating the soldier's performance.

TRAINING AND EVALUATION

Training Information Outline

1. The M16A1 rifle has two adjustable sights. Elevation adjustments are made on the front sight, and windage adjustments are made on the rear sight.

2. The standard sight system (Figure 102).

a. The rear sight has two parts: an aperture marked "L" for ranges beyond 300 meters and an unmarked aperture for ranges from 0 to 300 meters (when zeroing with the standard sight, use the aperture marked "L"), and a windage drum for windage adjustments.

b. The front sight consists of a rotating sight post with a spring-loaded detent.

3. Adjust sights (Figure 103).

a. Rear sight. To adjust windage, depress detent and rotate drum in desired direction. To move point of impact to right, turn drum clockwise in direction of arrow and letter R. To move left, move drum counterclockwise. Each graduation (notch) moves the point of impact of bullet as indicated in Table 1.

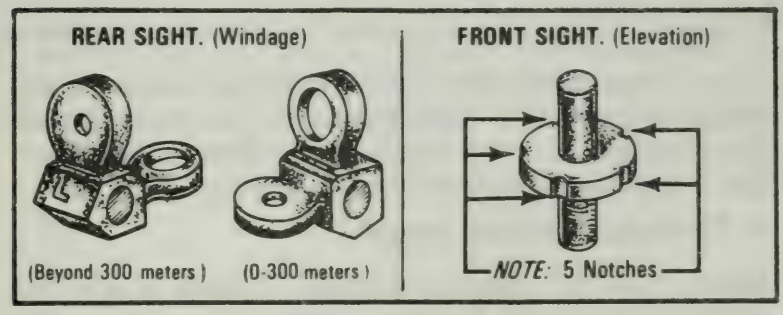


Figure 102. Standard daylight sight system.

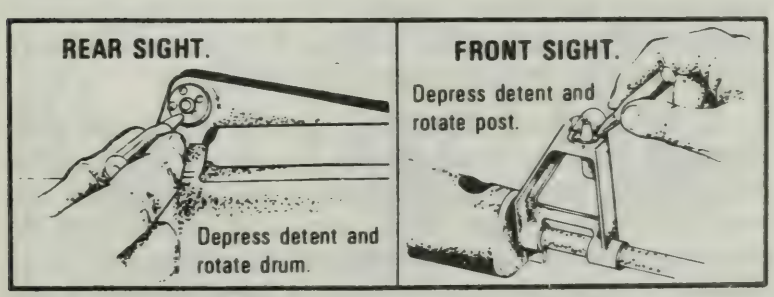


Figure 103. Rear sight detent and front sight detent.

Table 4. Change of impact table.

CHANGE ON IMPACT	*DISTANCE*
Standard Sights	
0.7 cm (17/64 in)	25 meters
2.8 cm (1 3/32 in)	100 meters
5.56 cm (2 13/64 in)	200 meters

b. Front sight. To adjust elevation, depress detent and rotate post. To raise strike of bullet, rotate post in the direction of arrow marked up. Reverse the direction of rotation to lower strike of bullet.

4. Battlesight zero the weapon.

Note: *The "L" marked aperture is used to zero the M16A1 rifle on the 25-meter range. Once the zeroing is complete, flipping the sight to the unmarked aperture will cause the sights to be zeroed for 250 meters. Flipping the sight back to the "L" marked aperture will automatically extend the zero to 375 meters without additional adjustments to the front sight post.*

a. Sight picture. In aiming, you are concerned with correctly pointing your rifle so the bullet will hit the target when you fire. To do this, you must have the rear sight, the front sight post, and the target or aiming point in their proper relationship. This is known as sight picture. A correct sight picture is obtained when the sights are aligned and the aiming point (target) is in the correct relationship to the front sight

post (Figure 104A). The sight picture includes two basic elements: sight alignment and placement of the aiming point.

b. Sight alignment. To obtain correct sight alignment, align the sights as shown in Figure 104B. Notice that the top center of the front sight post is in the center of the rear sight aperture. If an imaginary horizontal line were drawn through the center of the rear sight aperture, the top of the front sight post would touch this line. If an imaginary vertical line were drawn through the center of the rear sight aperture, the line would bisect the front sight post. You ensure that you have sight alignment by concentrating your attention and focusing your eye on the top of the front sight post through the blurred rear sight aperture. By doing this, you can detect and correct any errors in sight alignment.

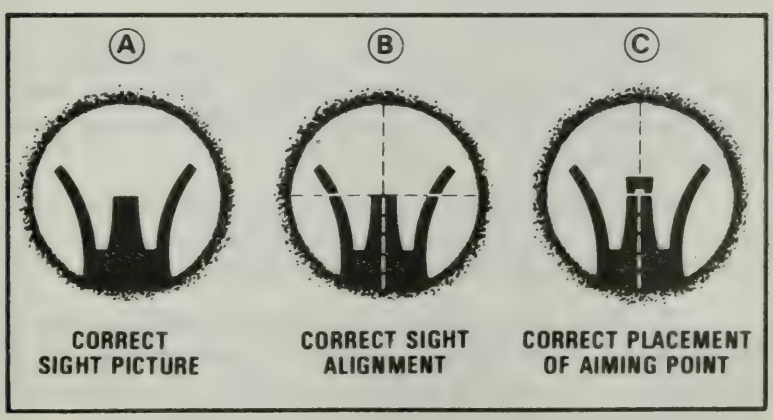


Figure 104. Sight pictures.

c. Placement of the aiming point. The aiming point (target on which the firer has aligned his rifle sights) is correctly placed when it is on center of mass of the 250-meter scaled silhouette of the 25-meter target (Figure 104C). If the aiming point is correctly positioned, an imaginary vertical line drawn through the center of the front sight post will appear to split the aiming point.

d. Battlesight zero target. Use the standard 25-meter target (Figure 105) when determining the battlesight zero for the M16A1 rifle. Vertical and horizontal lines are printed on the target with a number value given to each. It also has pictures of front and rear sights with a direction arrow to show which direction to turn the given sight when making adjustments. When firing at this target, aim center of mass and adjust sights to bring the shot groups to the center of the silhouette and within the 4-centimeter circle.

e. Sight adjustments. If the battlesight zero has not been previously determined, place the M16A1 sights in the starting position.

(1) Set the front sight post so that the base of the post is flush with the top of the front sight post well, then go clockwise for 11 clicks. This moves the post down into the well.

(2) Center the rear sight aperture within the rear sight housing by moving the rear sight all the way to the left, then moving it 17 clicks to the right.

(3) With the sights in the starting position, fire a three-round shot group. Once a shot group of 4 centimeters or less is achieved, adjust the sights to move the shot group to within the zero circle.

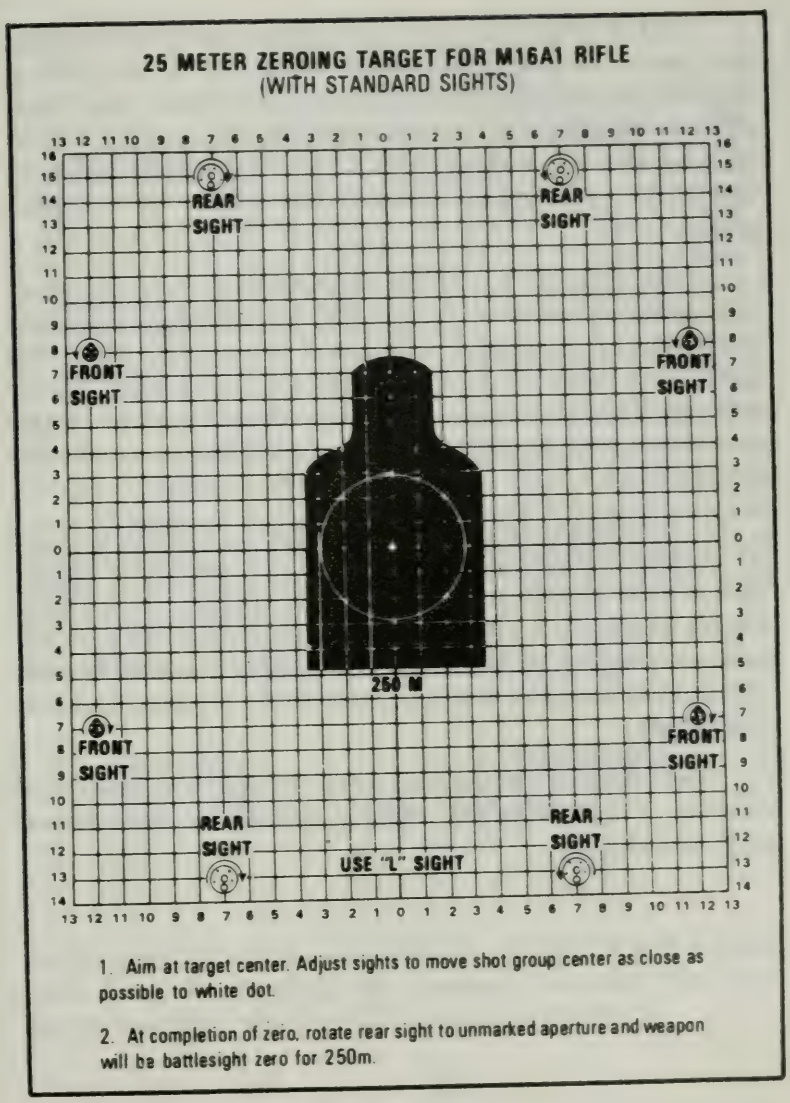


Figure 105. Standard zero target.

(4) Find the horizontal (right-to-left) line nearest the center of the shot group. Follow the line left or right to the nearest edge of the target. Move your front sight by number of clicks marked on that target line by turning the front sight in the direction of the arrow in the front sight figure nearest the center of the shot group.

(5) Find the vertical (up-and-down) line nearest the center of the shot group. Follow that line to the top or bottom of the target, whichever is nearest. Move the sight by number of clicks marked on that target line by turning the rear sight drum in the direction of the arrow in the rear sight figure nearest the center of the shot group.

f. Determine the battlesight zero. Determine the 250-meter battlesight zero by firing a series of three-round shot groups at the 25-meter target. Aim at the center mass of the 250-meter scaled silhouette and adjust your sights until the center of this acceptable shot group is within the 4-centimeter circle that appears on the target.

5. Recording of battlesight zero. Upon completion of zeroing, the battlesight setting should be determined and recorded.

CAUTION

AFTER THE INITIAL DETERMINATION OF SIGHT SETTING, THE FOLLOWING PROCEDURES FOR DETERMINING THE BATTLESIGHT ZERO SETTINGS FOR THE FRONT AND REAR SIGHTS OF THE M16A1 RIFLE WILL BE DONE ONLY WHEN DOUBT EXISTS AS TO WHETHER THE SIGHTS ARE PROPERLY SET. CONTINUAL CHANGING OF THE SIGHTS MAY CAUSE DAMAGE

a. Record the changes as they are made. To do this, the firer starts with both sights set at the initial settings. A three-round shot group is fired, and the sights are changed as indicated by the numbers and pictures on the target. These changes are recorded on a piece of paper as they are made. This procedure continues until a good battlesight zero is obtained.

Example: The firer has recorded the following corrections:

Rear Sight	*Front Sight*
L8	Up 5
R2	Up 3
L1	Down 2

Adding all the right corrections and all left corrections and then subtracting the smaller number from the larger number will give the proper correction.

$$\begin{array}{r} L8 \\ +\ L1 \\ \hline L9 \end{array} \qquad R2 \qquad = \qquad \begin{array}{r} L9 \\ -\ R2 \\ \hline L7 \end{array}$$

rear sight correction

The same procedure is repeated for the front sight by adding all the up corrections and all the down corrections and subtracting the smaller from the larger number.

Up 5	Down 2		Up 8	
+ Up 3		=	- Down 2	
Up 8			Up 6	front sight correction

Note: *When subtracting lefts and rights, and ups and downs, the remainder will carry the sign of the larger number.*

b. Using the example above, and assuming that the initial setting was correctly adjusted, the soldier would record his zero setting as follows:

Rear sight—windage zero, since the center of the shot groups were determined to be seven squares to the right, the correction would be seven clicks left. This would be R17 (the initial setting) minus L7, or R10, and should be recorded as R10.

Front sight—elevation zero, since the center of the shot groups was determined to be two squares low, the correction would be two clicks up. With the initial setting of U11, this would be U11 plus U2, or U13, and should be recorded as U13.

6. Recording of data. Upon obtaining the battlesight zero, the firer should record the data on a piece of tape (Figure 106) and secure it to the rifle. By doing this, should the sights be changed during cleaning, the sights can be returned to the battlesight setting.

Evaluation Preparation

Setup: On a 25-meter firing range, the soldier should have his assigned rifle and magazine.

Give the soldier 18 rounds of 5.56-mm ball ammunition, a sandbag for support, and a rifle shot group analysis card (GTA 21-1-4). Place the sights on the rifle in the starting position.

Brief Soldier: Tell the soldier to battlesight zero the rifle, using no more than 18 rounds.

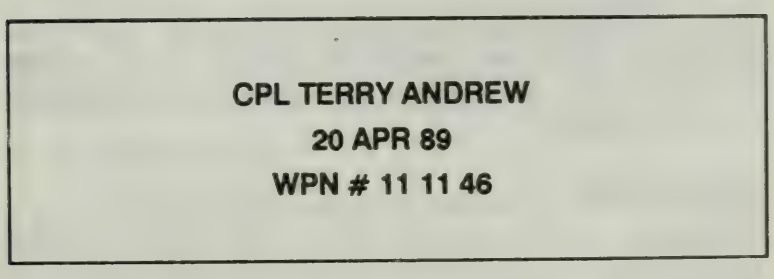


Figure 106. Data recorded on tape.

Evaluation Guide: 071-311-2004

ZERO AN M16A1 RIFLE

	Performance Measures	*Results*	
1.	Uses the aperture marked "L."	P	F
2.	Fires a three-round shot group.	P	F
3.	Moves to target and determines center of shot group.	P	F
4.	Adjusts the front sight the appropriate amount.	P	F
5.	Adjusts the rear sight the appropriate amount.	P	F
6.	Fires another three-round shot group.	P	F
7.	Repeats steps 3 through 6 until a shot group is within the 4-centimeter circle on the target.	P	F
8.	Uses no more than 18 rounds.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-9
GTA 21-1-4
TM 9-1005-249-10

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ZERO AN M16A2 RIFLE

071-311-2030

CONDITIONS

On a 25-meter range, given an M16A2 rifle, 18 rounds of 5.56-mm ammunition, a 300-meter zero target, and sandbags for support.

STANDARDS

Using 18 rounds or less, the soldier must battlesight zero his rifle by achieving five out of six rounds in two consecutive shot groups within the 4-centimeter circle. Bullets that break the line of the 4-centimeter circle will be used in evaluating the soldier's performance.

TRAINING AND EVALUATION

Training Information Outline

1. The M16A2 rifle has two adjustable sights—front and rear. Elevation adjustments are made using the front sight, and elevation changes and windage adjustments are made using the rear sight.

2. The sight systems.

a. The rear sight has an elevation knob with range indicators from 300 to 800 meters and two apertures for range. One aperture is marked 0-2 for short range from 0-200 meters and an unmarked aperture for normal range from 300 to 800 meters.

(1) The 0-2 (large) aperture is used for short range (Figure 107). This aperture is used only when the rear sight is all the way down. The 8/3 (300-meter) mark on the elevation knob is aligned with the index mark on the left side of the receiver.

(2) The unmarked (small) aperture (Figure 108) is used for normal range. This aperture is used for most firing situations. It is used in conjunction with the elevation knob for 300- to 800-meter targets.

b. The rear sight also consists of a windage knob on the right side of the sight (Figure 109).

(1) Each click of the windage knob will move the strike of the round from 1/8 inch (.3 centimeters) at 25 meters to 4 inches (10 centimeters) at 800 meters.

(2) A windage scale is on the rear of the sight and the windage knob pointer is on the windage knob.

c. The front sight consists of a rotating sight post with a spring-loaded detent (Figure 110).

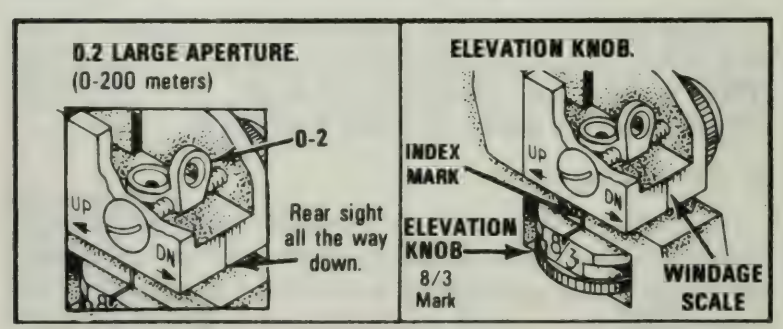


Figure 107. Rear sight.

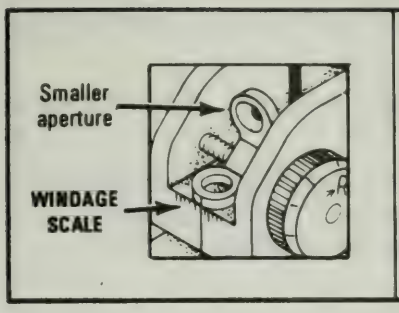


Figure 108. Unmarked aperture.

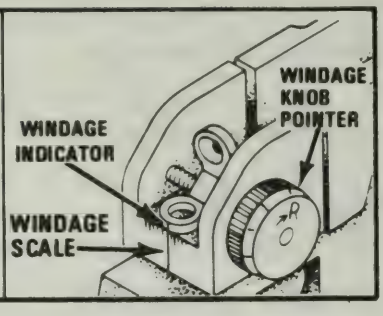


Figure 109. Windage knob.

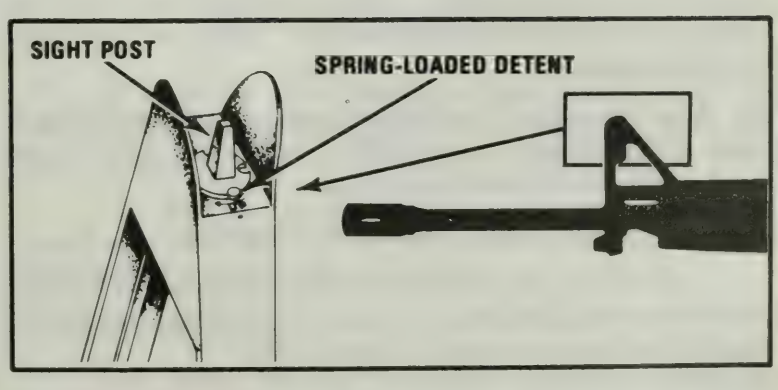


Figure 110. Front sight.

(1) The front sight is moved up or down when zeroing the rear sight.

(2) Once the rear sight is zeroed, the front sight post should not be moved.

(3) Each notch on the front sight will move the strike of the bullet from 3/8 inch (0.9 centimeters) to 2 3/4 inches (7 centimeters) at 200 meters.

3. Sight adjustments.

a. Rear sight.

(1) To adjust windage or move the strike of the round, turn the windage knob counterclockwise to move the strike to the left and clockwise to move the strike to the right (Figure 109).

(2) To adjust elevation, turn the elevation knob until the desired range is indexed at the index mark on the left side of the sight (Figure 107).

b. Front sight. To adjust elevation, depress the detent and rotate the sight post (Figure 111). To raise the strike of the round, rotate the sight post in the direction of the arrow marked UP. Reverse the direction of rotation to lower the strike.

4. Zero the rifle. The following steps will establish a zero at 25 meters, your M16A2 rifle sights will be set with a 300-meter battlesight zero.

a. Establish mechanical zero on the rifle.

(1) Align the windage indicator mark on the 0-2 aperture with the center line of the windage scale (the unmarked aperture is up) (Figure 109).

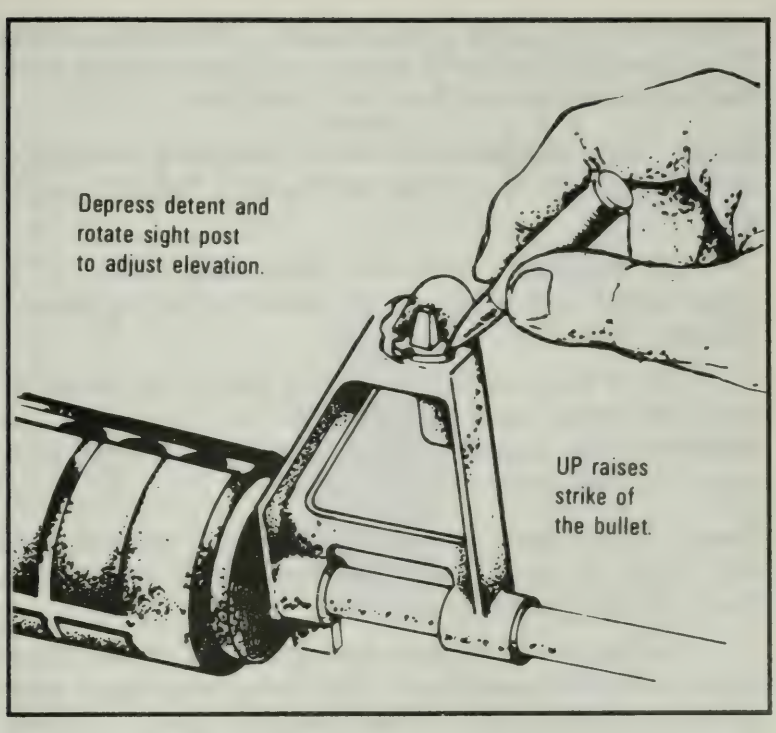


Figure 111. Depress detent.

(2) Rotate the elevation knob down until the range scale 8/3 (300-meter) mark is aligned with the mark on the left side of the receiver (Figure 107).

(3) Rotate the front sight post up or down as required until the base of the front sight post is flush with the top of the sight post well.

b. Zero at 25 meters.

(1) After setting the front and rear sights to mechanical zero, the elevation knob is rotated up

(clockwise) one click past the 8/3 (300-meter) mark. The elevation knob will remain in this position until the battlesight zeroing has been completed.

Note: *Any changes in elevation required during the zeroing procedures will be made using the front sight post only.*

(2) Carefully aim and fire each shot of a three-round shot group at the circle on the silhouette (Figure 112).

(3) If your shot group is not within the circle on the silhouette, use the squares on the target to determine the required clicks to move your next shot group into the circle (Figure 112).

Note: *The squares are numbered around the edges of the target to equal the number of clicks required to move the shot group to the circle.*

(4) To raise your next shot group, rotate the front sight post UP (clockwise). To lower your next shot group, rotate the front sight post DOWN (counterclockwise). One click will move the strike of the round one square on the target.

(5) To move the shot group to the left, turn the windage knob counterclockwise. To move the shot group to the right, turn the windage knob clockwise. Three clicks of the windage knob will move the strike of the round one square on the target.

(6) Continue to fire three-round shot groups and make corrections until you have a tight shot group in the circle on the silhouette.

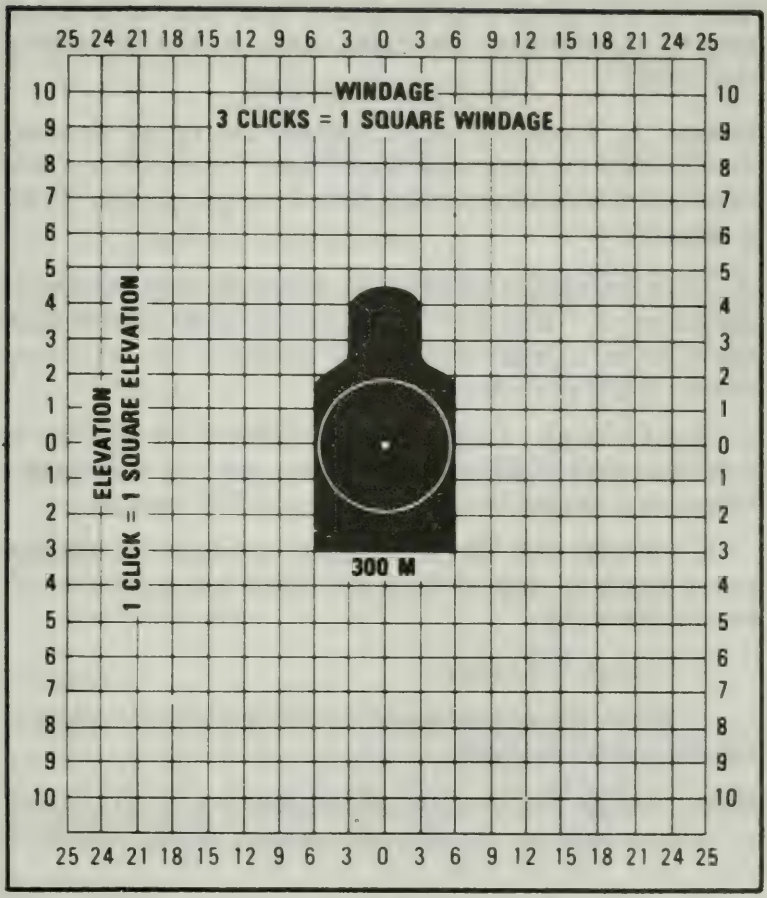


Figure 112. 25-meter zero target.

(7) If your shot group is within the circle, your rifle is now "calibrated."

(8) To place your 300-meter zero on the rifle, you must rotate the elevation knob one click counterclockwise.

The 8/3 (300-meter) mark on the elevation knob should now be aligned with the index mark on the left side of the sight.

Notes: *1. There are clicks between the range numbers as you turn the elevation knob. Use these clicks if you need more elevation past a certain range number to hit a target.*

2. The unmarked aperture is automatically zeroed to 200 meters. Use the 0-2 aperture when shooting at night or at close range; for example, in an urban environment or in dense jungle.

5. Sight setting. Your rifle sights should be kept set to a combat zero of 300 meters. If you are told to engage a target at a longer range; for example, 500 meters:

a. Rotate the elevation knob so that the desired range mark is aligned with the index mark on the left side of the sight.

b. Engage the target.

c. When the engagement is over, return the sight to the 300-meter setting.

Note: *When the rifle has been zeroed to 300 meters, all other ranges on the elevation knob are also zeroed.*

Evaluation Preparation

Setup: A live-fire range with M16A2 300-meter zero targets, the soldier's assigned M16A2 rifle and ammunition.

Brief Soldier: Tell the soldier to zero the rifle using no more than 18 rounds.

Evaluation Guide: 071-311-2030

ZERO AN M16A2 RIFLE

Performance Measures	*Results*	
1. Sets sights to mechanical zero.	P	F
2. Uses unmarked aperture.	P	F
3. Fires a three-round shot group.	P	F
4. Moves to target and determines shot group center and sight corrections.	P	F
5. Adjusts the sights as required.	P	F
6. Fires another three-round shot group.	P	F
7. Repeats steps 3 through 5 until a shot group is within the circle on the silhouette.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1005-319-10

★ ★ ★ ★ ★

ENGAGE TARGETS WITH AN M16A1 OR M16A2 RIFLE

071-311-2007

CONDITIONS

Given an M16A1 or M16A2 rifle, magazines, ammunition, individual combat equipment, and stationary or moving targets (personnel and vehicle) at engageable ranges.

STANDARDS

Detect, engage, and destroy or disable targets.

TRAINING AND EVALUATION

Training Information Outline

1. Detect targets.

a. The ability to detect a target depends on the soldier's position and his skill in search and observation over his sector of responsibility. Depending upon the situation, he may or may not select his own position. However, when he does (such as in the attack and reorganization on the objective), he will:

(1) Select a position that provides as much natural cover and concealment as possible.

(2) Select a position that offers good observation and fields of fire.

b. When the soldier moves into a new position, he quickly checks for enemy activity, which may pose immediate danger.

(1) The quick check takes about 30 seconds.

(2) The quick check is made by quick glances at specific points throughout the area.

c. If the soldier fails to locate activity during the initial search, he begins a systematic search (Figure 113)

(1) Begin at either flank and systematically search the terrain to the front in a 180-degree arc, 50 meters in depth.

(2) After reaching the opposite flank, begin a second 50-meter strip farther out but overlapping the first strip by about 10 meters. Continue in this manner until the entire area is searched.

(3) To take advantage of side vision, focus the eyes on specific points while searching from one flank to the other.

d. A target indication is anything a soldier (friendly or enemy) does or fails to do that reveals his position. These indications are grouped into three areas: sound, movement, and improper camouflage.

(1) Sound. Sounds such as footsteps, coughing, or vehicle or equipment noise provide only the general location of the target. It is hard to pinpoint a target location only by sound. However, the fact that a sound has alerted the soldier greatly increases the possibility he will eventually locate the target through other target indications.

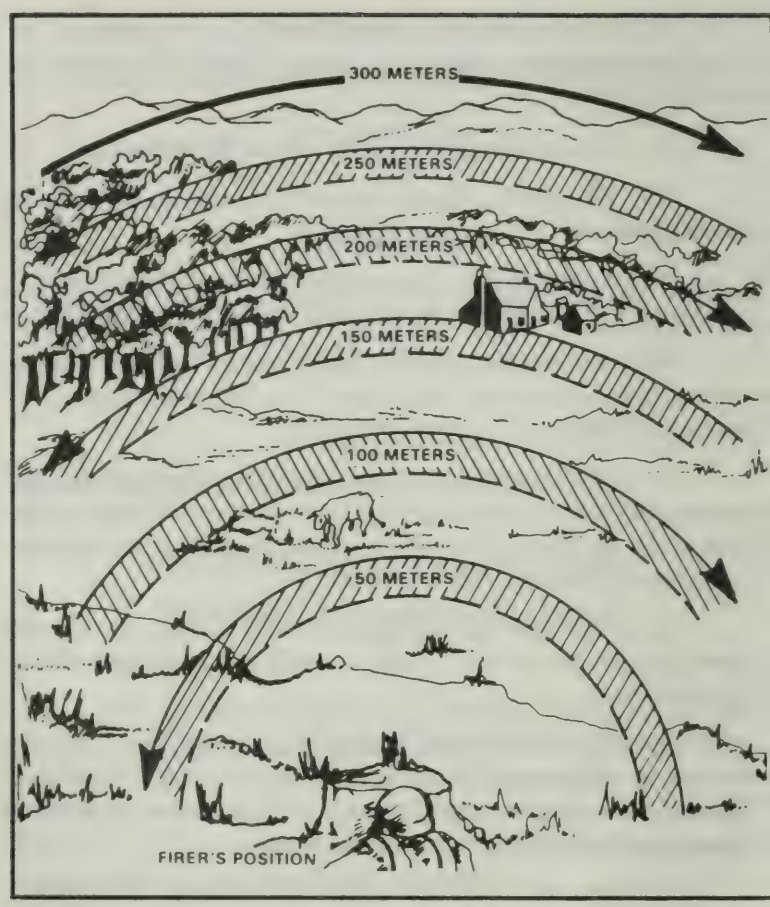


Figure 113. Searching the terrain in overlapping strips.

(2) Movement. The difficulty in locating moving targets depends primarily on the speed of movement. Slow, deliberate movements are harder to detect than those that are quick and jerky. Follow the procedures outlined in paragraph c above.

(3) Camouflage. The lack or improper use of camouflage and/or concealment is an indication that reveals the majority of targets detected on the battlefield. Camouflage indicators are grouped into three areas: shine, regularity of outline, and contrast with background.

(a) Shine. Metal objects, such as belt buckles, reflect light and act as a beacon to the wearer's position at any time of day. All items that may reflect light should be camouflaged.

(b) Regularity of outline. The outline of the human body and most military equipment are familiar to all soldiers. The outlines of rifles, helmets, and vehicles are all easily identified. The reliability of these target indicators depends upon the visibility and the experience of the observer.

(c) Contrast with background. Contrast with the background is a difficult target indicator to avoid. A moving soldier (friendly or enemy) is exposed to different types and colors of background. This difference must be detected.

2. Determine range to target. To effectively engage a target, the range to the target must be known. Several methods that can be used to determine range are covered in task 071-326-0512: Estimate Range.

a. Using the M16A1 or M16A2, the most effective method to determine range to a man-size target is to use the front sight post.

b. A man-size target at a distance of about 175 meters appears to be the same width as the front sight post. At about 350 meters, the target appears to cover half the front sight post.

c. This information can be used to estimate other ranges. For example, if the man-size target appears to be twice as wide as the front sight post, the range is about 90 meters.

3. Use combat firing positions.

a. The prone position is relatively steady but the prone supported position is steadier. Both are easy to assume. These positions present a low silhouette and are easily adapted to the use of cover and support. However, their effectiveness as battlefield firing positions are often limited because vegetation and irregularities of terrain may limit the rifleman's field of vision (Figures 114 and 115).

b. The kneeling position is suitable for use on level ground or on ground that slopes gently upward. It can

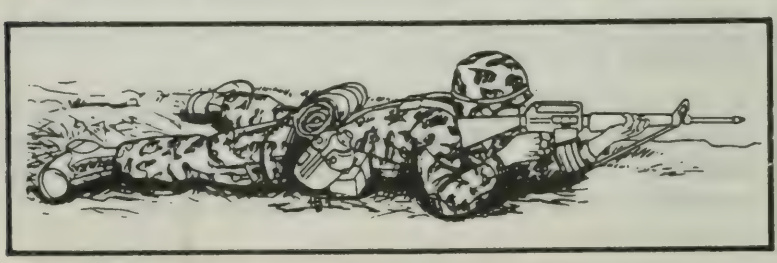


Figure 114. Prone position, not supported.

be adjusted up or down, and it may be used to fire from behind trees, corners of buildings, vehicles, and anything that gives added support to a kneeling position (kneeling supported position) (Figures 116 and 117).

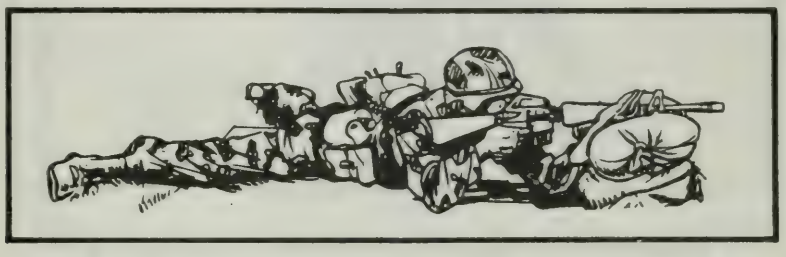


Figure 115. Prone position, supported.

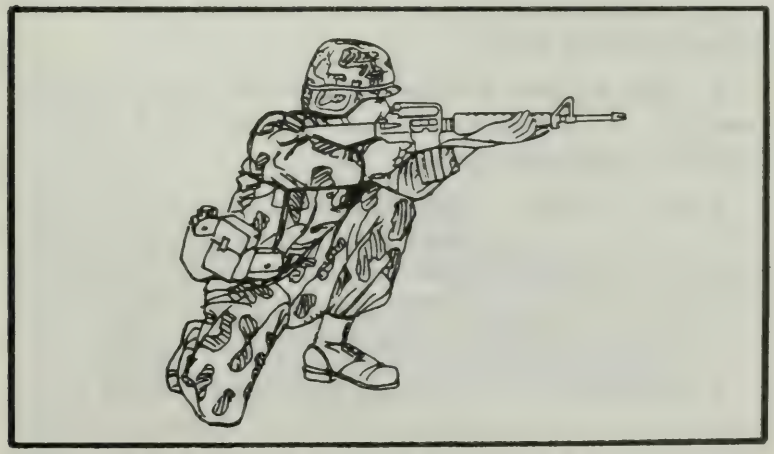


Figure 116. Kneeling position, not supported.

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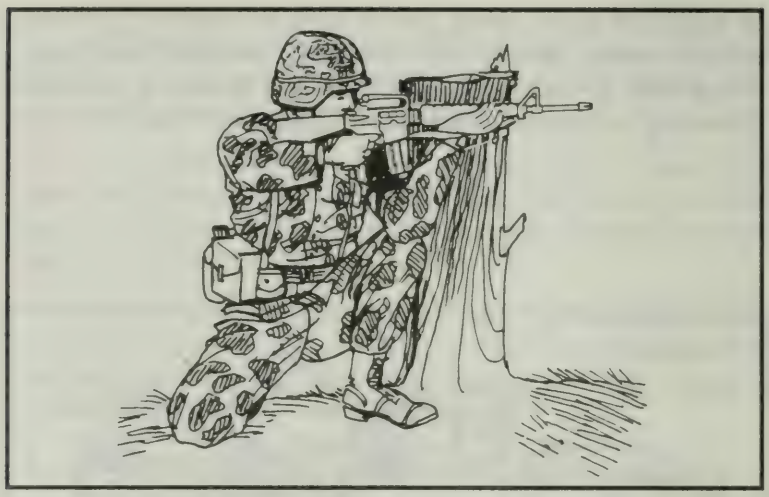


Figure 117. Kneeling position, supporting.

c. The standing position is used in the assault to engage surprise targets, or when no other position can be used (Figure 118).

d. The foxhole position should be used whenever possible. It is always used when a prepared fighting position is available (Figure 119).

4. Engage targets. Unless a soldier has specific orders to the contrary, targets are engaged as soon as they are detected. There are three types of target situations: a stationary target, a slowly moving target, and a rapidly moving target.

a. A stationary target can be engaged using reference points or aiming points. Since a stationary target is normally in a concealed position, engaging it is usually



Figure 118. Standing position.

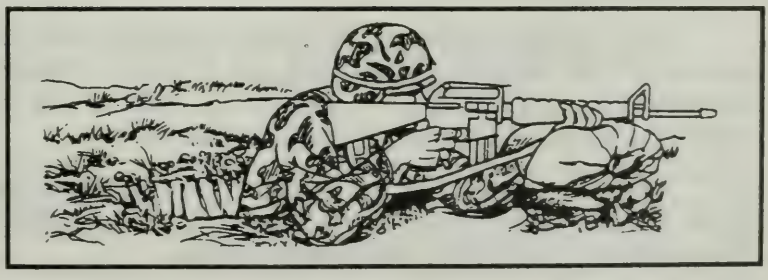


Figure 119. Foxhole position.

as much a problem of target detection as it is of marksmanship.

b. Although there are fewer problems involved in locating moving targets, the movement complicates the selection of an accurate aiming point.

(1) The enemy normally moves by rushes from one covered or concealed position to another.

(2) While making the rush, the enemy soldier presents a rapidly moving target. However, for a brief moment, as he begins and ends the rush, the movement is usually slow, and he is vulnerable to aimed rifle fire.

(3) A target moving directly toward the soldier can be engaged in the same manner as a stationary target.

(4) The new method for engaging moving targets is to use the single lead. To use this method, the firer places the trailing edge of the front sight post at the target center. This single lead method is applied for all laterally moving targets at all ranges moving all angles and at all speeds. This single lead causes the lead to automatically increase as the range to the target increases (Figure 120).

(5) When engaging multiple targets (two or more), fire at the one presenting the greatest danger, normally the nearest one. Then rapidly shift to fire at the remaining targets before they can take cover.

(6) When engaging multiple targets where more than one magazine is used, the soldier must be able to reload quickly to engage additional targets.

5. Use quick fire. This technique is different from aimed shooting. The key to this technique is simplicity.

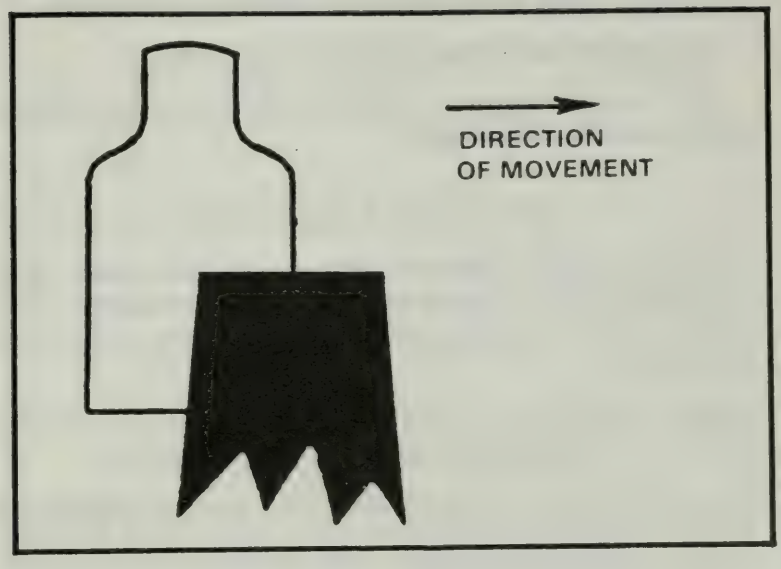


Figure 120. Engaging moving targets using the single lead

When time allows, it is always preferable to use the rifle sights. However, when reflex reaction for survival is necessary, the quick-fire technique must be used. This technique is most effective in urban terrain or heavy brush.

a. Use the standing position for quick fire.

b. Use the raised stockweld and look 2 to 3 inches above the sights on a plane level with the barrel.

c. Look at the target and NOT at the sights.

d. Do not use the quick-fire technique on targets more than 30 meters away.

Evaluation Preparation

Setup: Provide a live-fire range and all equipment and materials given in the task conditions statement. The soldier being tested will use his own rifle and magazines.

Note: *A separate range may be used to test the soldier on target detection and range determination.*

Brief Soldier: Tell the soldier that he is to detect and engage targets in his sector and, when asked, he is to give the range to a target.

Evaluation Guide: 071-331-2007

ENGAGE TARGETS WITH AN M16A1 OR M16A2 RIFLE

Performance Measures	*Results*	
1. Detects both stationary and moving targets in his area.	P	F
2. Uses proper area search techniques.	P	F
3. Determines range to target with no more than 20 percent error.	P	F
4. Engages all detected targets in his sector.	P	F
5. Uses proper firing positions to engage targets.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-9

★ ★ ★ ★ ★

ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS

441-091-1102

CONDITIONS

Given an attack by hostile aircraft. Individual weapons (M16A1) or crew-served weapons (M60 machinegun [MG]) which can be fired at aircraft are available.

STANDARDS

Destroy hostile aircraft or divert them from their attack.

TRAINING AND EVALUATION

Training Information Outline

1. The engagement of aircraft with small arms is an active air defense action taken to destroy or reduce the effectiveness of enemy air attack.

2. In deciding to fire at an aircraft, the commander is guided by the unit's tactical standard Operating procedure (SOP) and hostile target criteria. An aircraft should be considered hostile when it attacks your unit or other friendly units with bombs, rockets, missiles, or gunfire.

3. Generally you should fire at aircraft with small arms when-

   a. The senior person in charge orders you to engage.

b. You are under attack by aircraft (self-defense).

4. You should use small arms against aircraft without being ordered to do so by the senior person in charge only when you are under direct attack. All other aircraft actions you observe should be reported to your supervisor immediately.

5. Firing positions. Except for the prone position, the rifleman's basic firing stances stay the same. Firing at aircraft from the prone position means the firers are lying on their backs to aim their rifles in the air. If you are in a foxhole, stay there and fire from a supported standing position. If you are not in a foxhole, you should look for a tree, a large rock, or something to help support the weapon and provide protection (Figure 121).

The machine gunner will also fire from a protected position. You need to get the weapon up in the air with an improvised support or, in an emergency, another soldier can act as a hasty firing support (Figure 122).

6. Prepare weapon for firing.

a. Load the weapon.

b. Select the highest rate of fire for the weapon.

7. Aiming points.

a. Aim point is the same for propeller aircraft and helicopters (Figures 123 and 124).

b. Precision is not the important thing. A coordinated, high volume fire will get the desired results.

c. The aim point is selected in football lengths; one football field equals approximately 100 yards/meters (Figures 125 and 126).

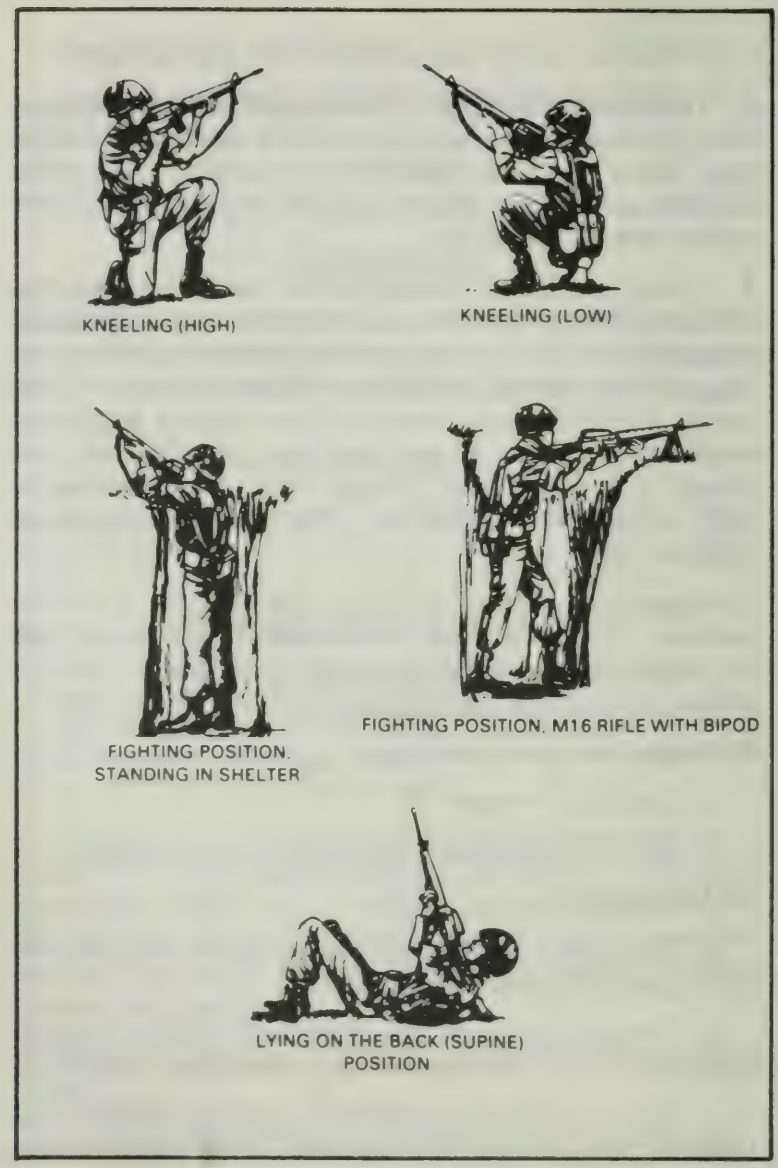


Figure 121. Firing positions.

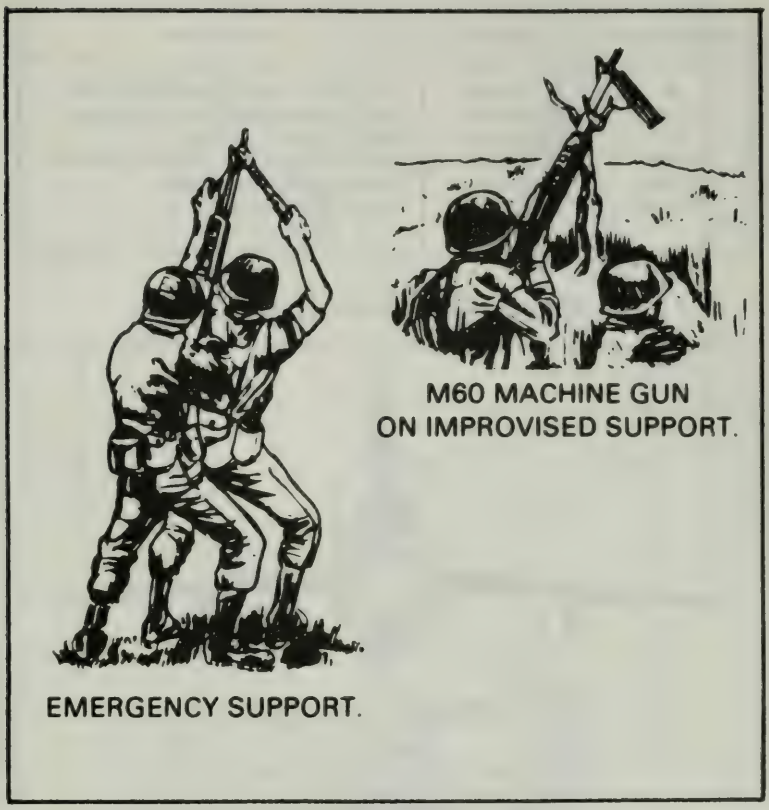


Figure 122. M60 machine gun supports.

TYPE AIRCRAFT	COURSE	AIMING POINT
Jet	Crossing	Two Football Fields in front of Aircraft Nose
Jet	Overhead	Two Football Fields in Front of Aircraft Nose
Jet	Directly at You	Slightly Above Aircraft Nose
Helicopter	Crossing	One-Half Football Field in Front of Aircraft Nose
Helicopter	Hovering	Slightly Above Helicopter Body
Helicopter	Directly at You	Slightly Above Helicopter Body

Figure 123. Aiming points.

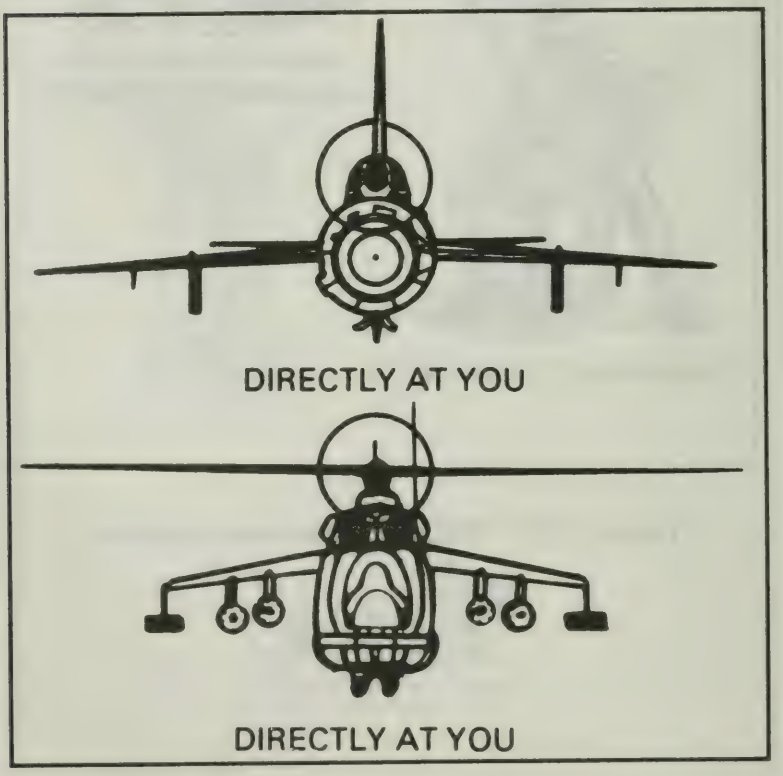


Figure 124. Aiming points.

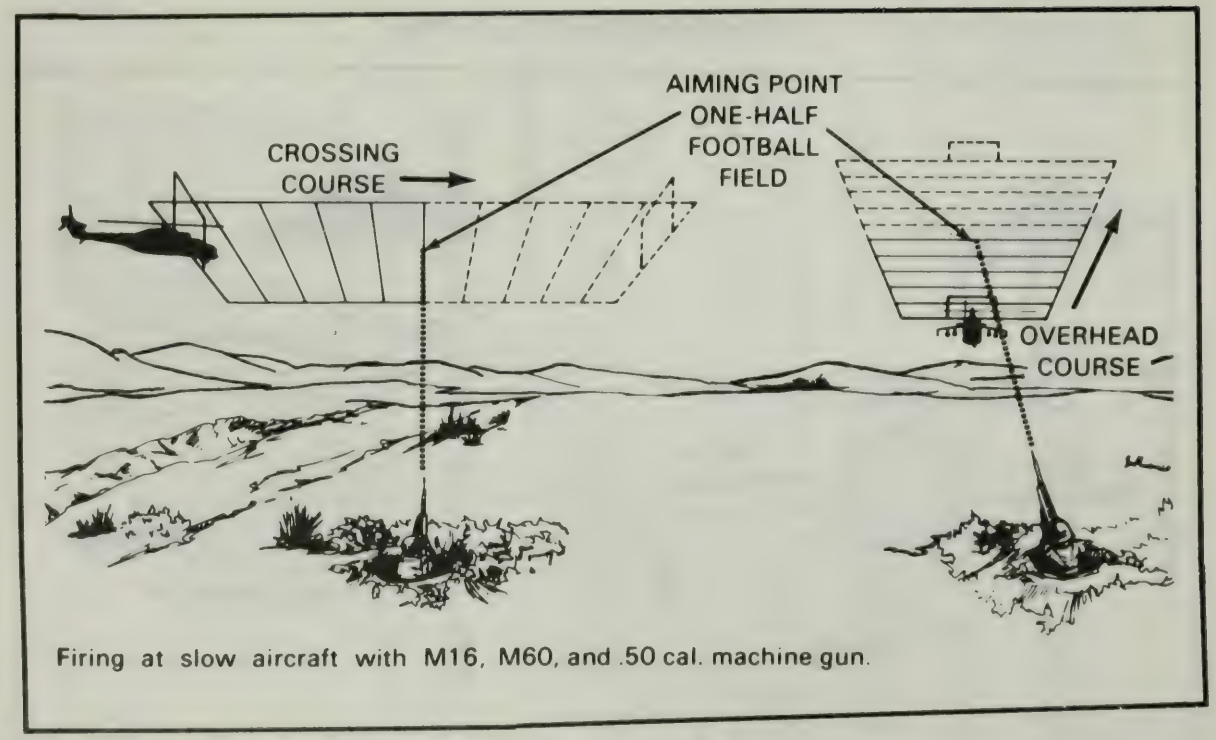


Figure 125. Aiming points.

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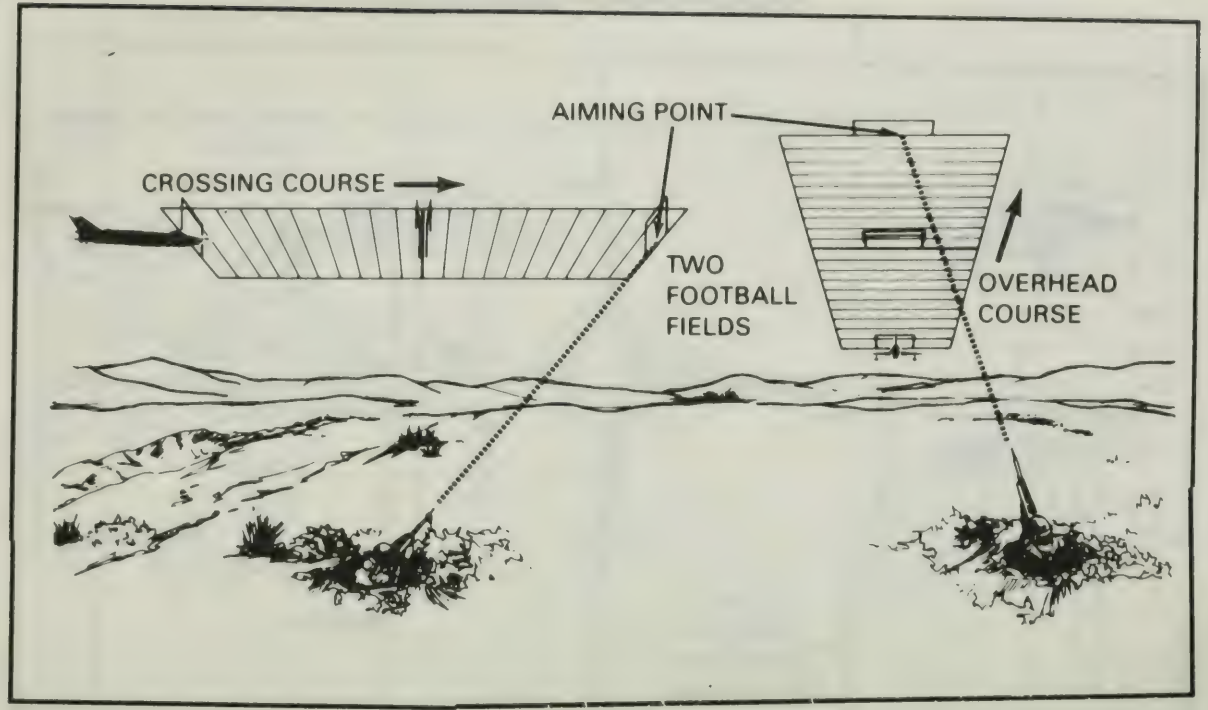


Figure 126. Aiming points.

Evaluation Preparation

Setup: Simulate this task for evaluation.

1. Provide one of each type of individual or crew-served weapon available in the unit, suitable for firing at aircraft.

2. Provide a copy of the illustrations shown with performance measures 3, 4, and 5.

3. If using an indoor area, provide enough space to raise the weapons to the firing position.

4. The firing position for "standing in shelter" should only be evaluated if a foxhole or simulated shelter is provided. If this firing position is not evaluated, then the soldier should not be given a FAIL for that position.

Brief Soldier: Tell the soldier to demonstrate the different firing positions and simulate engagement of hostile aircraft while explaining the procedures.

Evaluation Guide: 441-091-1102

ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS

	Performance Measures	*Results*	
1.	Ask the soldier to simulate loading the weapon and to select the rate of fire to be used against aircraft.	P	F
2.	Ask the soldier to demonstrate each of the listed firing positions. Positions demonstrated should agree with views shown in the training outline.	P	F

a. Kneeling (high).
b. Kneeling (low).
c. Standing in shelter (if available).
d. Prone.

3.	Show the soldier the three views of the aircraft (Figure 127A-C) and ask, "For the best chance of a hit, at which point should you aim and fire your weapon?" Answer should agree with information furnished in training outline.	P	F
4.	Show the soldier the view of the crossing aircraft (Figure 128) and ask, "For the best chance of a hit, at which point should you aim and fire your weapon?" Answer should agree with information furnished in the training outline.	P	F
5.	Show the soldier the view of the crossing helicopter (Figure 129) and ask, "For the best chance of a hit, at which point should you aim and fire your weapon?" Answer should agree with information furnished in the training outline.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier

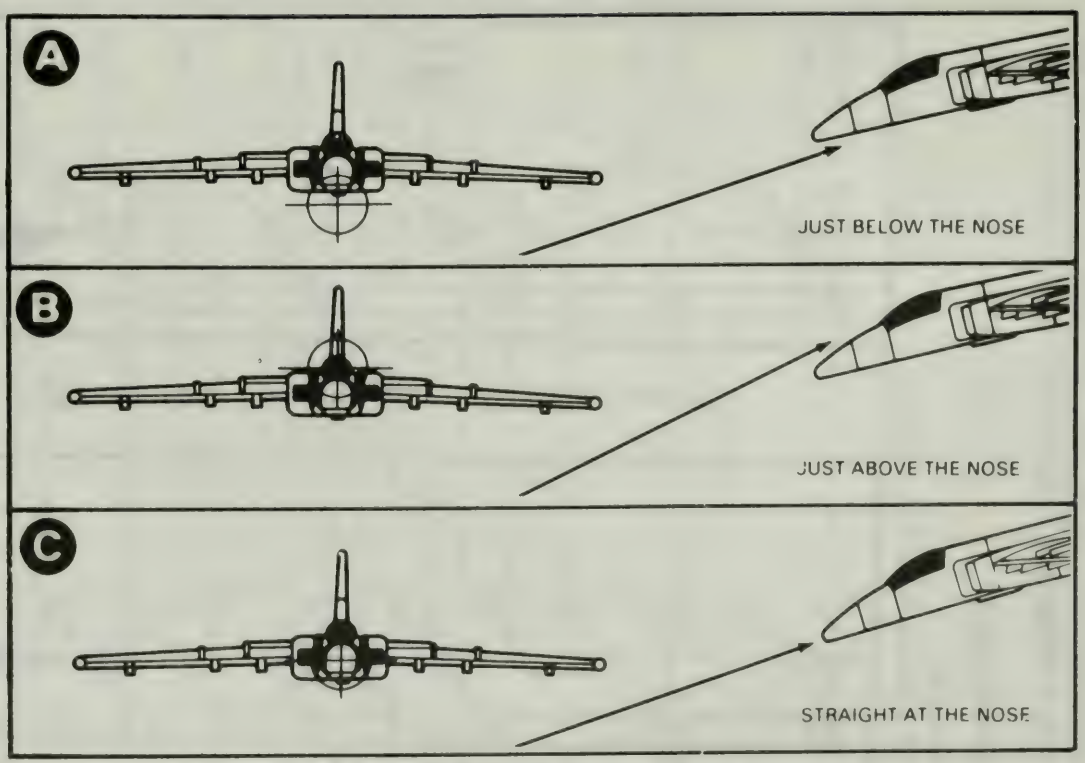


Figure 127. The three views of the aircraft.

scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 44-8
TEC Lesson 950-441-0045F

Figure 128. The view of the crossing aircraft.

★ ★ ★ ★ ★

PREPARE AN M136 LAUNCHER FOR FIRING

071-054-0001

CONDITIONS

Given an M136 launcher (AT4) and a requirement to prepare it for firing.

STANDARDS

Prefire checks are performed and the M136 is prepared for firing.

TRAINING AND EVALUATION

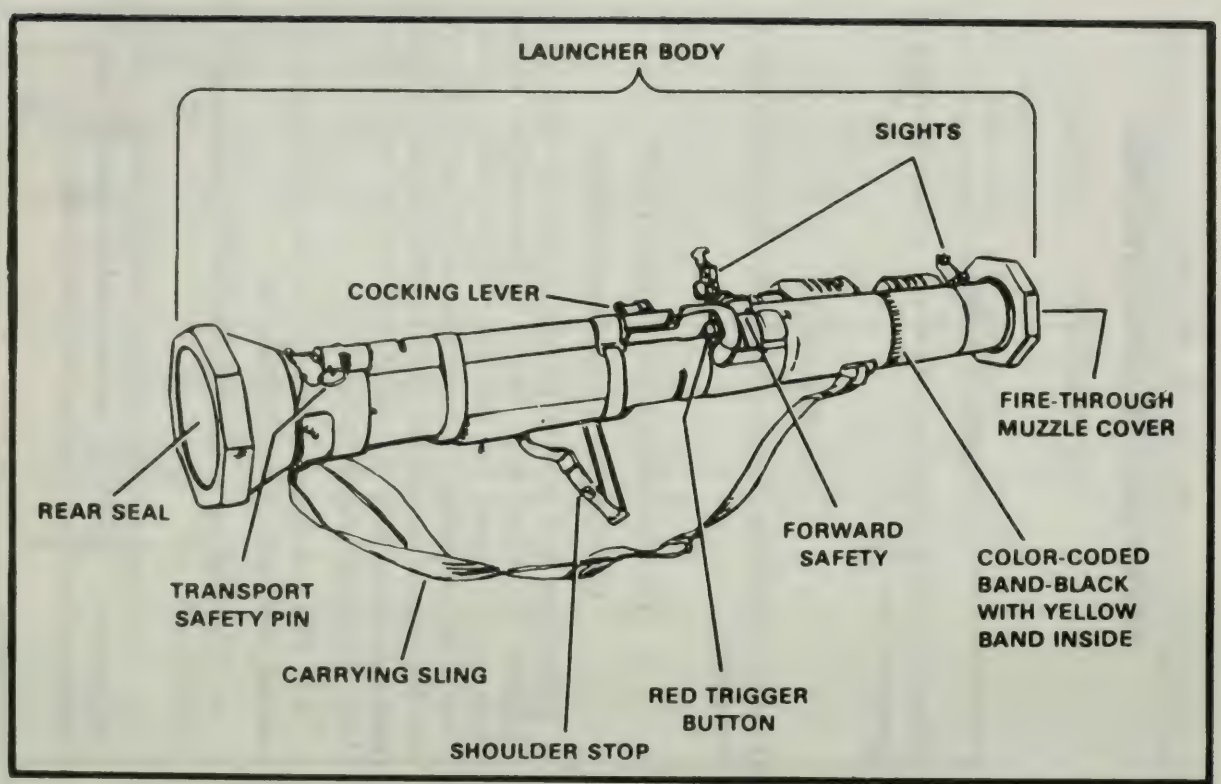
Training Information Outline

1. Perform the prefire checks. Because the M136 launcher is issued as a round of ammunition rather than as a weapon, the launcher is completely sealed. Therefore, inspection is limited to visual examination of the external components. The overall condition of the launcher should be inspected before it is used (Figure 130). The firer should ensure:

a. The transport safety pin is in place and fully seated, and the lanyard is attached.

b. The cocking lever is in the SAFE position and is folded down.

c. The fire-through muzzle cover is intact. If the seal is torn, it should be removed to ensure that no foreign objects have gotten into the launcher.


LAUNCHER BODY
SIGHTS
COCKING LEVER
FIRE-THROUGH MUZZLE COVER
REAR SEAL
FORWARD SAFETY
COLOR-CODED BAND-BLACK WITH YELLOW BAND INSIDE
TRANSPORT SAFETY PIN
CARRYING SLING
RED TRIGGER BUTTON
SHOULDER STOP

d. The launcher's color-coded band is the correct color: black with yellow band for high-explosive antitank; gold for target-practice tracers; and blue for field-handling trainers.

e. The sights function properly. Open the sight covers to ensure the sights pop up and are not damaged.

f. The red safety catch does not move when depressed.

g. The rear seal is not damaged.

h. The shoulder stop is not broken or damaged and it unsnaps and folds down.

i. The carrying sling is not frayed and is attached to the launcher.

j. The launcher body has no cracks, dents, or bulges.

2. Prepare the launcher for firing. Preparation procedures are:

WARNING

BE SURE PERSONNEL ARE WEARING EARPLUGS. KEEP THE WEAPON POINTED TOWARD THE TARGET. KEEP THE BACKBLAST AREA CLEAR.

a. Remove the launcher from the carrying position and cradle it with the left arm (Figure 131).

b. While carrying the launcher, pull the transport safety pin with the right hand and release it. (Figure 132).



Figure 131. Using the cradle position.

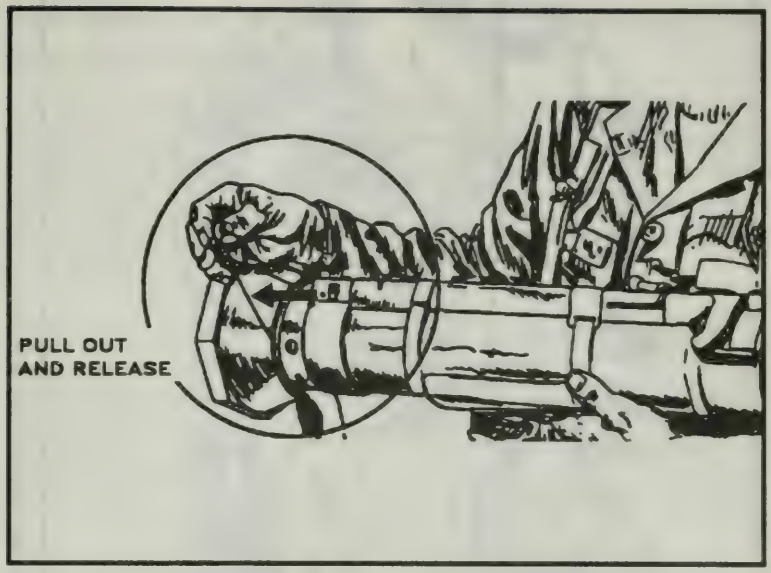


Figure 132. Removing the transport safety pin.

Note: *Ensure the transport safety pin is attached to the launcher by its lanyard. If there is no lanyard, place the transport safety pin in your pocket. If the launcher is not fired, the transport safety pin must be reinserted.*

c. Unsnap and unfold the shoulder stop (Figure 133).

d. With the shoulder stop in position, place the launcher on the right shoulder.

e. With the launcher on the right shoulder and supported with the right hand, release the front sight by pressing down on the sight cover and sliding it to the rear. Release the rear sight by pressing down on the

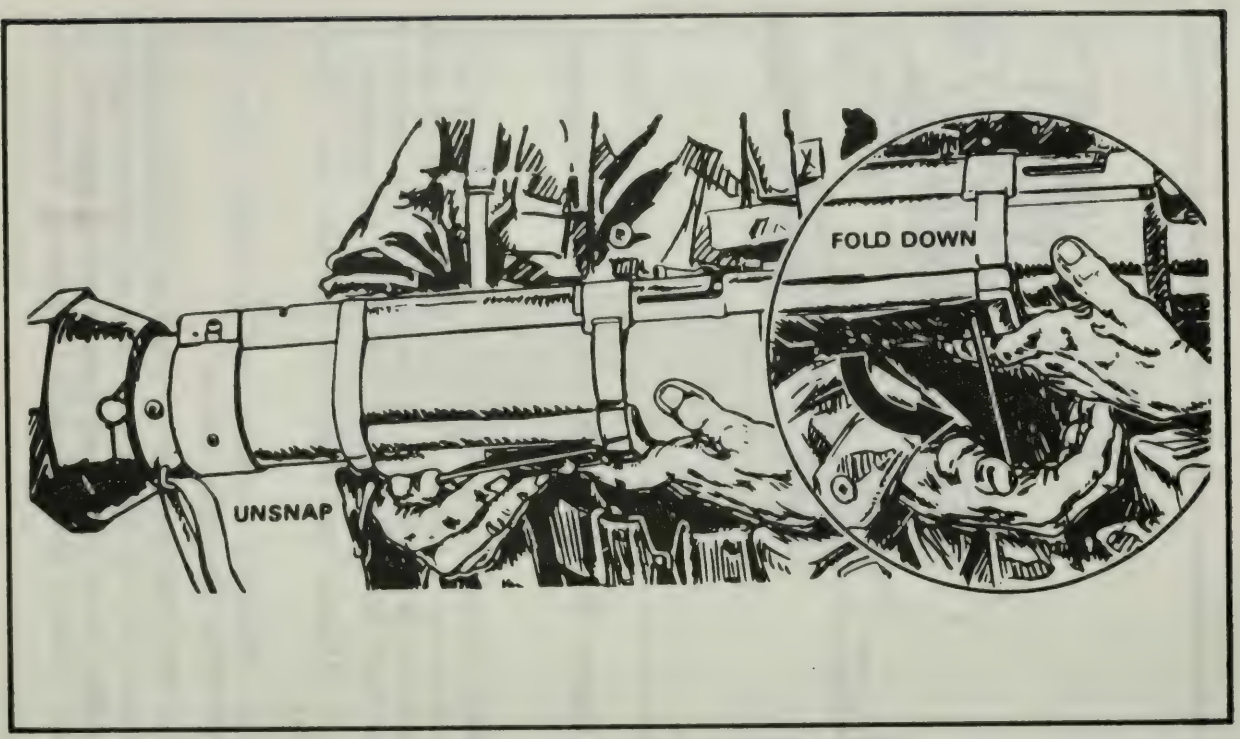


Figure 133. Unsnapping the shoulder stop.

cover and sliding it forward. Each sight will pop up when the covers are slid off.

f. Cock the launcher by unfolding the cocking lever with the right hand. Place the thumb of the right hand under the cocking lever. Grip the front of the firing mechanism for support. Push the cocking lever forward and down to the right. Let the cocking lever slide back (Figure 134).

CAUTION

DO NOT REFOLD THE COCKING LEVER. THIS WILL INTERFERE WITH THE FUNCTION OF THE FIRING MECHANISM.

g. Adjust the rear sight for the required range.

(1) When closing the sight cover, the sight must be set on a range of 200 meters. Therefore, when the rear sight is uncovered, the battlesight setting is 200 meters. If the range to the target is more than 250 meters, adjust the sight to the range. When the range is 250 meters or less, no sight adjustment is required (Figure 135).

(2) To adjust the rear sight range setting to more than 200 meters, turn the range knob clockwise (toward the muzzle). To decrease the range, turn the range knob counterclockwise (toward the gunner). There is a click at each 50-meter increment; this sound aids the gunner during limited visibility (Figure 135).



Figure 134. Cocking the launcher.

Evaluation Preparation

Setup: At the test site, provide an expended AT4 or a tracer trainer in the carrying configuration; have the soldier place it in the carrying position. Tell the soldier

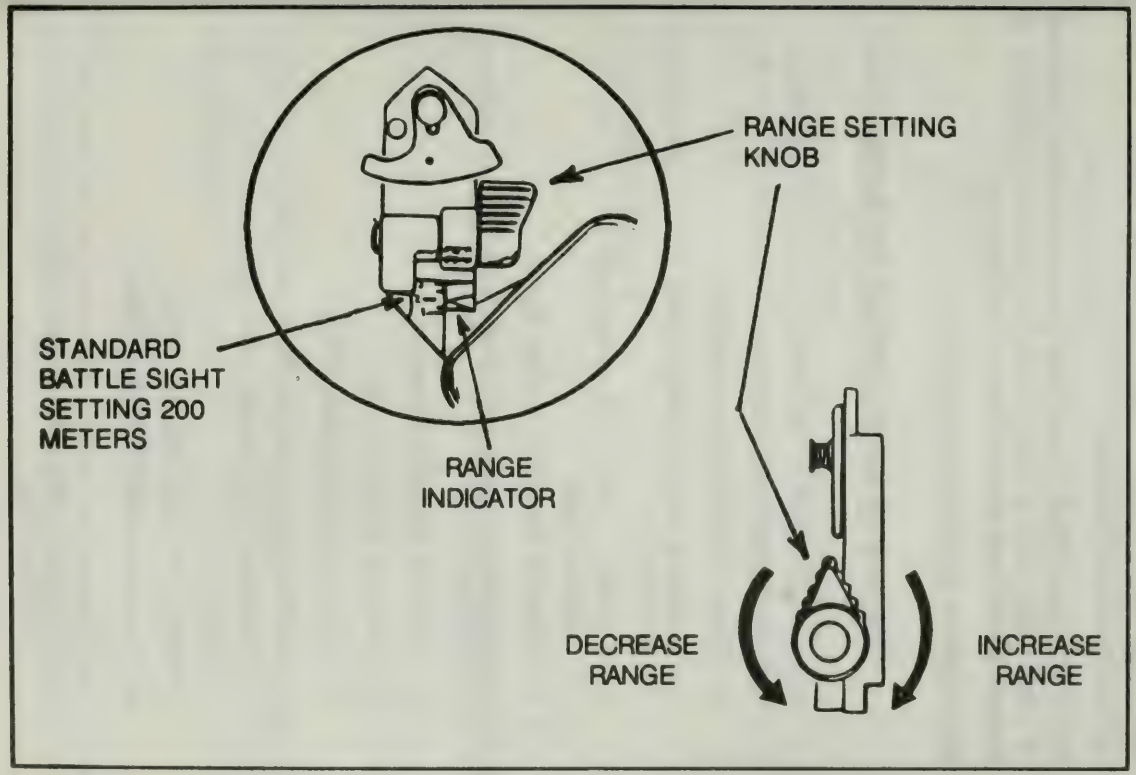


Figure 135. Adjusting the rear sight.

the range to the target. Ask the soldier when the rear sight requires adjustment.

Brief Soldier: Tell the soldier to prepare the launcher to fire. Tell the soldier that he will be required to answer questions pertaining to the launcher.

Evaluation Guide: 071-054-0001

PREPARE AN M136 LAUNCHER FOR FIRING

	Performance Measures	*Results*	
1.	Performs the prefire checks.	P	F
	a. Checks the transport safety pin.		
	b. Ensures the cocking lever is on SAFE.		
	c. Checks the fire-through muzzle cover.		
	d. Checks the color-coded band.		
	e. Checks the front and rear sights.		
	f. Checks the red safety catch.		
	g. Checks the rear seal.		
	h. Checks the shoulder stop.		
	i. Checks the carrying sling.		
	j. Checks the body of the launcher.2.		
	Prepares the launcher for firing.	P	F
	a. Removes the transport safety pin.		
	b. Unsnaps and unfolds the shoulder stop.		

c. Places the launcher on the right shoulder.
d. Releases the front and rear sights.
e. Cocks the lever.
f. Adjusts the rear sight.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier fails any steps, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1340-886-14

★ ★ ★ ★ ★

RESTORE AN M136 LAUNCHER TO CARRYING CONFIGURATION

071-054-0002

CONDITIONS

Given an M136 launcher (AT4) prepared for firing and the requirement to restore the launcher to carrying configuration.

STANDARDS

The launcher is prepared in such a manner that it is not damaged and is in a safe carrying configuration.

TRAINING AND EVALUATION

Training Information Outline

1. When the launcher is prepared for immediate firing but is not fired, it is taken out of operation as follows:

a. If the gunner is to remain in the same position—

(1) He releases the red safety catch (this step applies only if the firing sequence has proceeded to this point).

(2) He returns the cocking lever to the SAFE (uncocked) position by pushing it up and to the left, then pulling it rearward. He folds the cocking lever down.

(3) Keeping the launcher pointed at the target area, he removes the launcher from his shoulder.

(4) With the launcher cradled by his left arm, he replaces the transport safety pin.

b. If the gunner is to move to another position, in addition to the steps shown above, he must—

(1) Return the rear sight to the battlesight setting of 200 meters, fold down the front and rear sights, and close the sight covers.

CAUTION
THE REAR SIGHT MAY BE DAMAGED IF IT IS NOT RETURNED TO A BATTLESIGHT SETTING OF 200 METERS BEFORE CLOSING THE SIGHT COVER.

(2) Fold the shoulder stop and snap it back into position.

2. The launcher is now in the carrying configuration and is safe and ready to transport.

Evaluation Preparation

Setup: At the test site, provide an expended AT4 or a tracer trainer. The AT4 or tracer trainer will be in the ready-to-fire configuration.

Brief Soldier: Tell the soldier to assume a correct standing, ready-to-fire position with the launcher. Once he has assumed the firing position, tell him to return the launcher to the carrying configuration.

Evaluation Guide: 071-054-0002

RESTORE AN M136 LAUNCHER TO CARRYING CONFIGURATION

Note: *The performance measures are scored in sequence.*

	Performance Measures	*Results*	
1.	Releases the red safety catch.	P	F
2.	Returns the cocking lever to the SAFE position.	P	F
3.	Removes the launcher from the shoulder and cradles it with the left arm.	P	F
4.	Replaces the transport safety pin.	P	F
5.	Returns the rear sight to the battlesight setting.	P	F
6.	Folds and covers the sights.	P	F
7.	Folds the shoulder stop and snaps it in place.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier fails any steps, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1340-886-14

★ ★ ★ ★ ★

PERFORM MISFIRE PROCEDURES ON AN M136 LAUNCHER

071-054-0003

CONDITIONS

Given an armed M136 launcher (AT4) that has misfired.

STANDARDS

Misfire procedures are applied so that the AT4 is fired, or safety mechanisms are put in place and the supervisor is informed of a misfire.

TRAINING AND EVALUATION

Training Information Outline

1. Perform misfire procedures.

   a. When the launcher fails to fire, continue to hold the launcher pointed in the area of the target.

Note: *In training situations only, immediately shout "misfire."*

b. Release the red safety catch.

c. Immediately recock the cocking lever, check the backblast area, aim, fully depress and hold down the red safety catch, and press the red trigger button.

Note: *If the launcher still fails to fire, repeat steps a through c above.*

d. If the launcher again fails to fire, release the red safety catch and return the cocking lever to the SAFE uncocked position.

e. Remove the launcher from the shoulder while keeping the muzzle pointed toward the target area.

f. While cradling the launcher with the left arm, reinsert the transport safety pin.

Note: *In a training situation only, after inserting the transport safety pin, wait two minutes. Keep the launcher toward the target area.*

g. Carefully lay the launcher on the ground, muzzle pointed toward the target area.

2. Immediately use another launcher to engage the target.

Evaluation Preparation

Setup: At the test site, provide an expended AT4 or a tracer trainer in the ready-to-fire configuration.

Brief Soldier: Tell the soldier to assume a correct standing, ready-to-fire position with the launcher. Tell the soldier to go through the firing procedure. Tell him to go through the misfire procedures.

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Evaluation Guide: 071-054-0003

PERFORM MISFIRE PROCEDURES ON AN M136 LAUNCHER

Note: *The performance measures are scored in sequence.*

	Performance Measures	*Results*	
1.	Releases the red safety catch.	P	F
2.	Recocks the cocking lever.	P	F
3.	Attempts to refire after checking the backblast area.	P	F
4.	Repeats steps 1 through 3 when the launcher fails to fire.	P	F
5.	Returns the red safety lever to the SAFE uncocked position.	P	F
6.	Removes the launcher from the shoulder while keeping the muzzle pointed at the target area.	P	F
7.	Replaces the transport safety pin.	P	F
8.	Places the launcher on the ground with the muzzle pointed toward the target area.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier fails any steps, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1340-886-14

★ ★ ★ ★ ★

ENGAGE TARGETS WITH AN M136 LAUNCHER

071-054-0004

CONDITIONS

Given an M136 launcher (AT4) prepared for firing, engageable targets, and a requirement to engage such targets.

STANDARDS

Targets are destroyed or disabled.

TRAINING AND EVALUATION

Training Information Outline

Note: *The launcher can only be fired from the right shoulder.*

1. Firing position. There are four types of firing positions used when firing the M136 launcher.

   a. The standing position (Figure 136).

   b. The kneeling position with two variations (Figure 137).



Figure 136. Standing position.

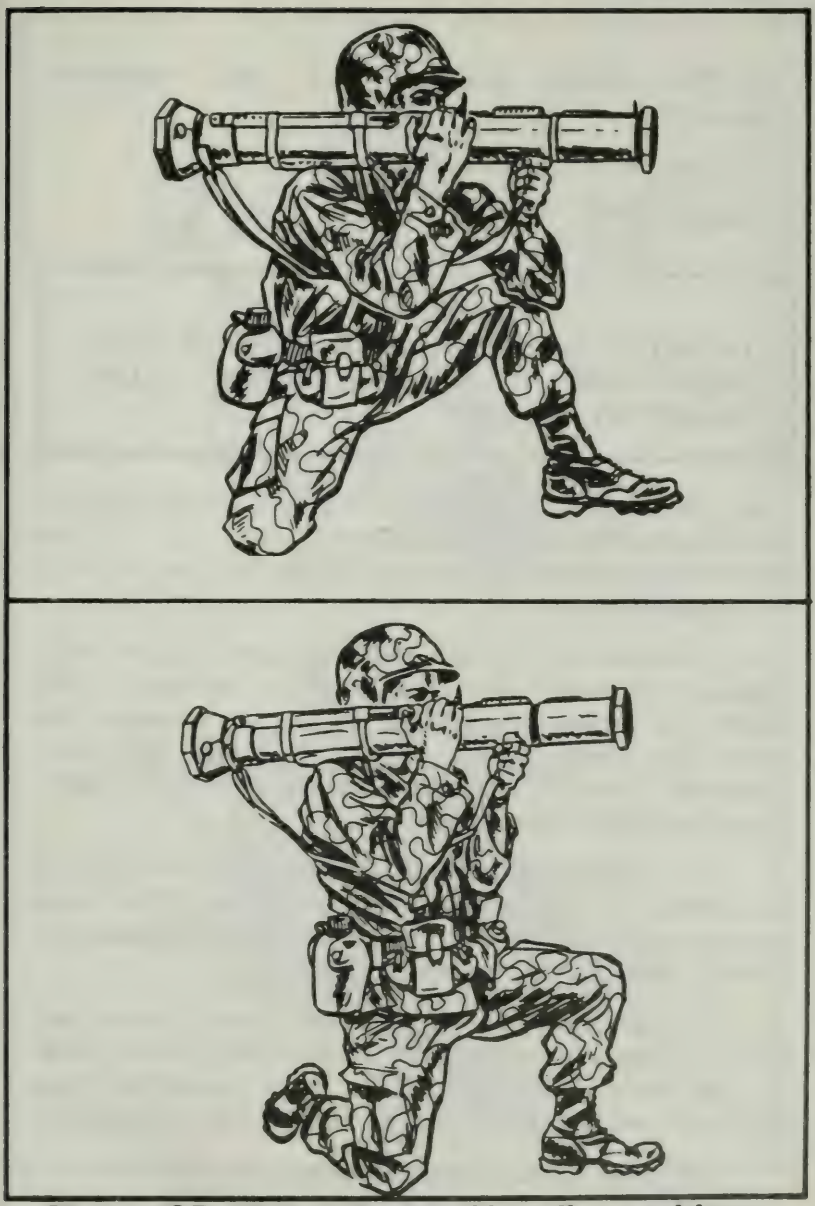


Figure 137. First and second kneeling positions.

c. The sitting position with two variations (Figure 138).

d. The prone position (Figure 139).

2. Use of sights.

WARNING
DO NOT PLACE THE EYE AGAINST THE REAR SIGHT WHEN FIRING. RECOIL MAY CAUSE INJURY TO THE EYE.

a. Determine the range to the target. If the range is 250 meters or less, do not adjust the rear sight. If the range is more than 250 meters, adjust the rear sight to the required range.

b. Obtain the correct sight picture (Figure 140). Align and properly place the sights in relation to the target. In Figure 140, notice that the top center of the front sight posts are in the center of the rear sight peephole. Ensure that the white line on the front sight is just inside the peephole.

(1) Stationary targets. Place the center post at the center of visible mass (Figure 141A). This same procedure also applies for vehicles that are proceeding directly toward or away from the firer.

(2) Slow moving targets (less than 10 miles per hour). Place the center post on the front leading edge of the vehicle (Figure 141B). This procedure also applies to vehicles moving at an oblique (at all speeds).

(3) Fast moving targets (more than 10 mph).

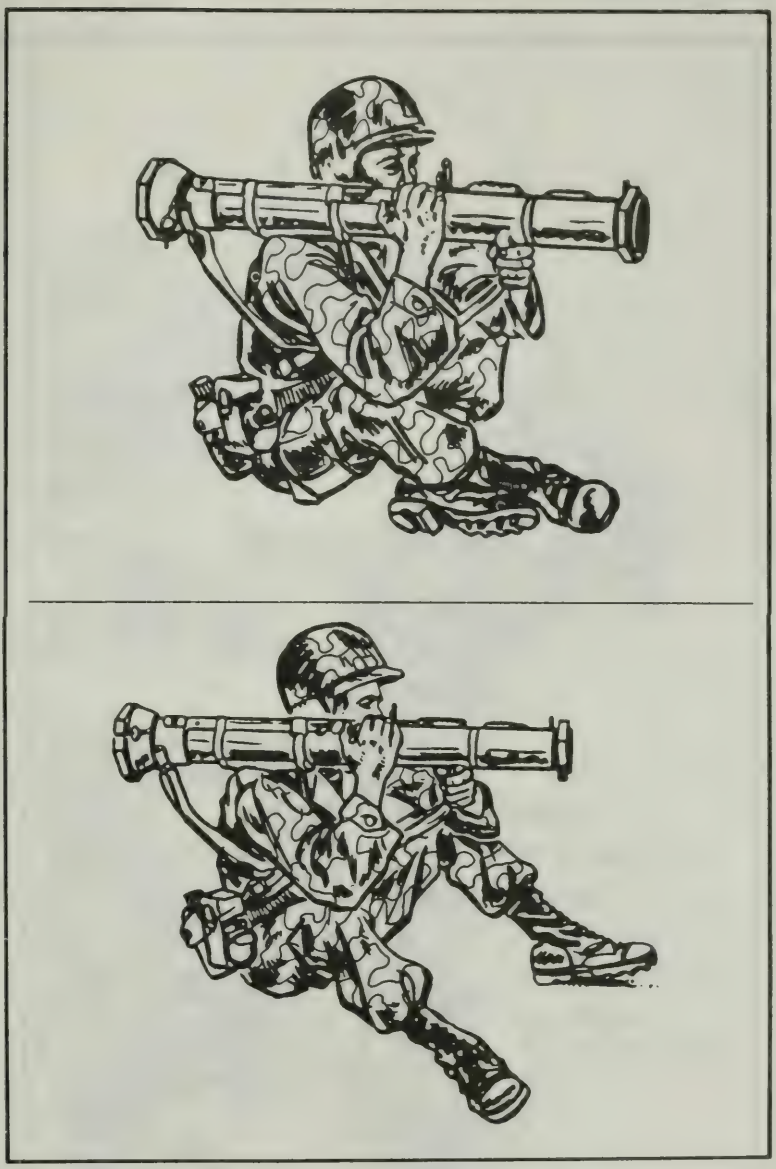


Figure 138. First and second sitting positions.


90°



Figure 140. Correct sight picture.

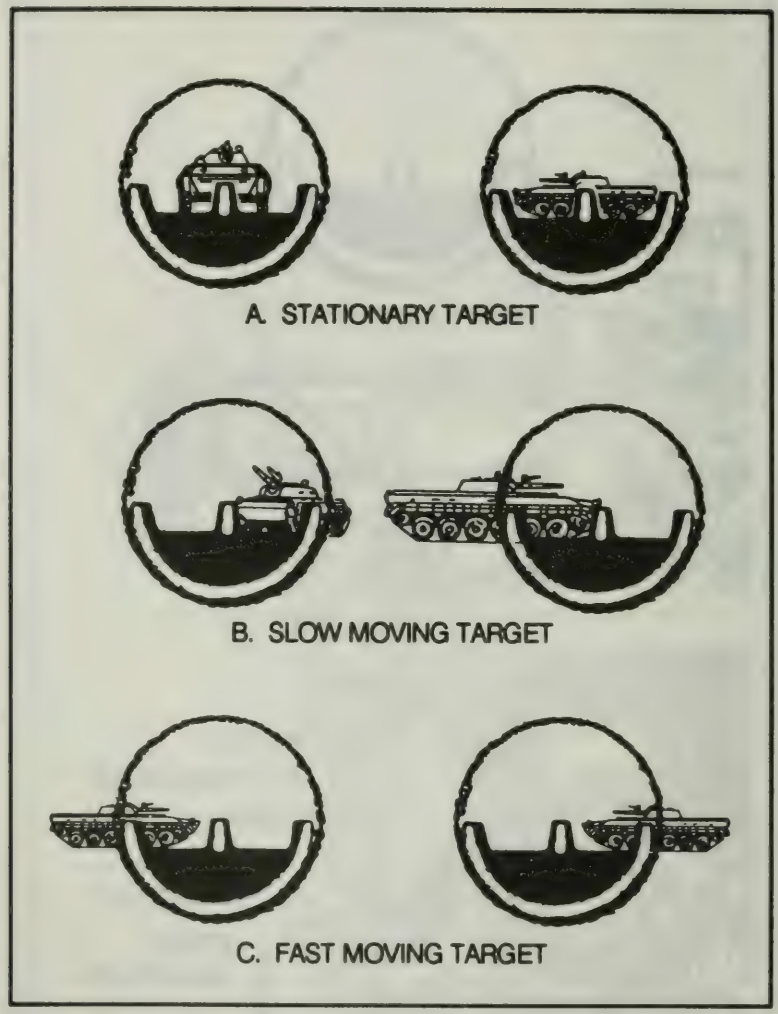


Figure 141. Correct placement of the front sight lead pos

(a) If the vehicle is moving from right to left, place the right hand lead post at the center of mass (Figure 141C).

(b) If the vehicle is moving from left to right, place the left hand lead post at the center of mass (Figure 141C).

3. Methods of engagement.

a. Single firing. In single firing, a target is engaged by one soldier firing one launcher with no succeeding shots (Figure 142). This method should be used only at ranges of 200 meters or less.

b. Sequence firing. In sequence firing, the target is engaged by one soldier equipped with two or more launchers (Figure 143). He observes the impact of the first round. If it is a hit, he continues to fire until the target is destroyed. If the first round was a miss, the soldier applies burst-on-target corrections until the target is hit.

WARNING
ENSURE EACH FIRER IS CLEAR OF THE OTHER'S BACKBLAST AREA.

c. Pair firing. In pair firing, two or more soldiers equipped with two or more launchers engage a single target (Figure 144). The first soldier who sees the target identifies it, announces the estimated range and the lead that he will use (example: "BMP, One Five Zero Meters, Fast Target") and fires. The second soldier observes the impact and announces a revised estimate of range and lead (if appropriate) and fires. Each soldier

Figure 142. Single fixi

Figure 143. Sequence firing.

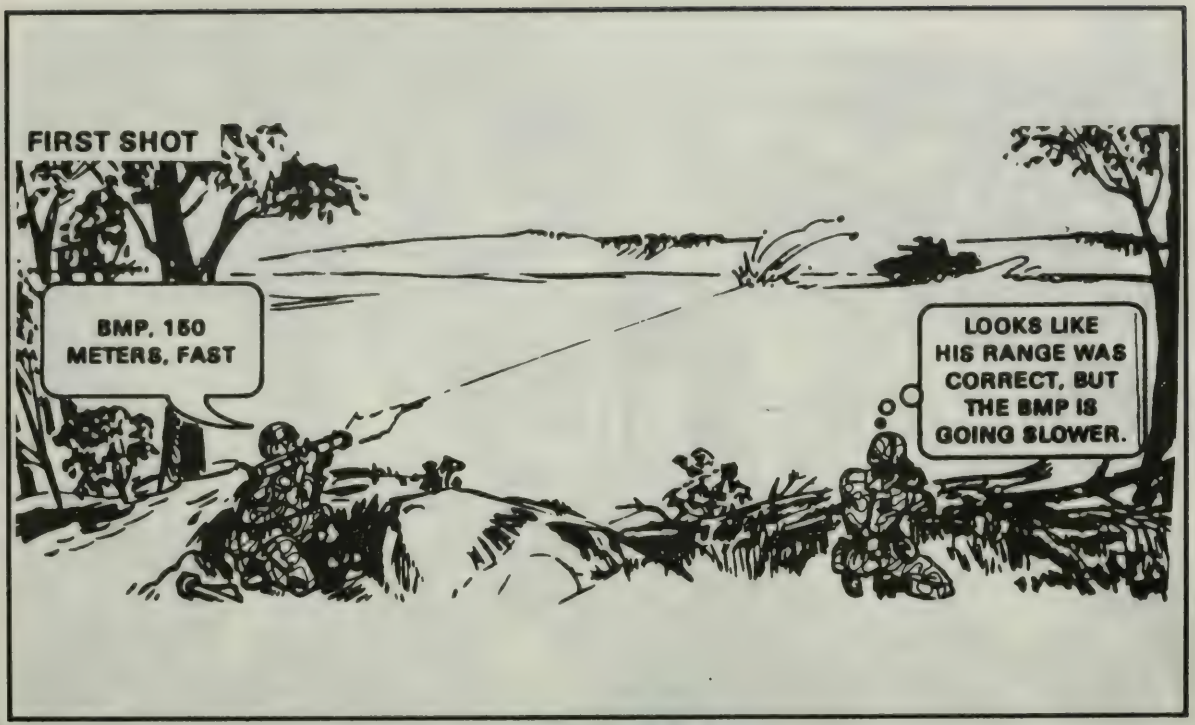


Figure 144. Pair firing.

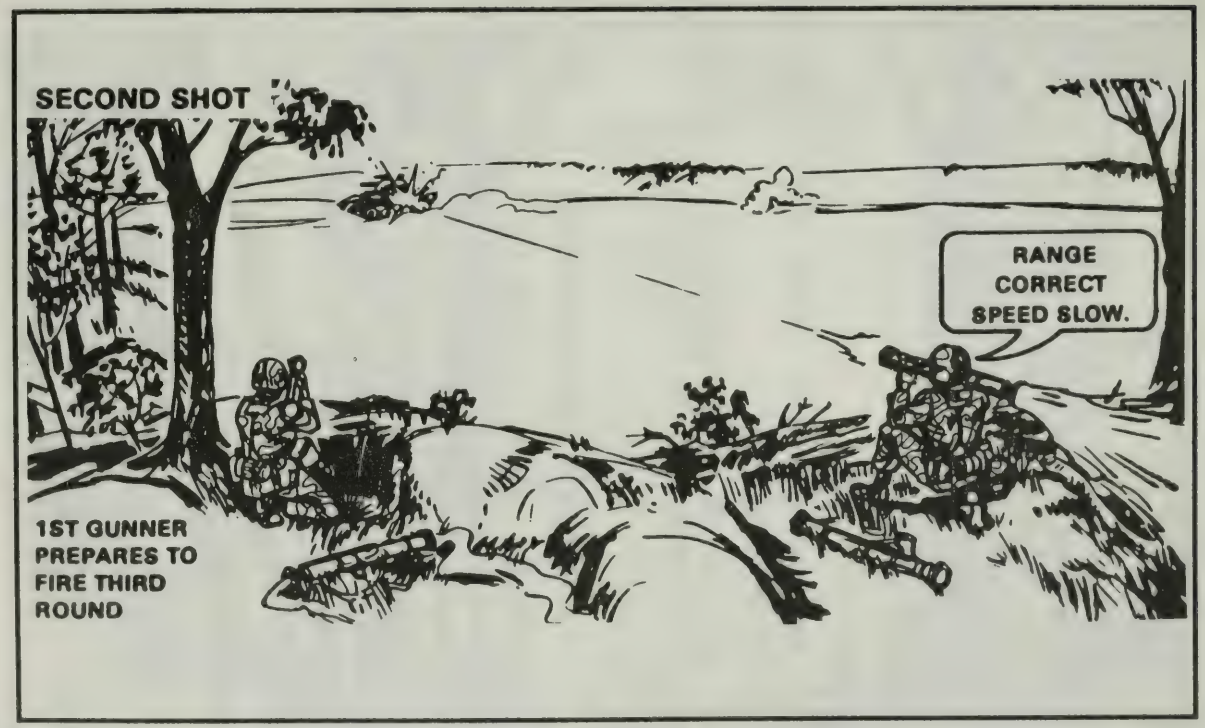


Figure 144. Pair firing (continued).

continues exchanging range and lead information until the target is destroyed.

d. Volley firing. In volley firing, a single target is engaged by more than one soldier using the same sight data to fire one or more launchers (Figure 145). Volley firing should be used when the range to the target is known. Since more rounds are fired at the target, this method will increase the probability of hitting the target and obtaining a kill.

4. Target vulnerability.

a. An armored vehicle usually has its heaviest armor on the front slopes.

b. Firers should try to engage the armored vehicle's weak points, which are the sides and the rear (Figure 146).

Evaluation Preparation

Setup: At the test site, provide the soldier with a tracer trainer, targets to be engaged, and a replica of the sights and pictures of the vehicles.

Brief Soldier: Tell the soldier which firing position to use and which target to engage. Tell him that he must answer questions about firing the launcher.

Figure 145. Volley firing.

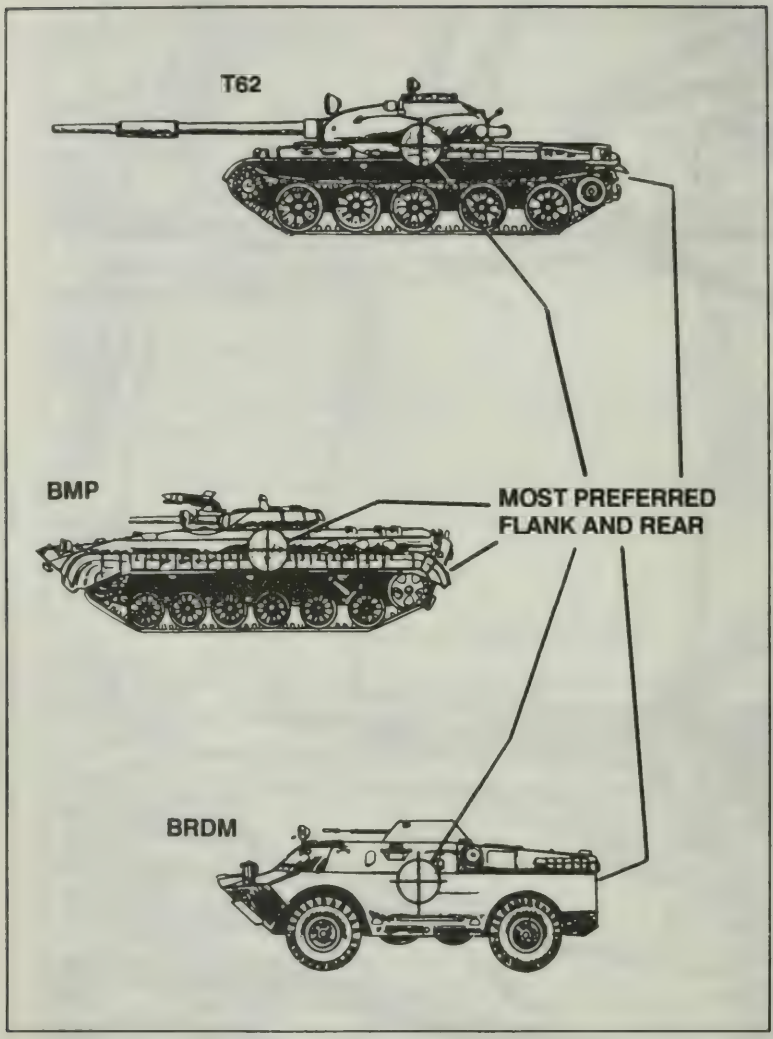


Figure 146. Armor weak points.

Evaluation Guide: 071-054-0004

ENGAGE TARGETS WITH AN M138 LAUNCHER

	Performance Measures	*Results*	
1.	Assumes the given firing positions.	P	F
	a. Standing.		
	b. Kneeling.		
	c. Sitting.		
	d. Prone.		
2.	Adjusts the rear sight to the range when required.	P	F
3.	Uses the correct sight placement to engage the targets.	P	F
	a. Stationary targets.		
	b. Slow-moving targets.		
	c. Fast-moving targets.		
	d. Oblique-moving targets.		
	e. Head-on or rear targets.		
4.	Answers the questions on the methods of engagement.	P	F
	a. Single firing.		
	b. Sequence firing.		
	c. Pair firing.		
	d. Volley firing.		
5.	Answers the questions on a target's weak points.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier fails any steps, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1340-886-14

★ ★ ★ ★ ★

PERFORM A FUNCTION CHECK ON AN M203 GRENADE LAUNCHER

071-311-2126

CONDITIONS

Given an M203 grenade launcher.

STANDARDS

Correctly perform a function check so that the grenade launcher operates properly.

TRAINING AND EVALUATION

Training Information Outline

Note: *A function check is performed each time the grenade launcher is reassembled or any time there is doubt as to whether the weapon is functioning properly.*

1. Perform a function check on the M203.

a. Check the proper operation of the sears. Cock the launcher and pull the trigger; the firing pin should release. Hold the trigger to the rear and cock the launcher. Release the trigger and pull it again; the firing pin should release.

WARNING

THE LAUNCHER COULD FIRE WITHOUT PULLING THE TRIGGER IF THE SEARS DO NOT FUNCTION PROPERLY.

b. Use the trigger to check the safety in both SAFE and FIRE positions. Launcher must be cocked before the safety can be placed in the SAFE position.

c. Check the leaf sight windage adjustment screw for proper operation. Do not move the elevation adjustment screw if the weapon has been zeroed.

d. Move the barrel forward and back to be sure the stop and barrel latch function properly.

2. Give the rifle to the unit armorer if at any time during the function check the rifle fails to function properly.

Evaluation Preparation

Setup: Provide an M203 at the test site.

Brief Soldier: Tell the soldier to perform a function check on the M203 grenade launcher.

Evaluation Guide: 071-311-2126

PERFORM A FUNCTION CHECK ON AN M203 GRENADE LAUNCHER

	Performance Measures	*Results*	
1.	Checks operation of the sears in both SAFE and FIRE position.	P	F
2.	Checks the leaf sight windage adjustment screw for proper operation.	P	F
3.	Checks the barrel and stop function.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

TM 9-1010-221-10

★ ★ ★ ★ ★

LOAD AN M203 GRENADE LAUNCHER

071-311-2127

CONDITIONS

Given an M203 grenade launcher and ammunition.

STANDARDS

Load the M203 using correct procedures while observing all safety precautions.

TRAINING AND EVALUATION

Training Information Outline

1. Load the M203.

a. Press the barrel latch and slide the barrel forward (Figure 147).

b. Place the weapon on SAFE and keep it on SAFE until ready to fire (Figure 148).

WARNING
KEEP THE MUZZLE POINTED DOWNRANGE AND CLEAR OF ALL TROOPS.

3. Insert the ammunition into the chamber (Figure 149).

4. Slide the barrel rearward until it locks (Figure 150).

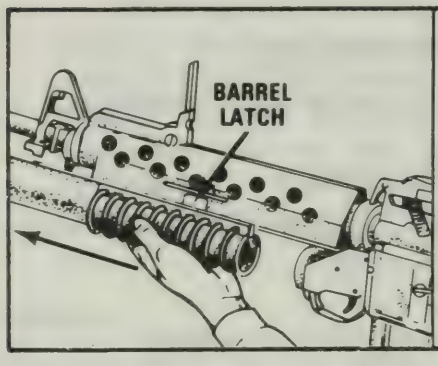


Figure 147. Sliding the barrel forward.

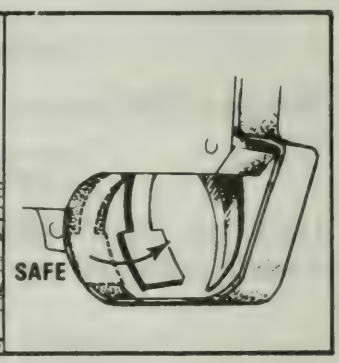


Figure 148. Placing the weapon on SAFE.

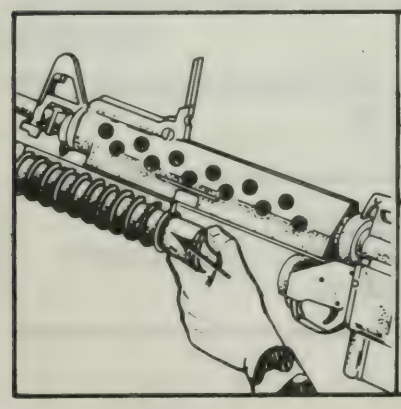


Figure 149. Inserting the round.

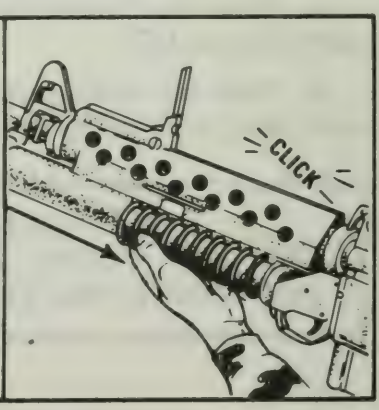


Figure 150. Locking the barrel to the rear.

Evaluation Preparation

Setup: On a table, place an unloaded M203 grenade launcher, with sling loose and safety off, and one dummy round of 40-mm ammunition. The M203 must be uncocked.

Brief Soldier: Tell the soldier to load the M203.

Evaluation Guide: 071-311-2127

LOAD AN M203 GRENADE LAUNCHER

	Performance Measures	*Results*	
1.	Slides the barrel forward	P	F
2.	Places the launcher on SAFE.	P	F
3.	Loads the launcher.	P	F
	a. Inserts the round into the chamber.		
	b. Slides the barrel to the rear and locks it to the breech.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-31
TM 9-1010-221-10

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UNLOAD AN M203 GRENADE LAUNCHER

071-311-2128

CONDITIONS

Given a loaded M203 grenade launcher.

STANDARDS

Unload the M203 using the correct procedure while observing all safety precautions.

TRAINING AND EVALUATION

Training Information Outline

1. Unload the M203.

> **CAUTION**
> IF THE WEAPON WAS NOT FIRED, USE EXTREME CAUTION DURING UNLOADING PROCEDURES. WHERE CIRCUMSTANCES PERMIT, EITHER CATCH THE EJECTED ROUND OR REDUCE THE DISTANCE IT FALLS BY HOLDING THE WEAPON CLOSE TO THE GROUND.

a. Depress the barrel latch and move the barrel forward. The casing or the round should automatically eject.

b. Place the weapon on SAFE.

Note: *If the casing is stuck, remove it by tapping it with a cleaning rod.*

c. Slide the barrel rearward, locking it to the breech.

Evaluation Preparation

Setup: At the test site, provide an M203 loaded with a dummy round.

Brief Soldier: Tell the soldier that he is to unload the weapon while assuming that there is a live round in the weapon.

Evaluation Guide: 071-311-2128

UNLOAD AN M203 GRENADE LAUNCHER

	Performance Measures	*Results*	
1.	Depresses the barrel latch.	P	F
2.	Slides the barrel forward.	P	F
3.	Catches the ejected round.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

References

FM 23-31
TM 9-1010-221-10

★ ★ ★ ★ ★

CORRECT MALFUNCTIONS OF AN M203 GRENADE LAUNCHER

071-311-2129

CONDITIONS

Given a loaded M203 that has a malfunction and has stopped firing.

STANDARDS

Eliminate the stoppage using immediate action procedures in such a manner that firing is resumed.

TRAINING AND EVALUATION

Training Information Outline

1. Apply immediate action to correct a malfunction.

a. After a failure to fire because of the possibility of a misfire or hangfire, take the following precautions until the round has been removed from the weapon and the cause of the failure to fire is determined.

(1) Shout "Misfire" while keeping the weapon pointing at the target, and keeping all troops clear of the muzzle.

Note: *Shouting "Misfire" should apply only to training situations.*

WARNING

IN TRAINING SITUATIONS, BEFORE ATTEMPTING TO REMOVE THE ROUND FROM THE GRENADE LAUNCHER, CLEAR THE AREA OF SOLDIERS NOT NEEDED FOR THE OPERATION.

(2) Wait 30 seconds from the time of the failure to fire before opening the breech for unloading procedures.

Note: *A hangfire is a delay in the propellant igniting. A misfire is a failure to fire; both are handled in the same way.*

b. Use extreme caution during unloading procedure. Where circumstances permit, either catch the ejected round or reduce the distance the round falls by holding the weapon close to the ground.

2. After you have removed the round from the receiver, determine whether the round or the firing mechanism is defective. Examine the primer to see if it has been dented. If the primer has not been dented, the firing mechanism is at fault. The round may be reloaded and fired after the cause of failure to fire has been corrected.

3. If the primer has been dented, keep the round separate from other ammunition until it can be disposed of properly.

Evaluation Preparation

Setup: At any test site, provide an M203 loaded with a dummy round and another dummy round available.

Brief Soldier: Tell the soldier that the weapon has just failed to fire. Tell the soldier that he is to apply immediate action on the weapon.

Evaluation Guide: 071-311-2129

CORRECT MALFUNCTIONS OF AN M203 GRENADE LAUNCHER

	Performance Measures	*Results*	
1.	Shouts "Misfire."	P	F
2.	Keeps weapon pointed at the target, and warns troops to clear the area.	P	F
3.	Waits 30 seconds from the time of failure to fire before opening the breech for unloading.	P	F
4.	Opens breech and catches the round.	P	F
5.	Inspects the round.	P	F
6.	Keeps round separate from other ammunition if primer dented.	P	F
7.	Reloads weapon.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-31
TM 9-1010-221-10

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ENGAGE TARGETS WITH AN M203 GRENADE LAUNCHER

071-311-2130

CONDITIONS

Given an M203 grenade launcher and ammunition.

STANDARDS

Engage and destroy or disable targets within engagement range.

TRAINING AND EVALUATION

Training Information Outline

1. Sight. Sighting consists of sight alignment and getting a sight picture (Figure 151).

2. Aim.

a. Obtain a correct sight alignment and then shift your focus to the target for a correct sight picture. As you press the trigger, continue shifting eye focus.

b. Use controlled breathing just as you would when firing the rifle.

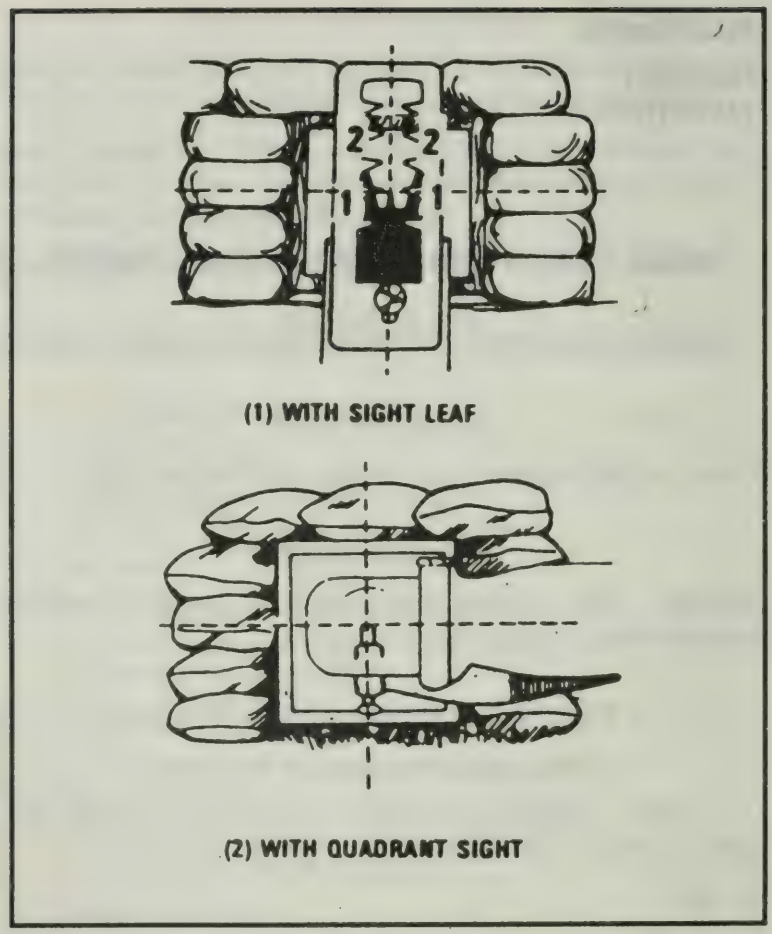


Figure 151. Correct sight alignment and sight picture.

3. Pointing technique. Bring the weapon to a modified underarm firing position. With both eyes open, concentrate your vision on the target, keeping the flash suppressor of the rifle in the lower part of your field of view. Point the flash suppressor of the rifle at the target and sense the elevation of the weapon with respect to the range to the target. To make corrections in elevation and deflection, observe the impact of the round and make proper changes in the position of the weapon.

4. Observation.

a. Observation is a determination by the grenadier as to where the grenade explodes with respect to the target. Observations are made in both range and deviation to the nearest 5 meters (the casualty radius of the high-explosive round is 5 meters).

b. Range observations are made as follows:

(1) Short. When the grenade bursts between the grenadier and target.

(2) Over. When the burst is beyond the target.

(3) Target. When the grenade hits any portion of target.

(4) Range correct. When the grenade is slightly left or right of the target but at correct range.

(5) Doubtful. When the grenade is left or right and the grenadier cannot make positive range determination.

c. Deviation observations are right, left, or line.

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5. Fire. Using the fundamentals of marksmanship, aim the weapon and squeeze the trigger.

6. Adjust fire.

a. Adjustment of fire is the action you take, as the grenadier, using observation, sight, manipulation, and an adjusted aiming point to ensure a second-round hit.

b. When using the leaf sight, simply change your sight alignment or use an adjusted aiming point.

c. If the grenade impacts more than 25 meters over or short of the target, adjust the range quadrant to bring the next grenade on target.

7. Determine range. (See task Estimate Range, task number 071-326-0512) Successful target engagement depends upon your ability to determine range. Ranges at which a 50 percent probability of target hit can be expected are shown below.

Point Targets:

Bunker opening ..... 50 meters.

Window opening .....125 meters.

Vehicle or weapons emplacement ..200 meters.

Area Targets (fire team size) .....350 meters

WARNING

WHEN YOU FIRE HIGH-EXPLOSIVE GRENADES AT TARGETS WITHIN 80 METERS (265 FEET), BE IN A PROTECTIVE POSITION. TARGETS IN A TRAINING SITUATION SHOULD NOT BE ENGAGED WITHIN 80 METERS; TARGETS IN A COMBAT SITUATION, NO CLOSER THAN 31 METERS.

Evaluation Preparation

Setup: Before doing this task, ensure that the soldier is proficient in task 071-311-2127, Load an M203 Grenade Launcher; 071-311-2128, Unload an M203 Grenade Launcher; and 071-311-2129, Correct Malfunctions of an M203 Grenade Launcher. Simulate positions and targets as described below. Provide seven practice rounds of ammunition.

Target	Range (in Meters)
Window (.75 meter wide x 1 meter high)	90-100
Bunker	135-150
Troops in open	325-350
Troops in open emplacement	275-300

Brief Soldier: Tell the soldier that, using the positions and targets listed on the evaluation guide and applying immediate action to reduce any stoppage, he must hit three of the targets using no more than seven rounds. Tell the soldier that any of the seven rounds that cannot be used will be replaced.

Note: *At the end of the test, the M203 must be cleared; however, the soldier will not be scored on this step.*

Evaluation Guide: 071-311-2130

ENGAGE TARGETS WITH AN M203 GRENADE LAUNCHER

	Performance Measures	*Results*	
1	With no more than seven practice rounds, hits three out of four of the following targets:	P	F
	a. From a kneeling supported position, places a round through a window .75 meters wide by 1 meter high.		
	b. From a fighting position, hits the front of the bunker.		
	c. From a prone supported position, hits within 5 meters of the target used for troops in an open emplacement.		
	d. From a prone supported position, hits within 5 meters of troops in open.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-31
TM 9-1010-221-10

★ ★ ★ ★ ★

PERFORM A FUNCTION CHECK ON AN M60 MACHINE GUN

071-312-3026

CONDITIONS

Given an M60 machine gun.

STANDARDS

Properly perform a function check on the M60 machine gun in the prescribed sequence.

TRAINING AND EVALUATION

Training Information Outline

1. Place the safety on F (fire).
2. Pull the cocking handle to the rear.
3. Close the cover.
4. Place the safety on S (safe).
5. Pull the trigger; the bolt should not go forward.

Note: *If the bolt goes forward with the safety on S, the squad leader must be notified and the machine gun turned in to maintenance.*

6. Place the safety on F.

7. While holding the cocking handle to the rear, pull the trigger and allow the bolt to ease forward. If the bolt does not go forward, the machine gun must be disassembled and then reassembled.

8. Place the safety on S.

Evaluation Preparation

Setup: At the test site, provide one M60 machine gun, either tripod- or bipod-mounted.

Brief Soldier: Tell the soldier that he is to perform a function check on the machine gun.

Evaluation Guide: 071-312-3026

PERFORM A FUNCTION CHECK ON AN M60 MACHINE GUN

	Performance Measures	*Results*	
1.	Places the safety on F.	P	F
2.	Pulls the cocking handle to the rear.	P	F
3.	Closes the cover.	P	F
4.	Places the safety on S.	P	F
5.	Pulls the trigger.	P	F
6.	Places the safety on F.	P	F
7.	Pulls the trigger and eases the bolt forward.	P	F
8.	Places the safety on S.	P	F
9.	States whether the machine gun is correctly assembled.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-67
TM 9-1005-224-10

★ ★ ★ ★ ★

LOAD AN M60 MACHINE GUN

071-312-3027

CONDITIONS

Given a cleared M60 machine gun and linked 7.62-mm ammunition.

STANDARDS

When the safety is put on F (fire) and the trigger pulled, the machine gun will fire.

TRAINING AND EVALUATION

Training Information Outline

Note: *The machine gun is loaded in the open bolt position. The safety must be placed in the fire position before the bolt can be pulled to the rear.*

1. Place the safety on F (fire).

2. With the palm of your hand facing up, pull the cocking handle to the rear locking the bolt to the rear.

3. Return the cocking handle to the forward position.

4. Place the safety on S (safe).

5. Raise the cover and ensure that the feed tray, receiver group, and chamber are clear.

6. Place the first round of the belt in the feedtray groove, making sure the double link is leading with the open side of the link down.

7. Close the cover, ensuring that the round remains in the feed tray groove. Hold the belt up (about six rounds from the loading end) while closing the cover.

Evaluation Preparation

Setup: At the test position, place an M60 machine gun, with bipod legs extended. Place a belt of linked dummy 7.62-mm ammunition with the machine gun. For standardization, have the bolt and cocking lever forward, the safety on S, and the belt of ammunition on top of the cover. Ensure the ammunition is clean and linked properly. Get an assistant to relink and wipe the ammunition clean for repeat testing.

Brief Soldier: Tell the soldier to assume the prone position. Tell the soldier to load the M60 machine gun.

Evaluation Guide: 071-312-3027

LOAD AN M60 MACHINE GUN

	Performance Measures	*Results*	
1.	Places the safety on F.	P	F
2.	Pulls, with palm up, the cocking handle to the forward position.	P	F
3.	Returns the cocking handle to the forward position.	P	F
4.	Places the safety on S.	P	F
5.	Raises the cover, ensures the feed tray, receiver group, and chamber are clear.	P	F
6.	Places round in the feed tray groove.	P	F
7.	Closes the cover, round remain in the feed tray groove.	P	F
8.	Holds the belt up while closing the cover.	P	F
9.	Completes steps 1 through 8 in sequence.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-67
TM 9-1005-224-10

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UNLOAD AN M60 MACHINE GUN

071-312-3028

CONDITIONS

Given an M60 machine gun, loaded with linked 7.62-mm ammunition.

STANDARDS

The machine gun is unloaded, cleared, and rendered safe.

TRAINING AND EVALUATION

Training Information Outline

1. Unloading.

a. Pull the cocking handle to the rear, ensuring that the bolt is locked to the rear. If necessary, put the safety lever on F (fire).

b. Place the safety lever on S (safe) and return the cocking handle to its forward position.

c. Raise the cover.

d. Remove any ammunition or links from the tray.

e. Raise the feed tray and look into the chamber to ensure that it is empty.

2. Clearing.

a. After ensuring that the chamber is empty, close the cover.

b. Place the safety lever on F.

c. Pull the cocking handle to the rear and hold it.

CAUTION

THE BOLT MUST BE EASED FORWARD TO PREVENT DAMAGE TO THE FEED TRAY ASSEMBLY AND OPERATING ROD ASSEMBLY. DO NOT CLOSE THE COVER WITH THE BOLT FORWARD.

d. Pull the trigger and allow the bolt to ease forward.

e. Place the safety on S.

Evaluation Preparation

Setup: At the test site, place an M60 machine gun loaded with a belt of five or less rounds of linked ammunition. The bipod legs should be extended. For standardization, have the bolt to the rear and the safety lever on F.

Brief Soldier: Tell the soldier to assume the prone position. Tell the soldier to unload and clear the machine gun.

Evaluation Guide: 071-312-3028

UNLOAD AN M60 MACHINE GUN

	Performance Measures	*Results*	
1.	Pulls the cocking handle to the rear.	P	F
2.	Places the safety on S and returns the cocking handle to its forward position.	P	F
3.	Raises the cover.	P	F
4.	Removes all ammunition and links.	P	F
5.	Looks into the chamber and removes any rounds.	P	F
6.	Closes the cover.	P	F
7.	Pulls cocking handle to the rear.	P	F
8.	Places safety lever on F.	P	F
9.	Pulls the trigger and eases the bolt forward.	P	F
10.	Places the safety lever on S.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-67
TM 9-1005-224-10

★ ★ ★ ★ ★

CORRECT MALFUNCTIONS OF AN M60 MACHINE GUN

071-312-3029

CONDITIONS

Given a loaded M60 machine gun and a spare barrel. The machine gun has been firing and a stoppage has occurred.

STANDARDS

Apply the action required to correct the stoppage and resume firing.

TRAINING AND EVALUATION

Training Information Outline

1. Malfunctions.

a. Sluggish operation.

(1) Sluggish operation is usually due to excessive friction caused by carbon buildup, lack of lubrication, burred parts, or excessive loss of gas because of a loose or missing gas-port plug.

(2) Corrective action includes cleaning, lubricating, inspecting, and replacing parts as necessary.

b. Uncontrolled fire (runaway gun).

(1) Uncontrolled fire (the gun continues to fire after the trigger is released) is usually caused by the gunner not pulling and holding the trigger all the way

to the rear. This results in the sear not clearing the sear notch, which causes wear to the sear and sear notch.

(2) The immediate actions to apply for uncontrolled fire are:

(a) The gunner holds the gun on the target until the remaining ammunition is fired.

(b) The assistant gunner stops the gun from firing by quickly twisting the belt in either direction which results in the belt breaking.

(3) When the gun has stopped firing, the gun is inspected to determine the cause of the malfunction.

2. Stoppage and immediate action.

Note: *The only stoppage covered in this task will be failure to fire. For other types of interruptions or stoppages, see FM 23-67.*

a. Stoppage (failure to fire).

(1) A stoppage is any interruption in the cycle of operation caused by faulty action of the gun or faulty ammunition.

(2) The types of stoppages are:

(a) Failure to feed.

(b) Failure to chamber.

(c) Failure to lock.

(d) Failure to fire.

(e) Failure to extract.

(f) Failure to cock.

b. Immediate action for failure to fire. Immediate action is action taken to reduce a stoppage (failure to fire) without looking for the cause. Immediate action is taken within 10 seconds of a stoppage.

(1) Pull the cocking handle to the rear. Watch the ejection port to see if a cartridge, cartridge case, or belt link is ejected.

(2) If a cartridge, cartridge case, or belt link is ejected, return the cocking handle to the forward position.

(3) Try to fire the gun. If the gun still does not fire, apply remedial action.

(4) If, when pulling the cocking handle to the rear, nothing is ejected, lock the bolt to the rear and return the cocking handle forward. Apply remedial action.

c. Remedial action.

(1) Cold gun. To apply remedial action to a cold gun:

(a) Place safety on SAFE, raise the cover and remove the belt of ammunition.

(b) Raise the feed tray and inspect the chamber.

(c) If there is no round in the chamber, reload the gun and try to fire. If the gun fires, the stoppage has been corrected. If the gun fails to fire, again apply immediate action, then remedial action, then disassemble and inspect the gun.

(d) If there is a cartridge in the chamber, close the cover and try to fire. If the gun fires, reload and continue to fire; the stoppage has been corrected. If the gun does not fire, ensure the cocking handle is forward and the safety is on SAFE.

Note: *During combat, if a cartridge is stuck in the chamber, the crew will change barrels, reload, and continue firing. If during training, the unit armorer will be notified.*

(2) Hot gun (200 rounds fired in two minutes).

(a) Move the safety to SAFE, raise the cover, and remove the belt of ammunition.

(b) Raise the feed tray and inspect the chamber.

(c) If there is no round in the chamber, reload and try to fire. If the gun fires, the stoppage has been corrected. If the gun fails to fire, again apply immediate action, then remedial action.

CAUTION

IN TRAINING SITUATIONS, WAIT 15 MINUTES BEFORE APPLYING REMEDIAL ACTION. THIS WAY, YOU WILL NOT GET HURT BY A POSSIBLE AMMUNITION COOKOFF.

(d) If there is a round in the chamber, close the cover and try to fire. If the gun fires, reload and continue to fire. If the gun does not fire, ensure the cocking handle is forward and the safety is on SAFE.

Note: *In combat, the crew will change barrels and continue the mission.*

Evaluation Preparation

Setup: At the test site, provide an M60 machine gun on a tripod and traversing and elevating mechanism, spare barrel, and a belt of 15 to 20 blank or dummy rounds. The gun will be loaded and the safety on SAFE. If blank rounds are used, a fired round will be used in about the center of the belt to cause a stoppage.

Brief Soldier: Tell the soldier to assume the prone position. Tell him to fire the gun and apply any required immediate action. Tell the soldier that the test does not require him to perform remedial action.

Evaluation Guide: 071-312-3029

CORRECT MALFUNCTIONS OF AN M60 MACHINE GUN

Note: *1, 2, and 3 are tested together, and 1, 2, 4, and 5 are tested together*

	Performance Measures	*Results*	
1.	Pulls cocking handle to the rear.	P	F
2.	Watches ejection port for any ejected material.	P	F
3.	Returns cocking handle forward and fires again if any material is ejected.	P	F
4.	Locks bolt to rear and returns cocking handle forward if nothing is ejected.	P	F

5.	States that remedial action must be taken if nothing is ejected or if the gun does not fire.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-67
TM 9-1005-224-10

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ENGAGE TARGETS WITH AN M60 MACHINE GUN

071-312-3031

CONDITIONS

During daylight, you are given a zeroed, M60 machine gun with bipod, an assistant gunner, linked rounds of 7.62-mm ammunition, and engageable targets.

STANDARDS

Fire the M60 machine gun in such a manner that the targets will be hit.

TRAINING AND EVALUATION

Training Information Outline

Note: *This task is designed to familiarize the soldier with firing the M60 machine gun and does not describe standards by which an assigned gunner or assistant gunner should be measured.*

1. Assume a stable, prone firing position.

2. Fire the weapon using the correct sight alignment and picture.

a. Sight alignment. Center the front sight blade in the aperture of the rear sight with the top of the front sight blade even with the top of the rear sight slide (Figure 152).

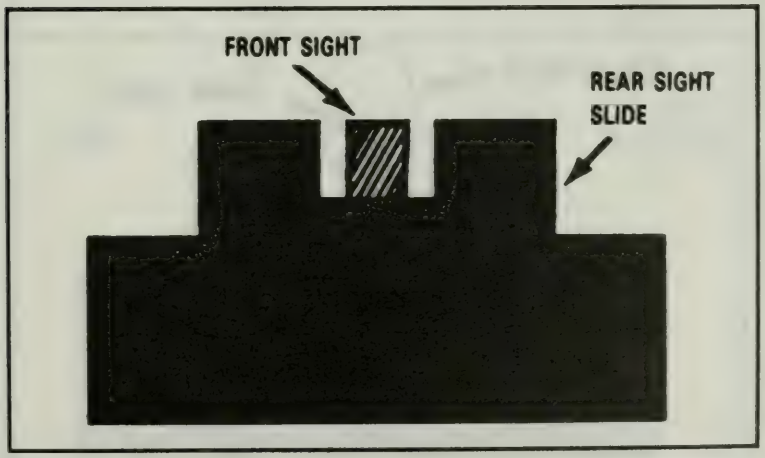


Figure 152. Sight alignment.

b. Sight picture. Center the target over the front sight blade so that it appears to rest on top of the front sight blade and on top of the rear sight slide (Figure 153).

3. Pull the trigger correctly. When firing the M60 machine gun, the trigger is not squeezed as with other small arms. It is pulled straight to the rear and then released. This aids in controlling the number of rounds in each burst and prevents excessive wear on the sear and sear notch. To time yourself in firing a six-round burst, pull the trigger straight to the rear and say "Fire a burst of six" and release the trigger.

4. Apply correct traversing and searching techniques.

a. Traversing is moving the muzzle of the weapon to the left or right to distribute fire laterally. With the bipod-mounted gun, this is done by selecting successive

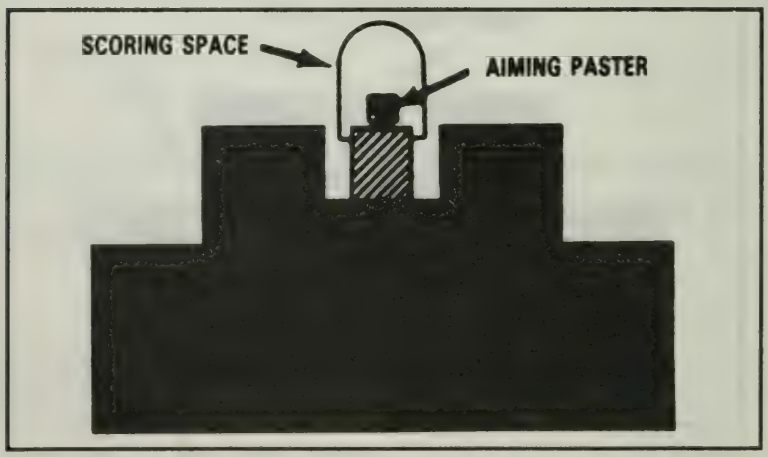


Figure 153. Sight picture.

aiming points in the target area (Figure 154). Shift your shoulders slightly to the right or left for minor changes. For major changes in direction, move your elbows and align the body to remain directly behind the gun.

b. Searching is moving the muzzle of the weapon up or down to distribute fire in depth. It is done by selecting successive aiming points in the targets area (Figure 3). To make changes in elevation, move your elbows closer together or farther apart.

5. Use observation and adjustment of fire.

a. Observation of fire. Machine gun fire is observed by noting the strike of the projectiles in the target area,

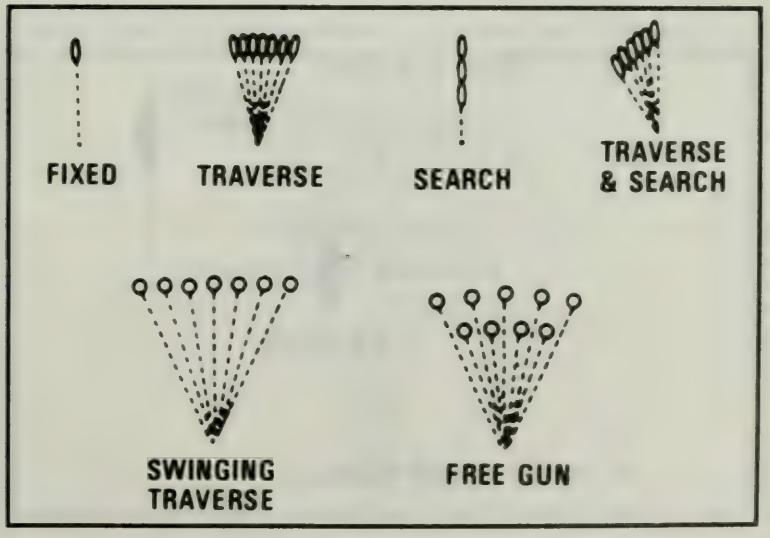


Figure 154. Traversing and searching.

by observing tracers in their flight, or, in the case of the 10-meter range, by noting the holes made in the target.

b. Adjustment of fire. When firing the bipod-mounted gun, adjust fire by changing your body position and using the traversing and searching method.

6. Apply the adjusted aiming point method.

a. The adjusted aiming point method is a means of rapidly and accurately adjusting fires without making a sight adjustment.

b. If you miss the target with your initial burst, select a new aiming point on the ground the same distance from the target as the center of impact of the initial burst but in the opposite direction, and fire a second burst (Figure 155).

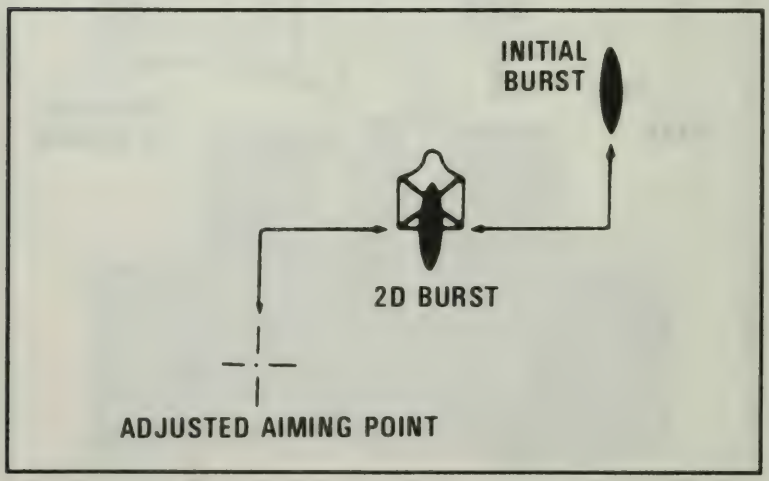


Figure 155. Adjusting the aiming point.

7. Engage the three types of battlefield targets: area, point, and moving.

a. To engage an area target (Figure 156):

(1) Determine the width and depth of the target.

(2) Fire six- to nine-round bursts until you hit the center of mass of the target area.

(3) Use traversing and searching fire to cover the target area.

b. To engage a point target (Figure 157):

(1) Select a distinct aiming point.

(2) Estimate range.

(3) Fire six- to nine-round bursts to obtain accurate range and deflection.

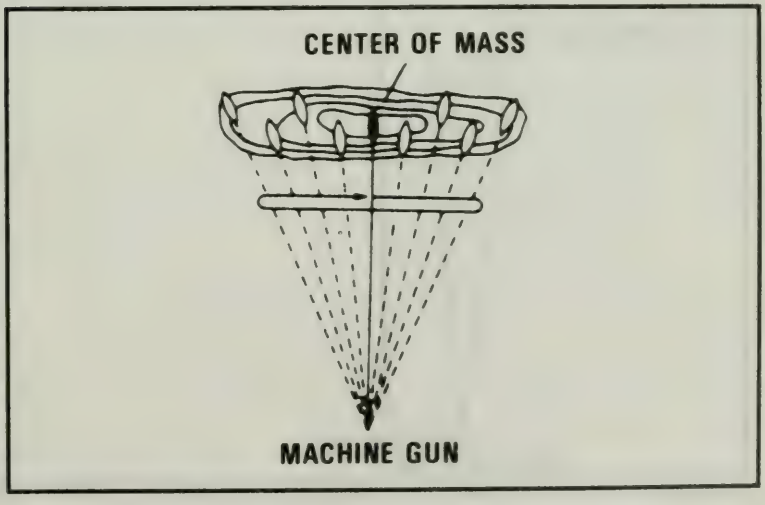


Figure 156. Center of mass.

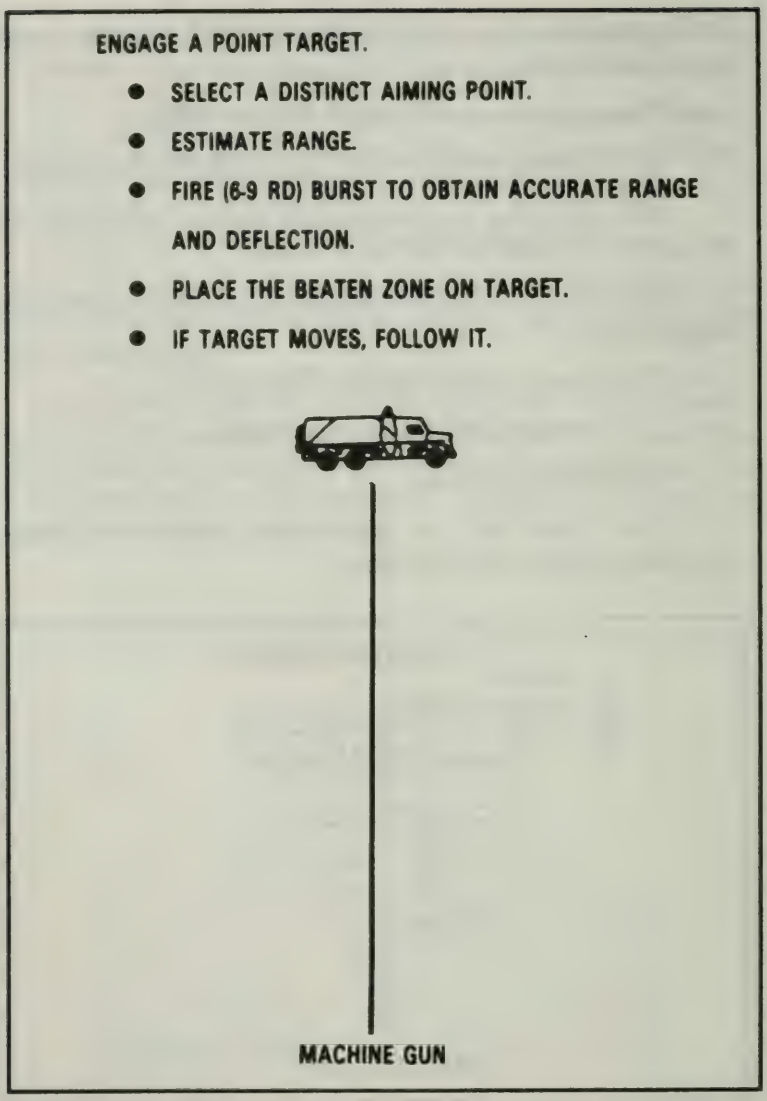


Figure 157. Point target engagement.

(4) Place the beaten zone on target. The beaten zone is the pattern formed by the rounds of each burst striking the ground or target.

(5) If the target moves, follow it.

c. To engage a moving target (Figure 158):

(1) Estimate the speed of the target and the required lead.

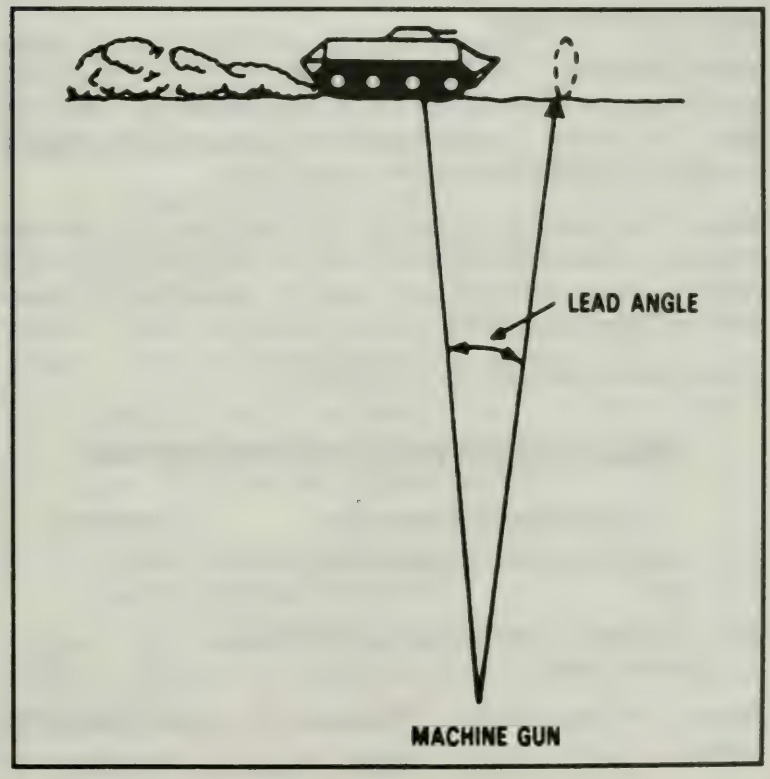


Figure 158. Moving target engagement.

(2) Fire and track as the target moves.

(3) Adjust the lead by observing tracers and the strike of the bullets.

Evaluation Preparation

Setup: Soldier must be proficient on task 071-312-3027, Load an M60 Machine Gun, before doing this task. Position the target and the M60 at the test site. Load the M60.

Brief Soldier: Tell the soldier that a test will be given on firing the M60 from the prone position. You will give the soldier instructions, and the soldier should modify the firing techniques accordingly.

Note: *If a moving target is not available for per-formance measure 8, tell the soldier to pretend to fire at a moving target and tell you what he should do to keep hitting the target.*

Evaluation Guide: 071-312-3031

ENGAGE TARGETS WITH AN M60 MACHINE GUN

	Performance Measures	*Results*	
1.	Uses a stable, prone firing position.	P	F
2.	Applies traversing technique while firing.	P	F

Note: *Tell the soldier, "Traverse for minor change in point."*

a. Shifts shoulders slightly to the right or left.

Note: *Tell the soldier, "Traverse for major changes in direction."*

b. Moves elbows and realigns body to remain directly behind the gun.

3. Applies search technique while firing. P F

Note: *Tell the soldier, "Search down."*

a. Moves elbows closer together.

Note: *Tell the soldier, "Search up."*

b. Moves elbows further apart.

4. Applies observation and adjustment of fire. P F

Note: *With the soldier aiming straight ahead, tell the soldier, "Aim and fire higher to the right."*

5. Changes body position, using traversing and searching techniques, to move hits higher and to the right. P F

6. Applies adjusted aiming point instead of sight adjustment. P F

Note: *With soldier aiming straight ahead, tell the soldier, "Shots are wide and low to the left, adjust aiming point."*

7. Moves to select higher aiming point to the right. P F

Note: *Tell the soldier, "Engage an area target."*

8.	Fires six- to nine-round bursts to obtain accurate range and deflection and places the beaten zone on target.	P	F

Note: *Tell the soldier, "Engage a point target."*

9.	Fires six- to nine-round bursts to obtain accurate range and deflection and places the beaten zone on target.	P	F

Note: *Tell the soldier, "Engage a moving target."*

10.	Fires and tracks as the target moves and adjusts lead by observing tracers and bullet strikes.	P	F

Note: *If moving target is not available, soldier simulates firing at a moving target and states what is done to keep hitting the target.*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-67

★ ★ ★ ★ ★

PREPARE AN M72A2 LIGHT ANTITANK WEAPON FOR FIRING

071-318-2210

CONDITIONS

Given an M72A2 light antitank weapon (LAW).

STANDARDS

Prepare an M72A2 LAW for firing observing all safety precautions.

TRAINING AND EVALUATION

Training Information Outline

1. Perform prefire safety precautions.

a. Inspect the LAW to ensure all seals are intact and the tube has not been cracked, punctured, or crushed.

b. Check the safety handle to ensure it is spring-loaded.

WARNING

CHECK THE DATA PLATE ON THE LAUNCHER FOR THE WORDS "WITH COUPLER." IF THE WORDS ARE NOT ON THE DATA PLATE, DO NOT USE THE LAUNCHER.

WARNING

ENSURE THAT ALL PARTS OF THE BODY ARE CLEAR OF THE LAUNCHER MUZZLE AND REAR END. ONCE THE WEAPON IS PLACED ON THE SHOULDER, KEEP IT POINTED DOWNRANGE.

2. Prepare the launcher for firing.

a. Remove the pull pin and rotate the rear cover downward (Figure 159), allowing the front cover and sling assembly to fall free. Do not discard the sling assembly until the rocket is fired.

b. Extend the launcher by grasping the rear sight cover (Figure 160) and sharply pulling the launcher to the rear until locked in position (Figure 161). Attempt to collapse the launcher by reversing the motion of your hands to verify it is locked in position.

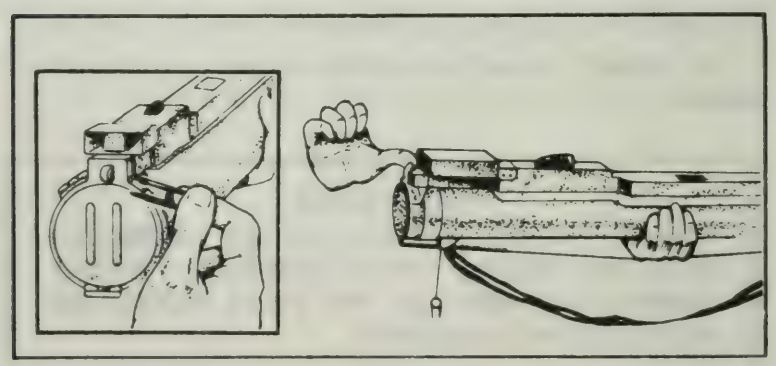


Figure 159. Removing the front cover and the sling assemble.

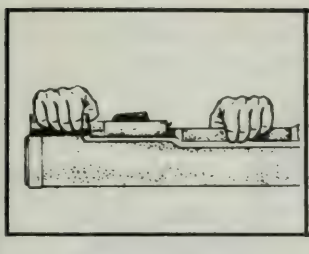


Figure 160. Grasping the rear sight cover.

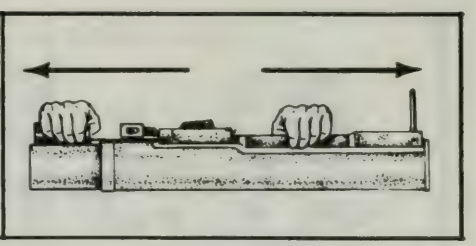


Figure 161. Pulling to the locked position.

Note: *The operating instruction decal on the LAW shows the LAW being extended with one hand under the tube and one on top. The method of placing both hands on top of the tube is recommended for extending the LAW.*

c. Place the weapon on the shoulder (Figure 162).

d. Check the backblast area. If soldiers are in the backblast area, warn them and wait for them to get out of the area before arming the launcher.

e. Move the safety handle to ARM (Figure 163) once the backblast area is clear.

Evaluation Preparation

Setup: Use an expended LAW to test the prefire safety inspection. If a group is being tested, have several expended LAWs with different defects (such as seals not intact; tube cracked, punctured, or crushed; missing data plate) and give them out randomly to the soldiers for inspection. Use a serviceable expended LAW for the rest of the test. When testing the preparation of the launcher for firing, have someone

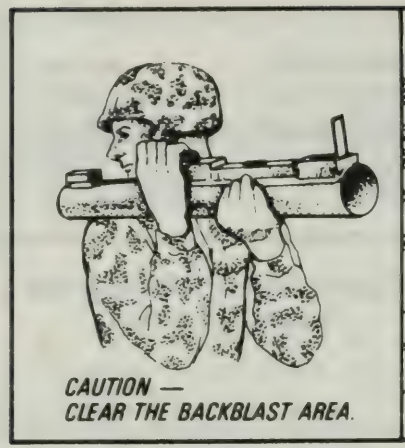


Figure 162. Placing the LAW on shoulder.

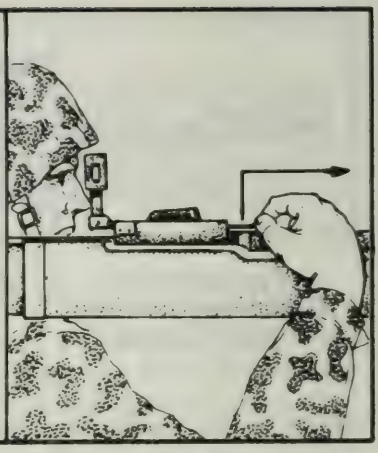


Figure 163. Arming the LAW.

stand in the backblast area so that you can score step 2d.

Brief Soldier: Tell the soldier to perform a prefire safety inspection and tell you whether or not the LAW is usable, and if not, why not. After the inspection, give the soldier a serviceable expended LAW and tell the soldier to prepare the LAW for firing.

Evaluation Guide: 071-318-2210

PREPARE AN M72A2 LIGHT ANTITANK WEAPON FOR FIRING

Performance Measures	*Results*	
1. Conducts the prefire inspection.	P	F
a. Checks the seals to see if they are intact.		

b. Checks the tube for cracks, punctures, or crushing.

c. Checks the safety handle to ensure it is spring-loaded.

d. Checks the data plate on the launcher for the words "with coupler."

e. Tells the trainer whether the LAW is usable or, if not, why it is unusable.

2. Prepares the launcher for firing. P F

a. Removes the sling assembly.

b. Extends the LAW until it is locked into position.

c. Places the LAW on shoulder with the front end of the LAW toward the target.

d. Checks the backblast area before arming the LAW.

e. Arms the LAW while keeping it on the shoulder.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-33

331-758 O - 92 - 10 QL 3

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RESTORE AN M72A2 LIGHT ANTITANK WEAPON TO CARRYING CONFIGURATION

071-318-2211

CONDITIONS

Given an M72A2 light antitank weapon (LAW) that has been prepared for firing.

STANDARDS

Return the M72A2 LAW to carrying configuration while observing all safety precautions.

TRAINING AND EVALUATION

Training Information Outline

1. Collapse the launcher.

a. Return the trigger safety handle to SAFE, then remove the launcher from your shoulder.

b. Grasp the launcher by the rear sight housing and depress the detent boot (Figure 164).

c. Collapse the launcher slightly (Figure 165).

d. Move hand from the detent boot to the front sight.

e. Hold the front sight down and collapse the launcher until the inner tube covers the tip of the front sight (Figure 166).

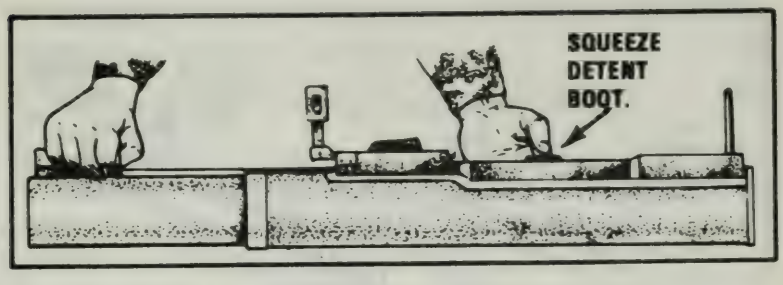


Figure 164. Depressing the detent boot.

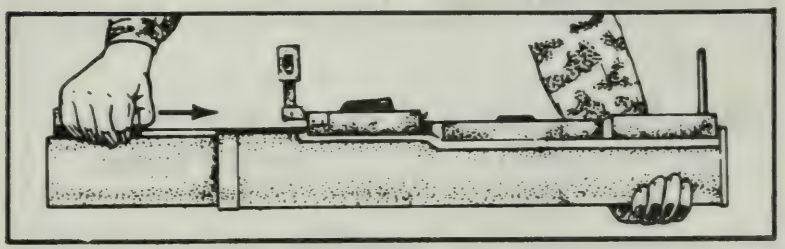


Figure 165. Collapsing the launcher slightly.

f. Fold the rear sight down and guide it under the sight housing (Figure 167).

g. Compress the launcher until travel is stopped by the lip on the front sight. Press the front sight lip with the thumb and slowly compress the launcher over the lip edge (Figure 168).

h. Remove the thumb from the front sight and grasp the housing.

i. Close the launcher fully (Figure 169).

2. Secure covers and sling assembly.



Figure 166. Securing the front sight.



Figure 167. Securing the rear sight.

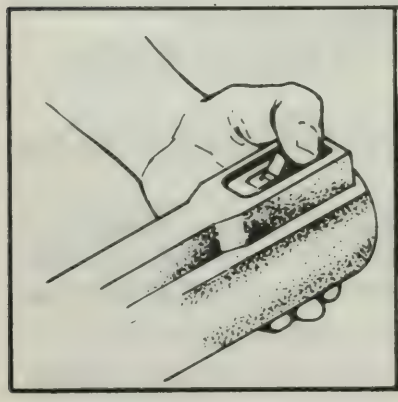


Figure 168. Depressing the front sight lip.

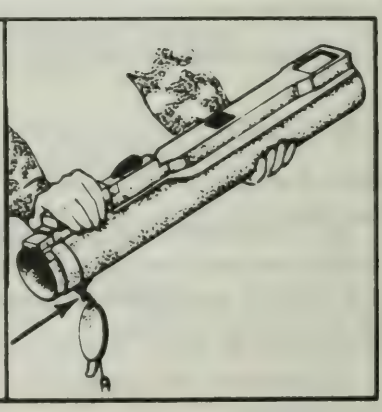


Figure 169. Collapsing the launcher fully.

a. Close the rear cover, ensuring that the round lock fits through the slot in the cover.

b. Replace the cover pull pin (Figure 170).

Note: *The cover pull pin should be inserted from right to left with the short end through the cover closing lug and the long end through the round lock, which protrudes through the rear cover.*

c. Replace the front cover and hold in place.

d. Replace the sling assembly.

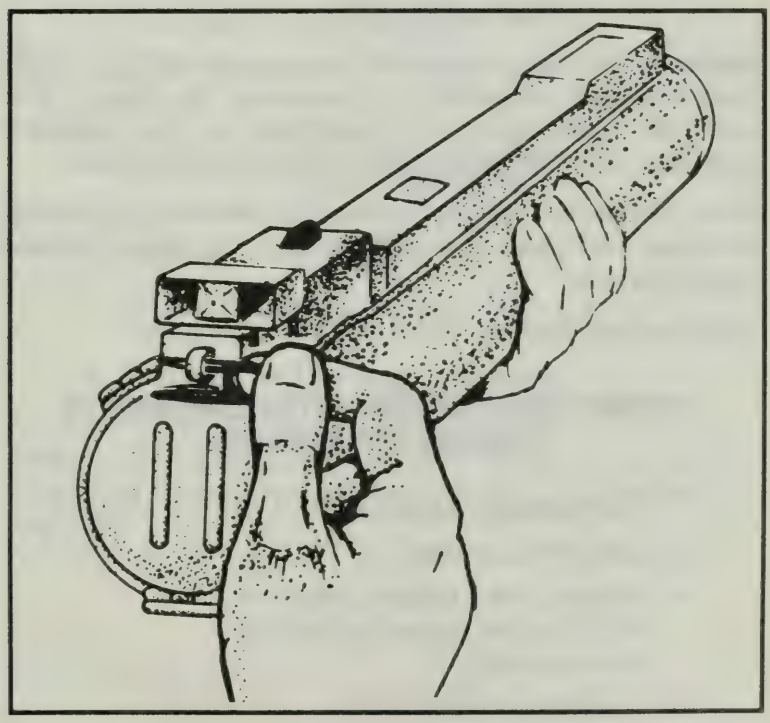


Figure 170. Replacing the pull pin.

(1) Grasp both web straps of the sling assembly next to the hook springs and place the thumb on the rear cover above the hinge.

(2) Exert downward pressure with the thumb while pulling up on the sling assembly until the hooks snap into position over the cover hinge.

Note: *Do not use the rear cover as a lever to assist in attaching the sling assembly. This will damage the cover hinge.*

Evaluation Preparation

Setup: Provide a serviceable expended M72A2 LAW that has been extended and prepared for firing. The test will start with the launcher on the soldier's shoulder with the trigger safety in the fire position.

Brief Soldier: Tell the soldier that he is to go through all steps and place the M72A2 LAW into the carrying configuration.

Evaluation Guide: 071-318-2211

RESTORE AN M72A2 LIGHT ANTITANK WEAPON TO CARRYING CONFIGURATION

Performance Measures	*Results*	
1. Collapses the launcher.	P	F
a. Returns the trigger safety to SAFE before removing launcher from shoulder.		
b. Depresses the detent boot.		

c. Collapses the launcher slightly.

d. Depresses the front sight and collapses the launcher to cover tip of the sight.

e. Folds the rear sight down and guides it under the sight housing.

f. Compresses the launcher until stopped by the front sight lip.

g. Depresses the front sight lip and compresses the launcher over the lip edge.

h. Collapses the launcher fully.

2. Secures the cover and sling assembly. P F

a. Closes the rear cover with the round lock fitting through the slot in the cover.

b. Replaces cover pull pin.

c. Inserts the cover pull pin from right to left.

d. Replaces the front cover and sling assembly.

Note: *If soldier uses the rear cover as a lever in attaching sling assembly, he will receive a NO-GO for the task.*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-33

★ ★ ★ ★ ★

ENGAGE TARGETS WITH AN M72A2 LIGHT ANTITANK WEAPON

071-318-2202

CONDITIONS

Given an operational M72A2 light antitank weapon (LAW) and engageable targets.

STANDARDS

Engage and disable or destroy targets within engagement range.

TRAINING AND EVALUATION

Training Information Outline

Note: ***The M72A2 LAW will not penetrate the thickest armor on a tank. Do not fire a frontal shot since a tank's armor is thickest up front.***

1. Use sights.

a. The rear sight is a flip-up peep sight. Hold the sight as close to the eye as possible and view the front sight through the peep when aiming.

b. The front sight is a clear plastic flip-up (Figure 171). On the sight, there is a vertical range line with ranges from 50 to 350 meters indexed in 25-meter increments, two curved stadia lines (LAW stadia lines are not accurate and are no longer used), and lead crosses.

2. Estimate range. The first step in target engagement is to determine the range to the target. This is done by using visual range estimation (see task 071-326-0512, Estimate Range) aided by the use of a range card. A range card is a rough drawing of the terrain in your

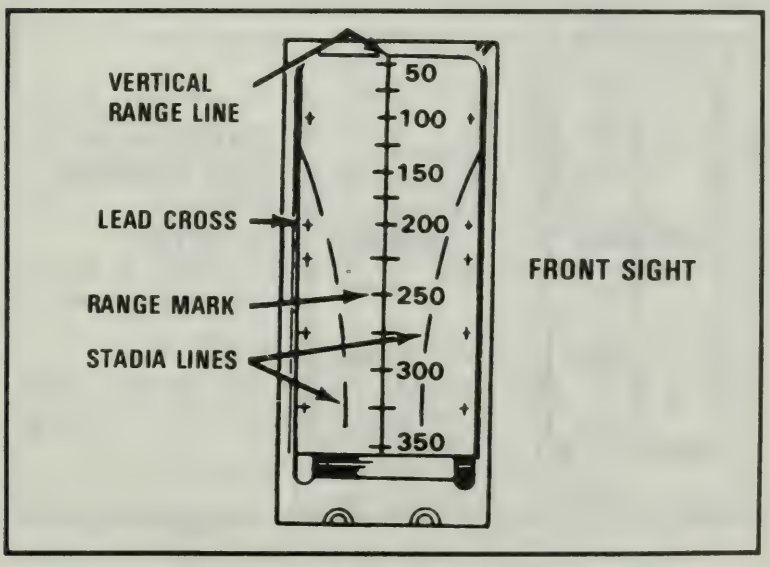


Figure 171. Front sight.

defensive sector that shows easily recognized reference points (terrain features or objects) and the distance to each (paced off or measured when possible). If there are no usable reference points available, stakes can be erected at known ranges to serve the same purpose.

3. Sight on targets.

a. After determining the range, sight on stationary targets by:

(1) Locating the range mark on the vertical range line corresponding to the estimated range.

(2) Placing that point on the center of target mass (Figure 172).

(3) Firing and adjusting, if necessary.

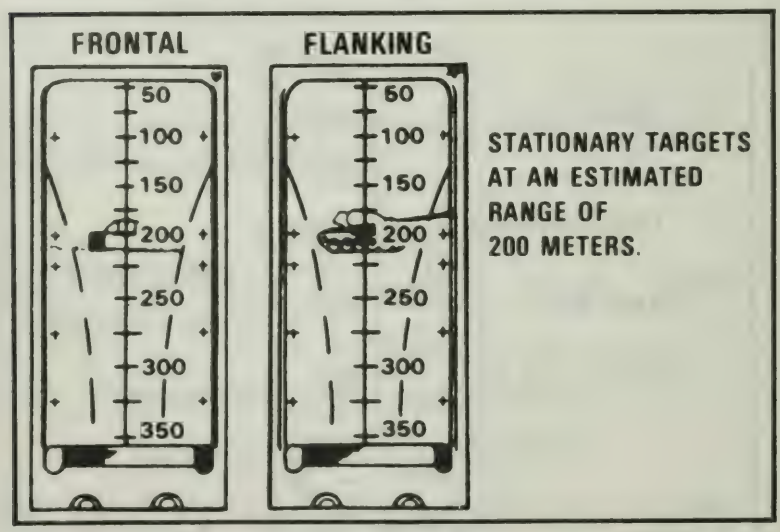


Figure 172. Center of the target mass.

Note: *Consider all front/rear views as stationary targets, even if moving.*

b. After determining the range, sight on moving targets by:

(1) Estimating the target speed as slow or fast (Table 5).

Table 5. Target speed.

ESTIMATE TARGET SPEED AS—
SLOW FOR—
A VEHICLES MOVING 5 MPH (8KMPH) OR LESS
B ALL OBLIQUE TARGETS WHERE YOU SEE MORE OF THE FRONT/REAR THAN THE SIDE
FAST FOR ALL TARGETS (EXCEPT B ABOVE) TRAVELING FASTER THAN 5 MPH (8KMPH)

(2) Applying the appropriate lead using the lead cross directly opposite the estimated range.

(a) For slow targets, the lead cross is on the center of mass (Figure 173). The vertical range line is in front of the target.

(b) For fast targets, the lead cross is on the front edge of the target (Figure 174). The vertical range line is in front of the target.

(3) Firing and adjusting, if necessary.

4. Apply trigger squeeze. The trigger for the LAW is unique in that it is a bar on the top of the launcher. To

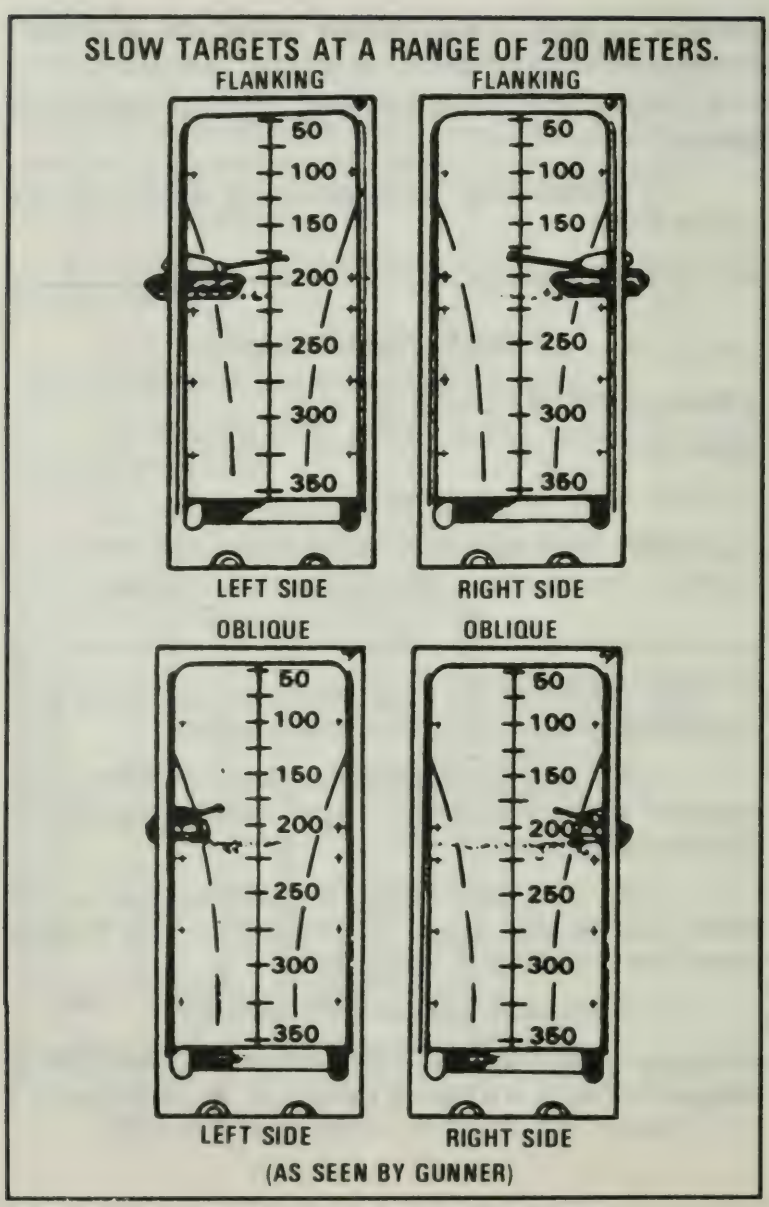


Figure 173. Slow targets

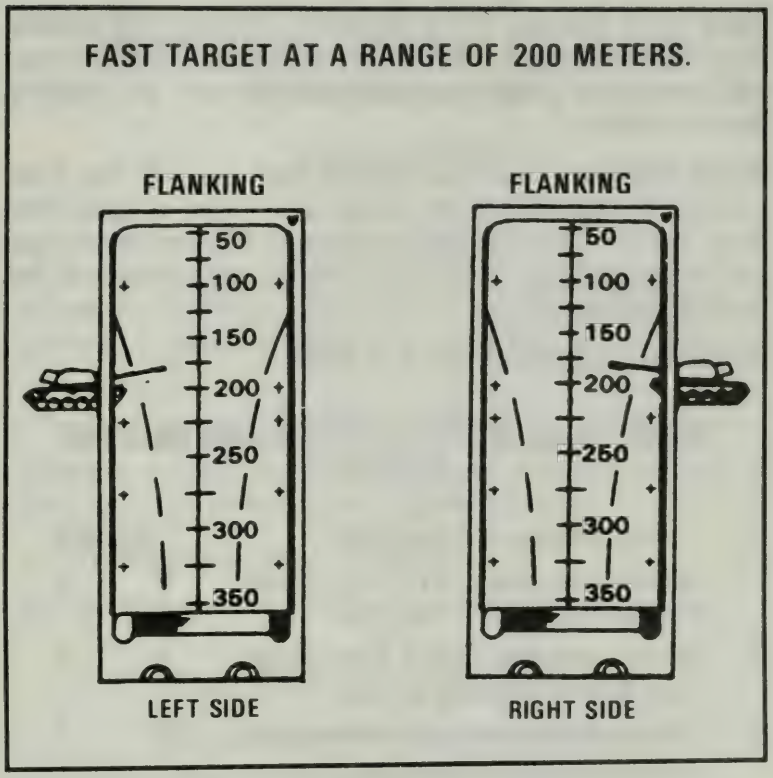


Figure 174. Fast targets.

fire, apply pressure straight down. Apply a steady, smooth squeeze downward with the fingertips only.

Evaluation Preparation

Setup: Provide on a live-fire range, an M190 subcaliber device and eight M73 rockets (four rounds for the stationary targets and four rounds for the moving target), a series of targets presenting front,

flank, and oblique views between 75 and 200 meters from the firer, and a moving (4 to 14 mph) target that will present a flank view between 75 and 165 meters from the firer.

Brief Soldier: Tell the soldier that he will fire four rockets at the stationary target and score at least two hits. He will then fire four rockets at the moving target and score at least two hits. Proper procedure will be used during the firing.

Evaluation Guide: 071-318-2202

ENGAGE TARGETS WITH AN M72A2 LIGHT ANTITANK WEAPON

	Performance Measures	*Results*	
1.	Scores two hits out of four rounds fired at stationary targets.	P	F
2.	Scores two hits out of four rounds fired at the moving target.	P	F
3.	Observes proper procedures and safety precautions during firing.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-33

★ ★ ★ ★ ★

PERFORM MISFIRE PROCEDURES ON AN M72A2 LIGHT ANTITANK WEAPON

071-318-2203

CONDITIONS

Given an M72A2 light antitank weapon (LAW). An attempt to fire the weapon has resulted in a misfire.

STANDARDS

Perform misfire procedures in the proper sequence so that one of the two below is accomplished.

1. The intended target is engaged.
2. The inoperative LAW is properly disposed.

TRAINING AND EVALUATION

Training Information Outline

1. Perform immediate action (training only).

a. Resqueeze the trigger bar. If the round does not fire, shout "MISFIRE" and wait 10 seconds.

b. Place the trigger handle on SAFE while keeping the LAW pointed at the target, then remove the LAW from your shoulder.

c. Wait 1 minute, depress the detent, and collapse the launcher about 4 inches.

d. Reextend the launcher and place it on your shoulder.

e. Check the backblast area.

f. Arm, aim, and attempt to fire.

g. If the LAW fails to fire after immediate action (training only):

(1) Keep the LAW aimed at the target for 10 seconds.

(2) Place the LAW on SAFE, remove from shoulder, and keep it pointed downrange for 1 additional minute.

(3) Do not collapse the launcher.

(4) Dispose of the launcher as directed by unit SOP.

Note: *If an M190 subcaliber device (M73) was used in training, an instructor or safety noncommissioned officer should examine the primer housing lock pin to ensure that the bent position of the lock pin is pushing against the primer housing door. This is to be done after the first 1-minute wait is completed. After the second failure to fire and its subsequent 1-minute wait, remove the M73 and examine the primer cap. If the primer cap is dented, a rocket malfunction has occurred; if the primer cap is not dented, the launcher has malfunctioned.*

2. Perform immediate action (combat only).

a. Immediately resqueeze the trigger bar if the round does not fire.

b. Return the arming handle to SAFE.

c. Remove the LAW from your shoulder, collapse it, and reextend it (keeping hands clear of the front and rear tube openings).

d. Replace the LAW on your shoulder.

e. Check the backblast area.

f. Arm, aim, and attempt to fire.

g. If the LAW still fails to fire, return to SAFE, remove from shoulder, collapse the tube (this keeps the firing mechanism from functioning), and discard.

Note: *Do not leave an intact LAW on the battlefield. The enemy can and will use it against you.*

h. If another LAW is available, try to engage the target if it is still in range or poses a threat to your unit.

Evaluation Preparation

Setup: Place an expended M72A2 LAW on a table or ground cover. It should be locked in the fully extended position with the safety handle in the ARM position. Then depress the trigger.

Brief Soldier: Tell the soldier to place the LAW on his or her shoulder as if firing it. Tell the soldier to apply immediate action to correct a malfunction as if in a combat situation.

Evaluation Guide: 071-318-2203

PERFORM MISFIRE PROCEDURES ON AN M72A2 LIGHT ANTITANK WEAPON

	Performance Measures	*Results*	
1.	Applies immediate action.	P	F
	a. Presses the trigger bar.		
	b. Retums the arming handle to SAFE.		
	c. Removes the LAW from shoulder.		
	d. Collapses the launcher enough to cock it.		
	e. Extends the launcher until it locks.		
	f. Keeps hands clear of the tube openings during steps 1d and 1e.		
	g. Places the LAW on shoulder for firing.		
	h. Checks the backblast area (may be done anytime after extending the launcher but before arming the launcher).		
	i. Arms the launcher.		
	j. Presses the trigger bar.		
2.	Completes all required steps in sequence.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-33
TM 9-1340-241-10

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PERFORM SAFETY CHECKS ON HAND GRENADES

071-325-4401

CONDITIONS

Given any standard issue hand grenade.

STANDARDS

Properly inspect and correctly identify hand grenades ensuring that the hand grenade is safe to use.

TRAINING AND EVALUATION

Training Information Outline

1. Identify hand grenades. You must be able to identify, by their shape, color, and markings, grenades usually found within your unit. Figures 175 through 180 will help you to become familiar with the shape, color, and markings of the more common grenades.

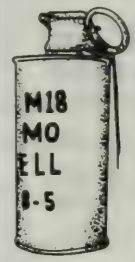
2. Inspect the grenade for defects (Figure 181).

a. Ensure that the fuze is not unscrewed from the body of the grenade.

b. Ensure that the safety clip is in the correct position.

c. If no safety clip is present, attach clip to the grenade as follows:

(1) Slide the clip onto the handle.



M18 COLORED SMOKE GRENADE

COLOR AND MARKINGS:

OD with color of smoke on top.

Figure 175. M18 colored smoke grenade.



ABC-M25A2CS RIOT-CONTROL HAND GRENADE

COLOR AND MARKINGS:

Gray, red band(s) and markings.

Figure 176. ABC-M25A CS riot-control grenade.



M34, WP SMOKE HAND GRENADE

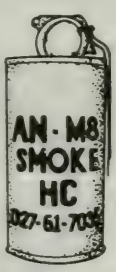
STANDARD COLOR/MARKINGS:

Light green, yellow band, red markings.

OLD MARKINGS:

Light gray, yellow band, yellow printing.

Figure 177. M34WP smoke grenade.



AN/M8, HC SMOKE HAND GRENADE

COLOR/MARKINGS:

Light green, black marking, white top.

Figure 178. AN-M8 HC smoke grenade.

(2) Attach the loop portion of the clip around the grenade fuze.

(3) Snap the clip end around the grenade safety lever.

d. Check the safety pin.

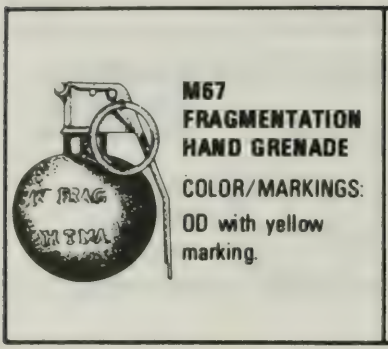


Figure 179. M67 fragmentation grenade.

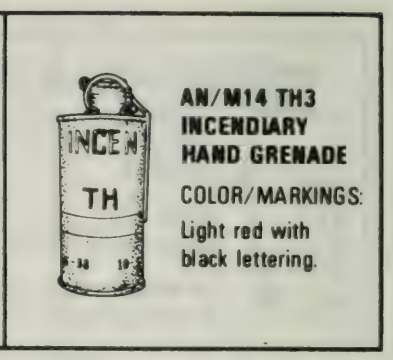


Figure 180. AN-M14 TH3 incendiary grenade.

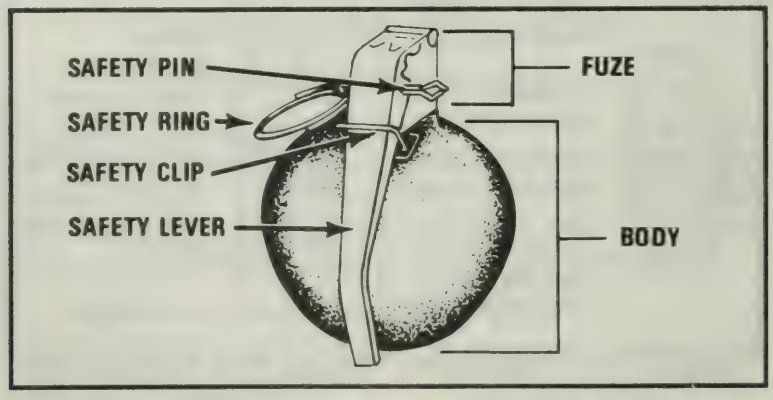


Figure 181. Safety check.

(1) If the pin is partially removed, carefully push it into place while securing the lever down.

(2) If the pin is bent, carefully bend it back into position.

e. Check the safety ring. Reject grenade if the safety ring is cracked.

f. Check lever. Reject grenade if the safety lever is broken.

g. Check for dirt. If the grenade is dirty or grimy, wipe it with a cloth.

3. Attach grenades to ammunition pouches (Figure 182).

a. Check the fuze for tightness. Hold the web carrying sleeve on the side of the ammunition pouch and slide the grenade's safety lever into the sleeve against the side of the ammunition pouch.

b. Be sure the pull ring or the safety pin is pointing downward.

c. Wrap the carrying strap around the neck of the fuze, including the safety lever and the pull ring, and snap the carrying strap to the carrying sleeve.

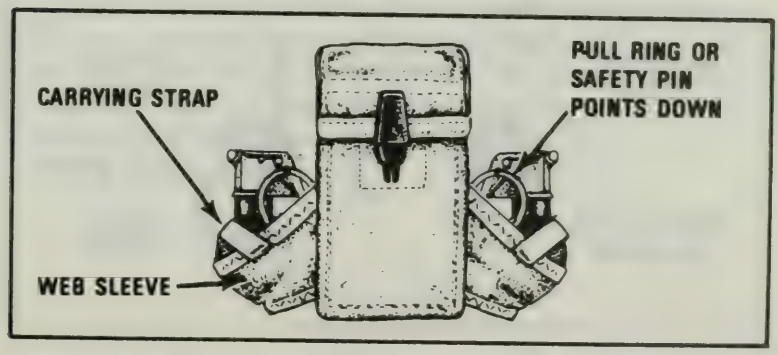


Figure 182. Grenade attached to a new style ammunition pouch.

4. Attach grenades to old style ammunition pouches (Figure 183).

a. Sewn to each side of the ammunition pouch is a small strap. Slip the safety lever over this strap and push the grenade down until it is firmly seated against the side of the ammunition pouch.

b. Ensure the pull ring is pointed downward and wrap the carrying strap around the fuze, including the safety lever and pull ring.

5. While moving, occasionally check the grenade to make certain the fuze is tight and the carrying strap is secure.

Evaluation Preparation

Setup: 1. At the test site, provide pictures of the following six hand grenades: M67 fragmentation grenade, ABC-M25A2 CS riot-control grenade, M34 WP smoke grenade, AN-M8 HC smoke grenade, M18

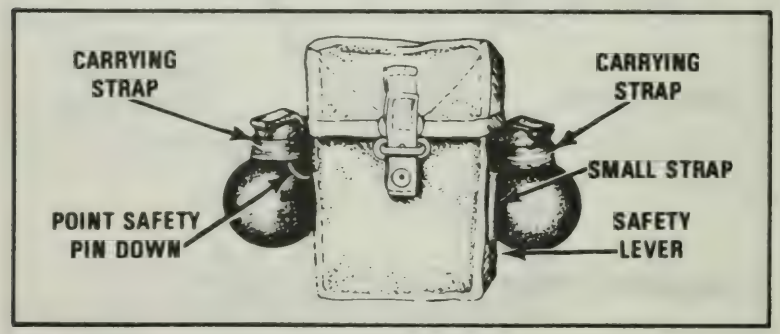


Figure 183. Grenade attached to an old style ammunition pouch.

colored smoke grenade, and the AN-M14 TH3 incendiary grenade. The soldier being tested will not be required to identify the grenades' alpha numeric nomenclature.

2. Secure a number of inert hand grenades that contain at least two of the following defects:

a. Fuze unscrewed from body of grenade.

b. Loose safety clip.

c. Partially removed and/or bent safety pin.

d. Cracked safety pin.

e. Broken safety lever.

f. Dirty grenade.

Ensure that you know the defects present in each grenade before testing the soldier.

Brief Soldier: 1. Tell the soldier that he must identify each hand grenade.

2. Tell the soldier to inspect the grenade and to correct the defects where possible. If the soldier discovers a defect that cannot be corrected, he must tell you the defect and that the grenade should be turned in. Tell the soldier that the grenade must also be attached to his ammunition pouch.

Evaluation Guide: 071-325-4401

PERFORM SAFETY CHECKS ON HAND GRENADES

	Performance Measures	*Results*	
1.	Identifies the following grenades: a. Fragmentation grenade. b. Riot-control grenade. c. White phosphorus (WP) grenade. d. HC (white) smoke grenade. e. Colored smoke grenade. f. Incendiary grenade.	P	F
2.	Attaches the grenade to the ammunition pouch. a. Checks the fuze for tightness. b. Slides the grenade's safety lever into the web sleeve on the side of the ammunition pouch with the pull ring or safety pin pointing downward. c. Wraps the carrying strap around the neck of the fuze, including the safety lever and the pull ring, and snapped the carrying strap to the carrying sleeve.	P	F

		P	F
3.	Inspects grenade and corrects the defects where possible.		
	a. Checks that fuze is screwed in tightly to body of grenade.		
	b. Checks position of safety clip.		
	c. Checks safety pin. If mispositioned, carefully pushes it into place while securely holding the lever down. If bent, carefully bends it back into position.		
	d. Tells trainer that the safety ring is cracked and grenade should be turned in.		
	e. Tells trainer that the safety lever is broken and grenade should be turned in.		
	f. Checks for dirt; wipes it clean if it is dirty.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-30

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EMPLOY HAND GRENADES

071-325-4407

CONDITIONS

Given hand grenades with time-delay fuzes, offensive (concussion) grenades, riot control, smoke, and incendiary grenades.

STANDARDS

Select the correct hand grenade to disable or kill personnel, signal personnel, screen (provide concealment), destroy equipment and start fires, or control riots or disable individuals without causing serious injury.

Properly throw the selected hand grenade to achieve the intended outcome.

TRAINING AND EVALUATION

Training Information Outline

1. Employ hand grenades. Hand grenades can help you accomplish five different missions:

a. To disable or kill personnel, use fragmentation or concussion grenades (M26A1, M33, M56, M67, or MK3A2). The fragmentation grenades (M26A1, M33, M56, and M67) and the offensive (concussion) grenades, MK3A2, will explode 4 to 5 seconds after the safety lever is released (Figure 184).

Note: *The M33 and the M67 are identical except that the M67 has a safety clip and the M33 does not.*

b. To signal personnel, use M18 colored smoke or M34 white phosphorus (WP) smoke grenades (Figures 185 and 186).

WARNING
THE M34 WP CAN PRODUCE CASUALTIES UP TO 35 METERS AWAY.

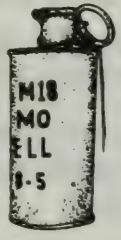
c. To screen (provide concealment), use an AN-M8 hydrochloride (HC) smoke grenade (Figure 187).



M67 FRAGMENTATION

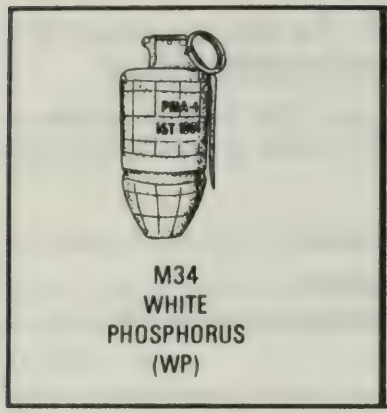
CONCUSSION

Figure 184. M67 fragmentation grenade.



M18
COLORED
SMOKE

Figure 185. M18 colored smoke grenade.



M34
WHITE
PHOSPHORUS
(WP)

Figure 186. M34 WP smoke grenade.

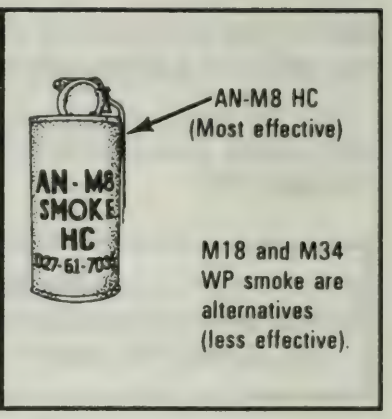


Figure 187. AN-M8 HC smoke grenade.

Note: *If the AN-M8 HC is not available, the M18 colored smoke grenade or the M34 WP smoke grenade may be used, although they are not as effective as the AN-M8 HC. (If M34 WP smoke grenades are used, use caution as noted in the warning.)*

d. To destroy equipment and to start fires, use the AN-M14 TH3 incendiary grenade (Figure 188).

Note: *The M34 WP smoke, MK1, and canister-shaped riot control grenades can also start fires but should not be relied upon.*

e. To control riots or disable individuals without serious injury, use the riot-control grenades ABC-M72A2 (canister-shaped) or ABC-M25A2 o-chlorobenzyl-malonoitrile (CS) (baseball-shaped; persistent agent) (Figure 189).

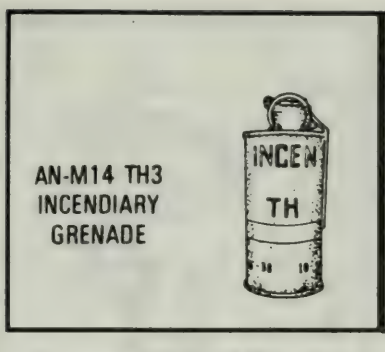


Figure 188. AN-M14 TH3 incendiary grenade.

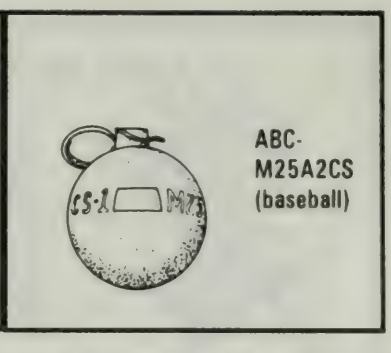


Figure 189. ABC-M25A2 CS riot-control grenade.

WARNING

THE ABC-M25A2 CS IS A BURSTING-TYPE GRENADE THAT CAN CAUSE INJURY UP TO 5 METERS AWAY.

2. Throwing hand grenades.

a. Grip the hand grenade. The safest and easiest way to grip a hand grenade for throwing is to hold it so that the safety lever is held down by the thumb, while keeping the pull ring (and safety clip if present) free and facing the nonthrowing hand (Figures 190 and 191).

b. Position the body and arm the hand grenade. You should always be in a comfortable and natural position. The two most important points in accurate throwing are body-target alignment and eye-target focus. Line up your body with the target as though you

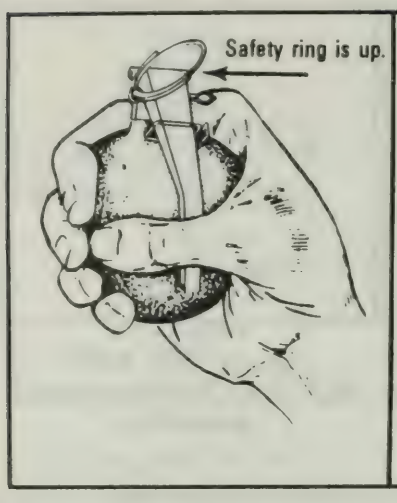


Figure 190. Proper grip of a right hand thrower.

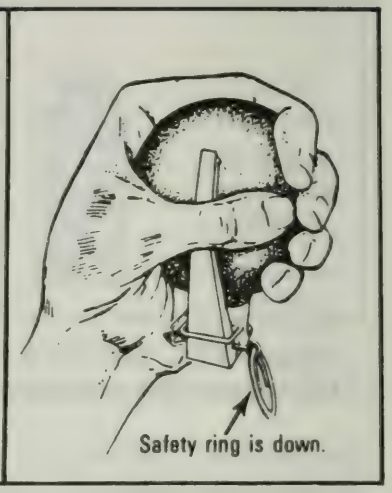


Figure 191. Proper grip of a left hand thrower.

were going to throw a football or baseball. Keep watching the target as you throw and let your arm swing naturally to it. Follow through with your throwing motion and take cover. If possible, you or a buddy should watch where the grenade lands. Make sure you properly arm the grenade before you throw it. The safety pin and clip should be removed while behind cover.

(1) Look at the target, judge the distance, and align yourself with the target.

(2) From a covered position, grip the grenade removing the safety clip, and pull the pin (Figure 192A).

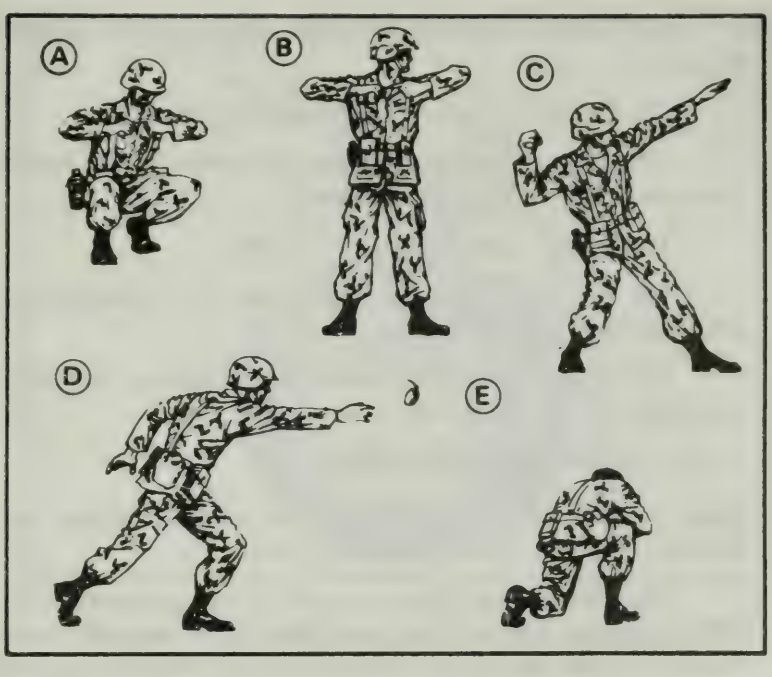


Figure 192. Throwing the hand grenade.

(3) When the pin is pulled, look at the target again. Align yourself with the target so that you can throw comfortably (Figure 192B).

(4) Keeping your eyes on the target, throw the grenade overhanded (Figure 192C).

(5) Release the grenade after it comes into your field of view as your arm moves forward (Figure 192D).

(6) Take cover (Figure 192E).

c. Observe safety precautions.

(1) Do not modify grenades; for example, tape or wire.

(2) Do not attempt to defuze grenades.

(3) Do not remove or use grenades found upside down in their packing containers.

(4) Never handle dud grenades.

(5) Do not attach grenades to clothing or equipment by the pull ring.

(6) When using the cookoff technique, do not hold the grenade for more than 2 seconds.

d. Additional considerations.

Note: *This paragraph discusses fragmentation and offensive (concussion) grenades only.*

(1) Fragmentation grenade with time-delay fuze (M67) (Figure 193). This grenade is your best all-round choice. It can be thrown more than 40 meters by most soldiers and will kill or injure exposed soldiers who are within 15 meters of the grenade when it explodes. With some practice, you should be able to throw the grenade to within 5 meters of a selected point 35 meters away from you or within a fighting position 2 meters wide at 20 meters range. Grenades thrown at those targets may hit and roll into the target area, but you should practice hitting the fighting position "on the fly" to destroy positions with frontal cover. Another technique that can be employed with this grenade is the cookoff. To cookoff a grenade, you release the safety lever and hold the grenade for a count of two. Do not hold it any longer. When the grenade is thrown, enemy personnel will not have time to pick it up and throw it back. If it

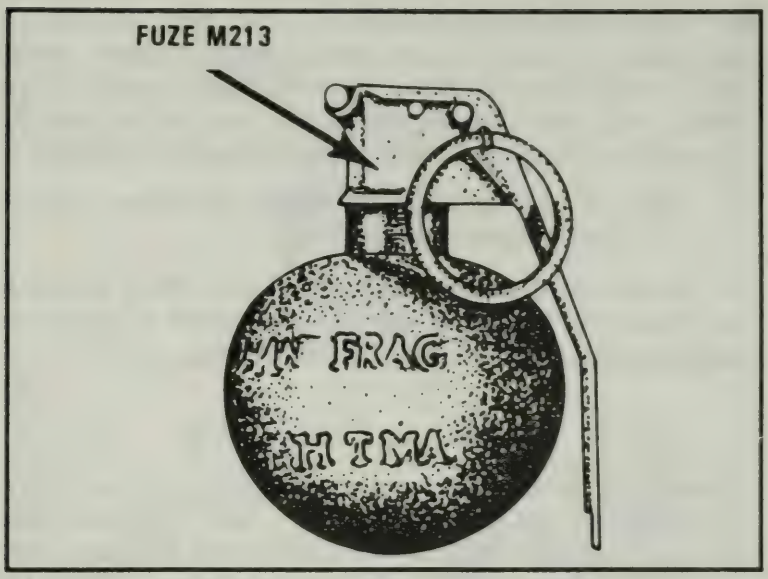


Figure 193. M67 fragmentation grenade.

is thrown high into the air, it can explode over the target (airburst).

(2) Offensive hand grenade, MK3A2. This canister-shaped grenade can also be thrown about 40 meters, but its effectiveness against open targets in the open is poor. This grenade is the best grenade to use against targets in confined spaces, such as rooms, bunkers, or caves.

Note: *Distance and accuracy are the desired results of training, not constant practice of step-by-step body positions. Concentrate on body-target alignment, eye-target focus, safety procedures, and the results; a target kill.*

2. Use training grenades (of the type similar to grenades in your unit's ammunition supply point [ASP]) with practice fuzes. Use expended practice fuze heads with safety lever, safety pin, and safety clip for all training when live practice fuzes are not available.

3. Key on not exposing yourself for more than 5 seconds when throwing grenades.

4. Train to minimum standards and then go on to progressively higher standards and more complicated techniques such as cookoff and airbursts.

Evaluation Preparation

Setup: At the test site, provide pictures (Figure 194) of the following six hand grenades: M67 fragmentation grenade, an ABC-M25A2 CS riot-control grenade, M34 white phosphorus (WP) smoke grenade, an AN-M8 HC smoke grenade, an M18 colored smoke grenade, and an AN/M14 TH3 incendiary grenade. The soldier will explain the use of these grenades and then use dummy grenades to engage the following targets:

Target 1. Dismounted troops clustered at a range of about 35 meters. The situation and available cover will not permit moving closer to the target.

Target 2. A position with overhead cover (for example, bunker, building, cave) that can be approached along a covered route.

Target 3. An emplacement without overhead cover (fighting position, trench, or mortar emplacement) at a range of 20 meters. The situation and available cover will not permit moving closer to the target.

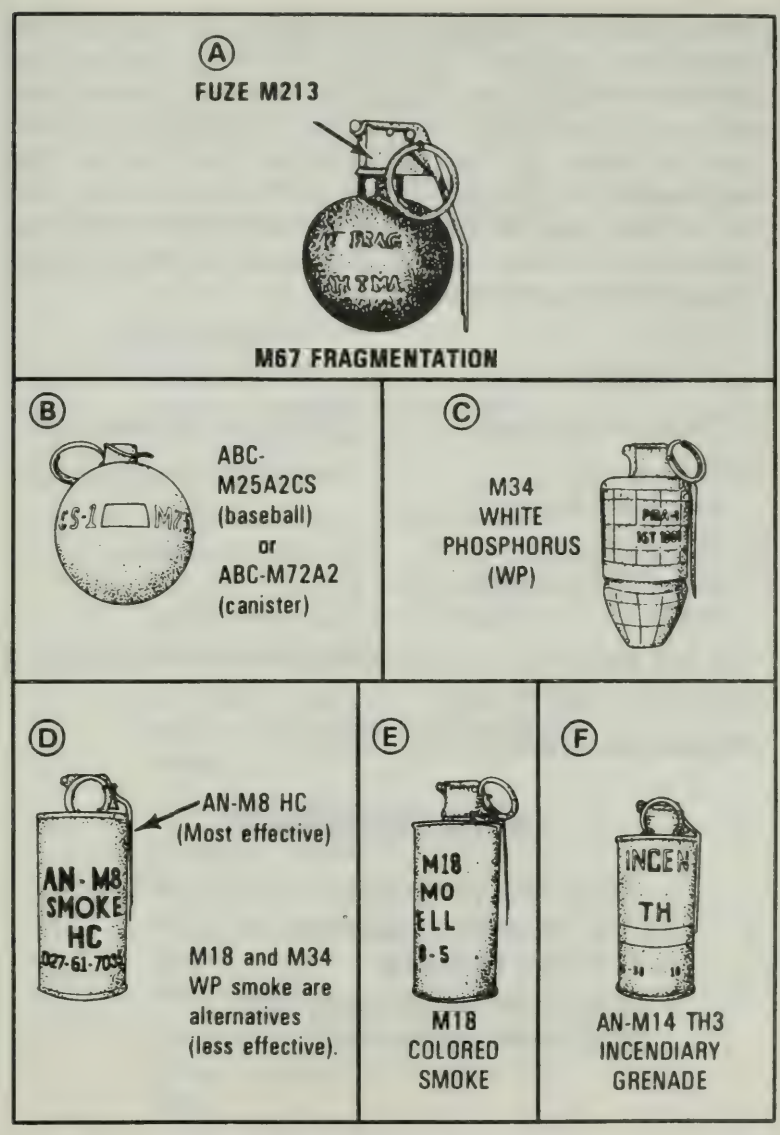


Figure 194. Hand grenades.

Brief Soldier: Tell the soldier that he will explain the use of each grenade. Tell the soldier to pick up five grenades and make sure each grenade has a safety pin, safety clip, and safety lever. Tell the soldier to fasten four of them to the ammunition pouches on the load-bearing equipment and to hold one in hand. Tell the soldier that at least one grenade must detonate within the effective bursting radius for each target. The effective bursting radius is:

TARGET	EFFECTIVE ENGAGEMENTS
1. Troops in the open.	Within 5 meters of center.
2. Troops with overhead cover.	Inside the enclosure
3. Troops dug in without overhead cover.	Inside of position.

Tell the soldier not to expose himself for more than 5 seconds at any one time.

Evaluation Guide: 071-325-4407

EMPLOY HAND GRENADES

Performance Measures	*Results*	
1. Selects the correct grenade for the following purposes:	P	F
a. To kill or disable personnel (identifies fragmentation grenade).		

b. To signal personnel (identifies white phosphorus, HC smoke, or colored smoke grenade).

c. To screen (identifies HC smoke or white phosphorus).

d. To destroy equipment and start fires (identifies incendiary gre-nade).

e. To control riots or disable without serious injury (identifies CS gre-nade).

2. Throws grenades. P F

a. Removes safety clip. Safety lever was held down by thumb, keeping pull ring and safety clip free and facing the nonthrowing hand.

b. Removes safety clip and safety pin while still behind cover.

c. Looks at target.

d. Throws grenade overhand while keeping eyes on target.

e. Returns to position behind cover until grenade is detonated.

f. Exposes the body for no more than 5 seconds at any one time.

g. Completes steps 1 through 6 for each target.

h. Detonates one grenade within the effective bursting radius (5 meters) of each target.

Note: *The soldier will not be scored a NO-GO for a target until he has thrown all five grenades.*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 23-30
TM 9-1330-200-12

★ ★ ★ ★ ★

EMPLOY AN M18A1 CLAYMORE MINE

071-325-4425

CONDITIONS

Given an M18A1 Claymore mine, an M57 firing device, an M40 test set, and a firing wire with blasting cap, packed in an M7 bandoleer; a designated installation site; a firing position at least 16 meters from the installation site; a sandbag; and two wooden stakes.

STANDARDS

Install the Claymore facing the center of mass of a kill zone. Perform circuit test and installation of firing wire and blasting cap.

TRAINING AND EVALUATION

Training Information Outline

Note: *For training, only inert blasting caps and mines will be used.*

1. Inventory the M18A1 Claymore mine. Account for all accessories in the bandoleer (Figure 195). Read the attached instruction sheet. Remove the electrical wire and the accessories, leaving the mine in the bandoleer.

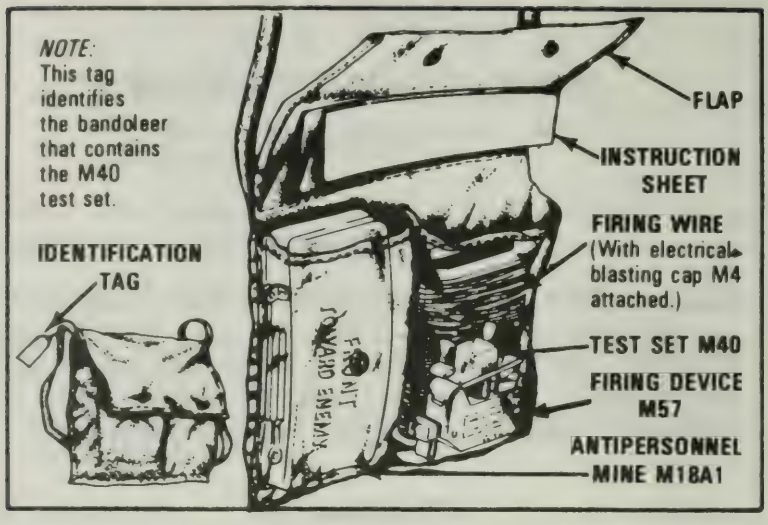


Figure 195. Components of the M18A1 Claymore mine.

WARNING

DURING INSTALLATION, THE INDIVIDUAL INSTALLING THE MINE MUST KEEP THE M57 FIRING DEVICE IN HIS POSSESSION TO PREVENT ACCIDENTAL FIRING BY SOMEONE ELSE.

Note: *One M40 test set is included in each case of six Claymores.*

2. Conduct a circuit test at the firing point. To do this, remove the dust cover from the connector of the M57 firing device and from the female connector of the M40 test set. Plug the test set into the firing device

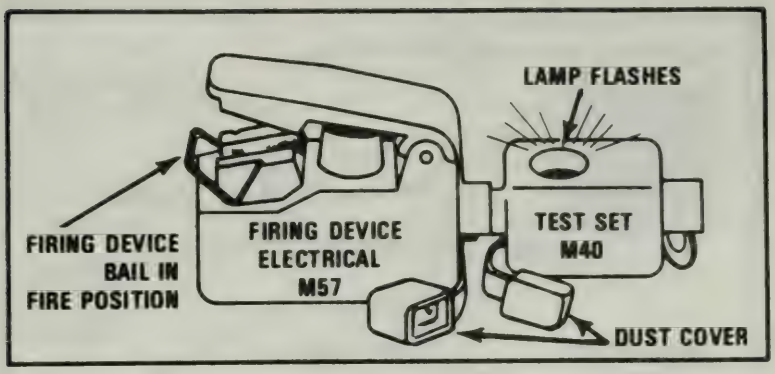


Figure 196. Circuit test of the M57 firing device and M40 test set.

(Figure 196). Position the firing device bail to the FIRE position. Actuate the handle of the firing device with a firm, quick squeeze, and observe the window of the test set for a flash of light (Figure 196). The flashing light indicates that the M57 firing device and M40 test set are functioning correctly. Remove the shorting plug cover from the connector of the firing wire and from the end of the test set. Plug the connector of the firing wire into the test set (Figure 197).

WARNING

THE BLASTING CAP MUST BE PLACED UNDER A SANDBAG, BEHIND A TREE OR IN A HOLE IN THE GROUND TO PROTECT THE PERSON PERFORMING THE CIRCUIT CHECK IN CASE THE BLASTING CAP DETONATES.

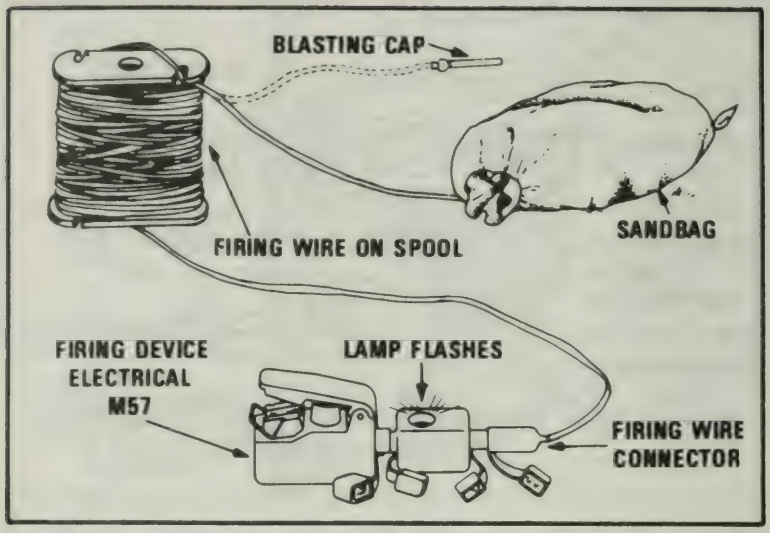


Figure 197. Circuit test of the M18A1 firing system.

Place the M57 firing device bail in the FIRE position and actuate the handle. The lamp in the window of the M40 test set should flash (Figure 197).

3. Position firing system.

a. After the circuit testing, place the firing device on SAFE, remove the M57 firing device and M40 test set, and place the shorting plug back on the firing wire.

b. Tie the shorting plug end of the firing wire to a fixed object, such as a stake or tree at the firing position (Figure 198). Place the bandoleer on your shoulder and unroll the firing wire to the selected installation position.

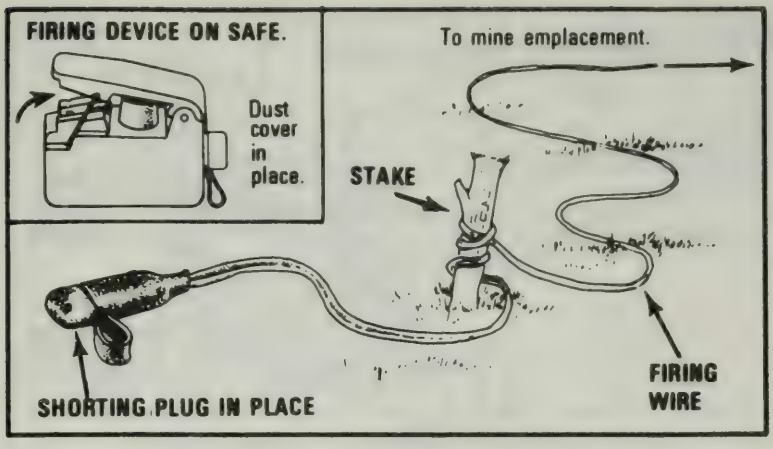


Figure 198. Firing wire secured.

Note: *The firing wire is laid from the firing position to the mine installation site because the blasting cap end is on the inside of the firing wire spool.*

4. Aim the mine.

a. Remove the mine from the bandoleer. Open both pairs of legs to a 45-degree angle with two legs facing to the front and two legs facing to the rear of the mine (Figure 199).

b. Push the legs about one third of the way into the ground with the mine facing in the desired direction of fire.

c. In windy areas or when the legs cannot be pressed into the ground, spread the legs as far as they will go (about 180 degrees) so that the legs are to the front and rear of the mine and the mine will not tip over.

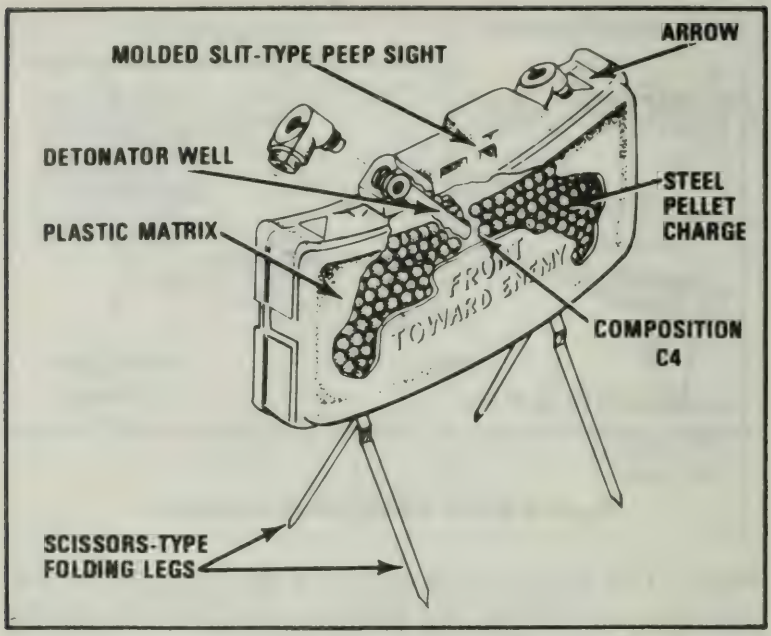


Figure 199. Placing and aiming the mine.

d. Using the knife-edge sight, select an aiming point at ground level about 50 meters (150 feet) in front of the mine (Figure 200). Position the eye about 6 inches to the rear of the sight and align the two edges of the sight with the aiming point (Figure 201).

e. Using the slit-type peep sight, select an aiming point such as a tree or large rock about 50 meters (150 feet) to the front of the mine and about 2.5 meters (8 feet) above the ground. Position the eye about 6 inches to the rear of the peep sight. The groove of the sight should be in line with the aiming point. The aiming point should be in the center of the desired area of coverage with the bottom

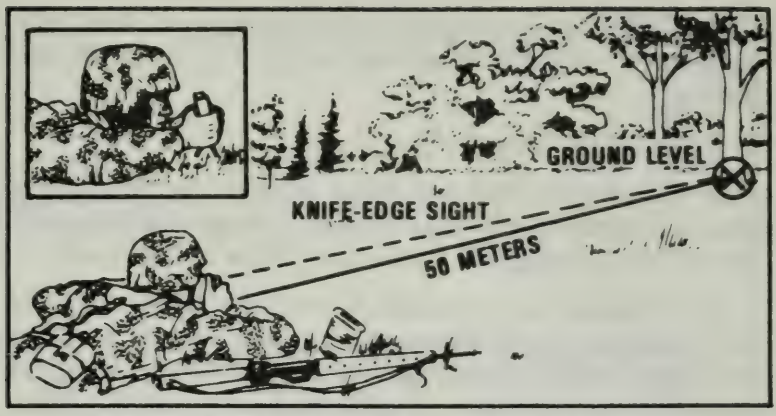


Figure 200. Aiming knife-edge mine.

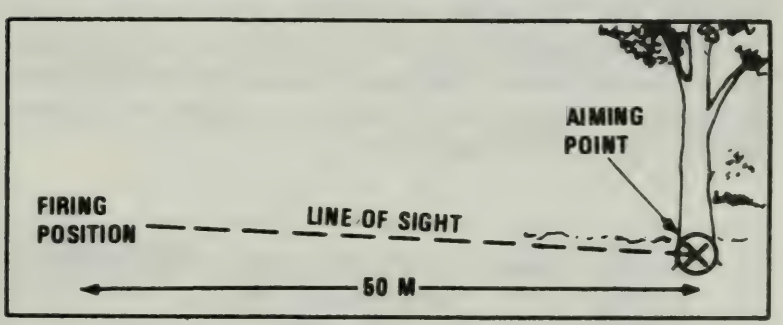


Figure 201A. Aiming knife-edge mine.

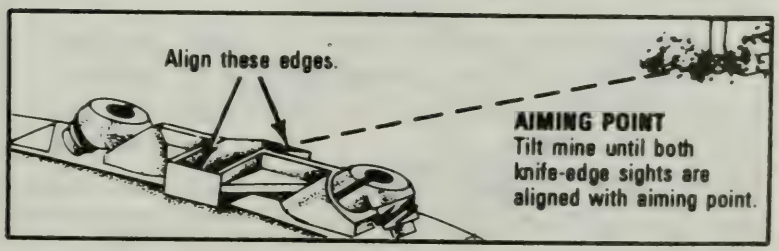


Figure 201B. Aiming knife-edge mine (continued).

edge of the peep sight parallel to the ground that is to be covered with the fragment spray (Figure 202A and 202B).

5. Arming the mine.

a. After installing the mine, secure the firing wire about 1 meter to the rear of the mine so the mine will not become misaligned if the firing wire is disturbed.

b. With the mine positioned and the firing wire laid out, unscrew one of the shipping plug priming adapters from the mine. Slide the slotted end of the shipping plug priming adapter onto the firing wire of the blasting cap between the crimped connections and the blasting cap. Pull the excess wire through the slotted end of the adapter until the top of the blasting cap is firmly seated in the bottom portion of the shipping plug priming adapter (Figure 203). Screw the adapter with blasting cap into the detonator well.

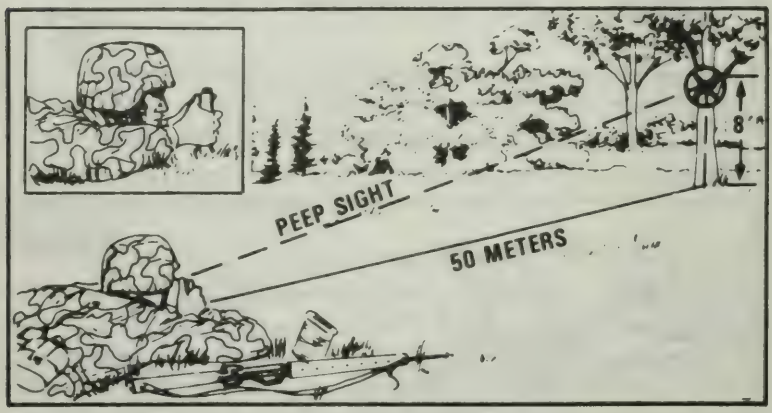


Figure 202A. Aiming slit-type peep sight mine.

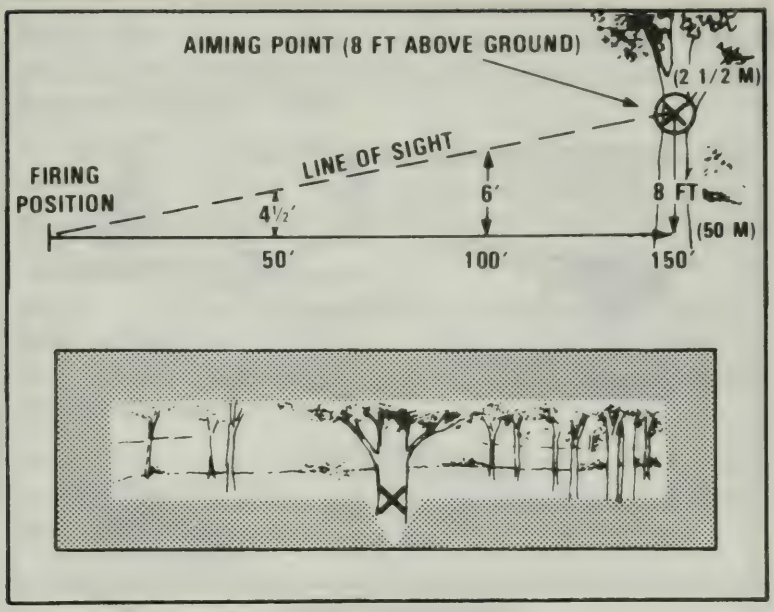


Figure 202B. Aiming slit-type peep sight mine (continued).

WARNING

ENSURE THAT THE FACE OF THE MINE MARKED "FRONT TOWARD ENEMY" AND THE ARROWS ON THE MINE POINT IN THE DIRECTION OF THE ENEMY.

c. Recheck the aim of the mine. Camouflage the mine, bury the firing wire (if possible), and move back to the firing position.

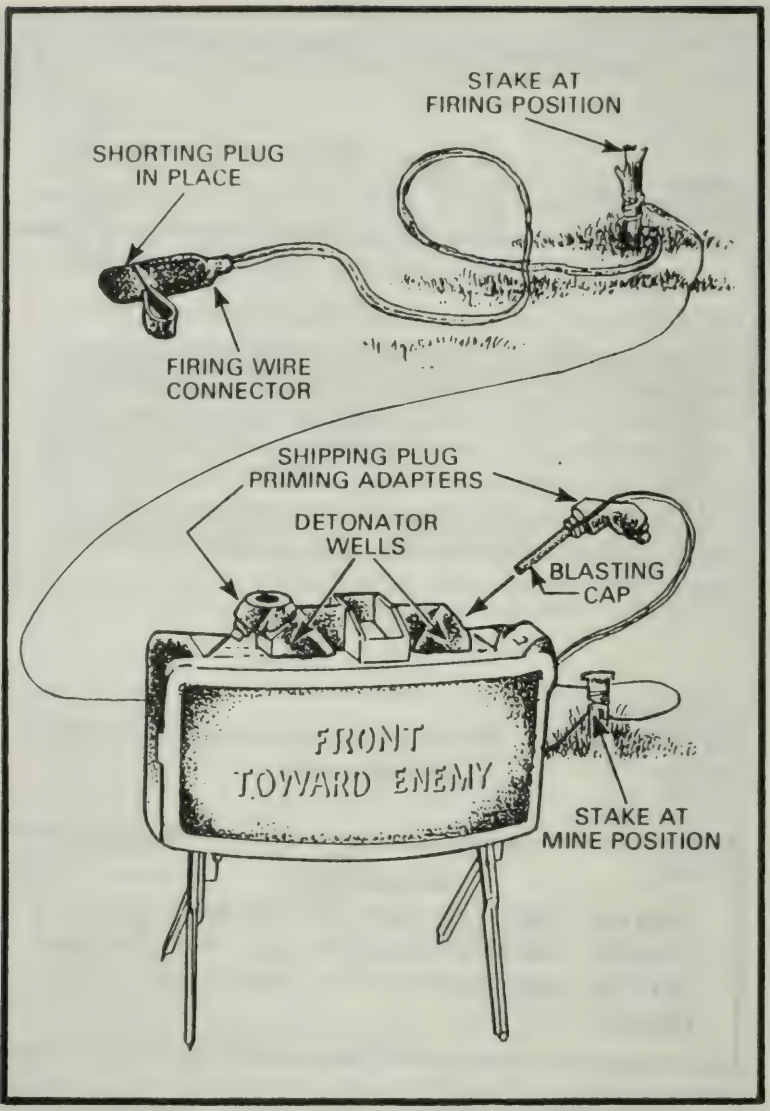


Figure 203. Arming the mine.

Note: *The firing position should be in a hole or covered position at least 16 meters to the rear or the side of the emplaced mine.*

6. Retest the circuit. Retest the circuit after the firing wire is laid out and the cap is placed inside the mine to see if any breaks in the wire have occurred (Figure 204).

Note: *To ensure that the mine will function properly after installation, retest the firing circuit to check for any break in the wire that may have occurred during the installation.*

Note: *Ensure that all friendly troops within 250 meters to the front and sides and 100 meters to the rear of the mine are under cover.*

WARNING

THE FIRER MUST BE BEHIND COVER OR IN A FIGHTING POSITION WHEN RETESTING THE CIRCUIT ON A CLAYMORE MINE WITH THE BLASTING CAP INSERTED IN THE DETONATION WELL.

a. To conduct a circuit test, remove the dust cover from the connector of the M57 firing device and from the female connector of the M40 test set. Plug the test set into the firing device. Move the firing device bail from the SAFE position to the FIRE position and actuate the handle of the firing device with a firm, quick squeeze. Observe the window of the test set for a flash of light. The flashing light indicates that the M57 firing device and M40 test set are functioning correctly.

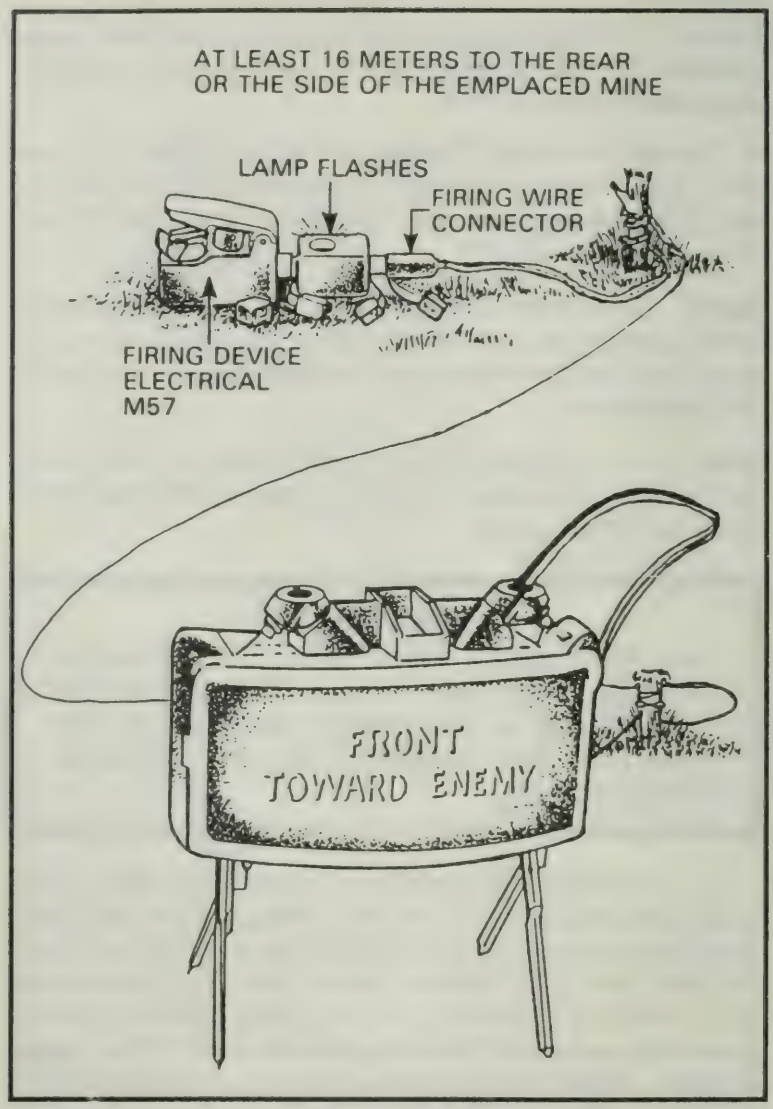


Figure 204. Retesting the circuit.

Remove the shorting plug dust cover from the connector of the firing wire and from the end of the test set. Plug the connector of the firing wire into the test set.

WARNING
THE M40 TEST SET MUST BE USED DURING RETEST OF THE CIRCUIT.

b. Place the M57 firing device bail in the FIRE position and actuate the handle. The lamp in the window of the M40 test set should flash.

c. After checking the complete circuit, place the bail in the SAFE position (Figure 205), then remove the M57 firing device. Remove the M40 test set and place the shorting plug back on the firing wire.

Note: *In a training situation, do not connect the firing device to the firing wire until actual time of firing. In combat, the firing device should be connected to the firing wire, with safety bail in SAFE position, ready for use.*

7. Fire the mine. To fire the mine, remove the dust covers from the firing device and firing wire and connect the two. Position the firing device safety bail in the FIRE position (Figure 205), then actuate the firing device handle with a firm, quick squeeze.

Note: *The mine is most effective when employed against targets 20 to 30 meters in front of it.*

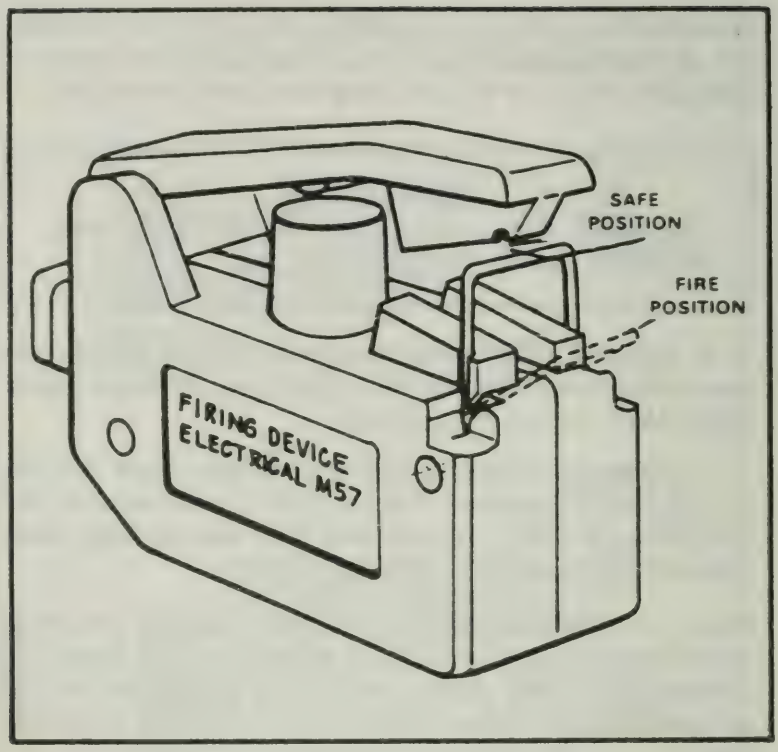


Figure 205. Firing devise in the SAFE position.

Evaluation Preparation

Note: *For training, only inert blasting caps and mines will be used.*

Setup: At the test site, place one M7 bandoleer, containing an inert M18A1 Claymore mine, an M57 firing device, and an M40 test set. Check to make sure each mine is complete and serviceable. Place one wooden stake in the ground at the test position and the

mine emplacement point. The distance between the emplacement and firing point must be no less than 16 meters. The stake at the aiming point should be painted red or some other distinguishable color. To assist the trainer in determining if the soldier passes step 3c, place stakes 1 meter on each side of the aiming point stake.

Note: *Stakes should not exceed 1 foot above ground.*

Brief Soldier: Tell the soldier to perform a circuit check on the firing wire and then install the mine. The soldier is not required to camouflage the mine or bury the wire.

Evaluation Guide: 071-325-4425

EMPLOY AN M18A1 CLAYMORE MINE

	Performance Measures	*Results*	
1.	Conducts inventory of M18A1 Claymore mine.	P	F
2.	Conducts circuit test.	P	F
	a. Plugs the firing device into the test set.		
	b. Actuates firing handle and observes window on test set for flash.		

Note: *Trainer, do not attempt to observe the flash on the M40 test set during the circuit test since it might interfere with the soldier's performance. If the soldier states he cannot see the flashing light, tell him, "Continue with the test."*

	c. Places a sandbag over blasting cap.		

Note: *The sandbag can be placed over the blasting cap any time before plugging the test set into the firing wire connector.*

d. Plugs the test set into the firing wire connector.

e. Actuates firing handle and observes window on test set for flash.

Note: *Trainer, do not attempt to observe the flash on the M40 test set during the circuit test since it might interfere with the soldier's performance. If the soldier states he cannot see the flashing light, tell him, "Continue with the test."*

f. Completes steps 2a through 2e in sequence (except as noted).

g. Places firing device on SAFE.

h. Replaces the shorting plug cover on the firing wire.

3. Sets up, aims, and arms the Claymore mine. P F

a. Ties the shorting plug end of the firing wire to a fixed object (stake, tree, etc.) at firing position and unrolls wire to mine emplacement site.

b. Carries the firing device during installation of mine.

c. Aims the mine within 1 meter (right or left) of the aiming stake.

Note: *The trainer must physically get down and check the aim of the mine after the test has been completed to avoid interfering with the soldier.*

d. Secures wire at mine site.

e. Inserts the blasting cap in either detonator well. Locks it with the shipping plug priming adapter.

f. Rechecks lay of the mine.

Note: *If the soldier tries to put the blasting cap through the hole in the shipping plug priming adapter, he should be scored fail for step 3.*

4.	Rechecks circuit.	P	F
	a. Plugs the firing device into the test set.		
	b. Actuates firing handle and observes window on test set for flash.		
	c. Plugs the test set into the firing wire connector.		
	d. Actuates the firing handle and observes the window in the test set for flash.		
	e. Places the firing device on SAFE.		
	f. Removes the test set.		
5.	Fires the Claymore mine.	P	F
	a. Places firing device bail in SAFE position.		

b. Plugs the firing device into the firing wire connector.

c. Assumes a prone position behind cover.

Note: *Prone position may be assumed any time before placing firing device on FIRE.*

d. Places firing device bail in FIRE position.

e. Actuates firing handle to fire mine.

f. Completes steps 5a through 5e in sequence.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-23

★ ★ ★ ★ ★

RECOVER AN M18A1 CLAYMORE MINE

071-325-4426

CONDITIONS

Given an installed M18A1 Claymore mine, M57 firing device, M40 test set, firing wire spool, and an M7 bandoleer.

STANDARDS

Disarm and recover the Claymore using the correct procedures and repack all components in the M7 bandoleer.

TRAINING AND EVALUATION

Training Information Outline

1. Disarm the Claymore.

a. Ensure that the firing device safety bail is in the SAFE position.

b. Disconnect the firing wire from the firing device and replace the shorting plug dust cover on the firing wire connector. Replace the dust cover on the firing device connector. Keep possession of the firing device.

WARNING

DURING DISARMING AND RECOVERY OF THE CLAYMORE, THE M57 FIRING DEVICE MUST BE KEPT IN THE POSSESSION OF THE INDIVIDUAL RECOVERING THE MINE.

c. Untie the firing wire from the stake at the firing site.

d. Move to the Claymore and unscrew and remove the shipping plug priming adapter containing the blasting cap.

e. Separate the shipping plug priming adapter and the blasting cap. Reverse the shipping plug and screw the plug end of the adapter into the detonator well.

f. Remove the firing wire from the stake at the mine site. Place the blasting cap into the end of the wire container and roll the wire on the wire container.

g. Remove the Claymore from its emplacement and secure the folding legs.

2. Repack the mine and all accessories into the M7 bandoleer.

Evaluation Preparation

Note: *For training, only inert blasting caps and mines will be used.*

Setup: At the test site, provide a correctly installed Claymore mine, firing device, and bandoleer.

Brief Soldier: Tell the soldier that he is to recover the Claymore and replace the Claymore and all accessories in the bandoleer.

Evaluation Guide: 071-325-4426

RECOVER AN M18A1 CLAYMORE MINE

	Performance Measures	*Results*	
1.	Checks that firing device bail is on safe.	P	F
2.	Disconnects firing device from wire and replaces dust cover and shorting plug cover. Keeps possession of M57 firing device.	P	F
3.	Removes firing wire from firing site stake and moves to mine.	P	F
4.	Removes priming-adapter and separates adapter and blasting cap.	P	F
5.	Screws shipping plug into detona-tor well.	P	F
6.	Removes firing wire from mine site stake.	P	F
7.	Places blasting cap in end of firing wire spool and rolls up the firing wire.	P	F
8.	Places mine and accessories in M7 bandoleer.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 23-23

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PRACTICE PREVENTIVE MEDICINE

081-831-1043

CONDITIONS

As a member of a squad participating in a road march and bivouac.

STANDARDS

Before and during the conduct of the mission, take measures for:

1. Care of the feet before and during the march.
2. Purification of water with iodine tablets.
3. Proper disposal of human waste.
4. Heat and cold injuries.

TRAINING AND EVALUATION

Training Information Outline

1. Care of the feet.

a. Before the march, be sure footgear is the proper type, is correctly fitted, and is broken in; that socks are clean and free of holes or knotty darns; and that you have more than one pair of socks and foot powder. Never break in a new pair of shoes or boots on a march. Treat and protect blisters, pressure spots, and infections before the march starts.

b. On the march, keep the feet as dry as possible. If socks become damp or wet, change them for dry ones when possible. Dry socks by putting them under your shirt around the waist. Promptly relieve tender pressure spots on the feet by adjusting gear. Once or twice daily during the march, lightly dust the feet with foot powder.

c. Inspect the feet at rest periods. If possible, wash them during the noon break. Raise the feet while resting to help reduce congestion and swelling.

2. Purifying water.

a. Before using iodine tablets, check them for physical change. If they are old, they can lose their disinfecting ability. Tablets that are not steel gray or that are stuck together or crumbled should not be used.

b. Follow these procedures to treat water in a canteen with iodine tablets:

(1) Fill the canteen with the cleanest, clearest water available.

(2) Add one iodine tablet to a 1-quart canteen if the water is clear; add two tablets if the water is cloudy. Double the amounts for a 2-quart canteen.

(3) Place the cap on the canteen loosely, wait 5 minutes, and shake the canteen well. Allow leakage to rinse the threads around the neck of the canteen.

(4) Tighten the cap and wait an additional 25 minutes before using the water.

3. Human solid waste disposal methods:

a. When on the march, use an individual cathole latrine during short halts. Dig it approximately 1 foot deep. Completely cover and pack it down after use.

b. For overnight bivouac, use the straddle trench. Building details are given in FM 21-10.

4. Heat and cold injuries.

a. Preventing heat injuries. The soldier should ensure he satisfies the following:

(1) Water needs. Your body needs a minimum amount of water for cooling, waste elimination, and metabolism. Any attempt to train the body to use less water can be harmful and may lead to heat injuries. Drink more water than needed to quench the thirst.

(2) Salt needs. When water is lost through sweating, so is vital body salt. Usually, eating field rations or liberal salting of the garrison diet will provide enough salt. Excess intake of salt should be avoided.

Note: *First aid for heat injuries is discussed in FM 21-11.*

b. Preventing cold injuries.

(1) Drinking a sufficient amount of water in cold weather is as important as it is in hot weather. In cold weather, it is difficult to realize that your body is losing fluids and salt. Sweat evaporates rapidly or is absorbed so completely by the layers of clothing that it is seldom visible on the skin.

(2) Clothing for cold weather protects, insulates, and ventilates. It protects by covering the body. It insulates by trapping air that has been warmed by the body and holding it near the skin to prevent loss of body heat. It ventilates by allowing an exchange of air through the various layers of clothing, thus preventing overheating and excessive sweating. Clean, dry clothing should be worn in loose layers to allow free movement and exercise.

(3) Good circulation should be maintained by exercising the feet and legs. This is important during rest breaks.

(4) Troops should be paired as "buddies" in cold weather to remind each other to do warming exercises often and to watch for signs of frostbite and trench foot. FM 21-11 gives signs and first aid for cold-weather injuries.

Evaluation Preparation

Setup: In a preselected area before or during a road march, or in a bivouac site, each individual must practice preventive medicine.

Brief Soldier: Tell the soldier that he will be evaluated on his ability to properly demonstrate the

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procedures for foot care before and during a road march, to purify water, to properly dispose of human solid waste, and to prevent heat and cold injuries.

Evaluation Guide: 081-831-1043

PRACTICE PREVENTIVE MEDICINE

	Performance Measures	*Results*	
1.	Properly takes care of the feet before the road marches.	P	F
	a. Makes sure boots are properly fitted.		
	b. Makes sure boots are broken in (not new boots).		
	c. Wears clean socks, free of holes and knotty darns.		
2.	Takes proper care of the feet during the road marches.	P	F
	a. Keeps feet as dry as possible.		
	b. Changes damp socks.		
	c. Dusts feet lightly with foot powder.		
	d. Adjusts gear to relieve the tender spots on the feet.		
3.	Purifies water with iodine tablets.	P	F

a. Inspects the iodine tablets for a physical change (for example, inspects to ensure tablets are steel gray, and are not crumbled or stuck together).

b. Fills canteen with clean water.

c. To a one-quart canteen filled with clear water, adds one tablet.

d. To a two-quart canteen filled with clear water, adds two tablets.

e. If the water is cloudy, doubles the number of tablets.

f. Loosely tightens canteen cap and waits five minutes.

g. Shakes canteen, allowing leakage to rinse the threads around the neck.

h. Tightens the cap and waits an additional 25 minutes before using.

4. Disposes of human solid waste. P F

a. Digs a cathole (short stops).

b. Uses the straddle trench (overnight bivouac).

5.	Prevents heat injuries (self-evaluation).	P	F
	a. Drinks more water than needed to quench thirst.		
	b. Maintains adequate salt intake by adjusting the amount added to food at meals..		
6.	Prevents cold injuries.	P	F
	a. Drinks more water than needed to quench thirst.		
	b. Wears clothing loosely and in layers.		
	c. Pairs with a "buddy."		
7.	Takes care of blisters.	P	F
	a. Washes the blister and surrounding area with soap and water.		
	b. Seeks medical treatment for painful blisters or signs of infection, such as redness, throbbing, and drainage.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier fails any steps, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-10
FM 21-11

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MOVE UNDER DIRECT FIRE

071-326-0502

CONDITIONS

Given a tactical situation where you must approach an enemy position from a distance of 250 to 300 meters across varied terrain, armed with an M16A1 rifle or M203 grenade launcher, wearing full combat gear, and being a member of a two-man team.

STANDARDS

Move to within 100 meters of the enemy position without being wounded.

TRAINING AND EVALUATION

Training Information Outline

1. Select individual movement route within your team or squad route or axis of advance (Figure 206).

a. Search the terrain to your front for:

(1) A gully, ravine, ditch, or wall at a slight angle to your direction of movement. (These features provide cover and concealment when the low or high crawl is used.)

(2) Hedgerows or a line of thick vegetation. (These provide only concealment when the low or high crawl is used.)



Figure 206. Individual movement route.

(3) Large trees, rocks, stumps, fallen timber, rubble, vehicle hulks, folds or creases in the ground. (These provide cover and concealment for use as temporary positions. Use the rush if the area between them has no concealment.)

(4) High grass or weeds. (These provide only partial concealment, since use of high or low crawl could reveal your location by the movement of vegetation. The rush may have to be used.)

b. Select your next position (and the route to it) as one that:

(1) Exposes you to the least enemy fire.

(2) Does not require you to cross in front of other members of your element and mask their fires.

2. Determine the correct individual movement technique.

a. Use the high crawl when:

(1) The route you have selected provides cover and concealment.

(2) Poor visibility reduces enemy observation.

(3) The terrain and vegetation is suitable only for the low crawl, but speed is required.

b. Use the low crawl when:

(1) The chosen route provides cover or concealment less than 1 foot high.

(2) Visibility provides the enemy good observation.

(3) Speed is not required.

c. Use the rush when:

(1) Open areas must be crossed.

(2) Time is critical.

3. Use the high crawl (Figure 207).

a. Keep your body off of the ground and rest your weight on your forearms and lower legs. Cradle the rifle in your arms, keeping its muzzle off the ground. Keep your knees well behind your buttocks so it stays low.

b. Move forward by alternately advancing your right elbow and left knee, and left elbow and right knee until the next position is reached.

4. Use the low crawl (Figure 208).



Figure 207. High crawl.

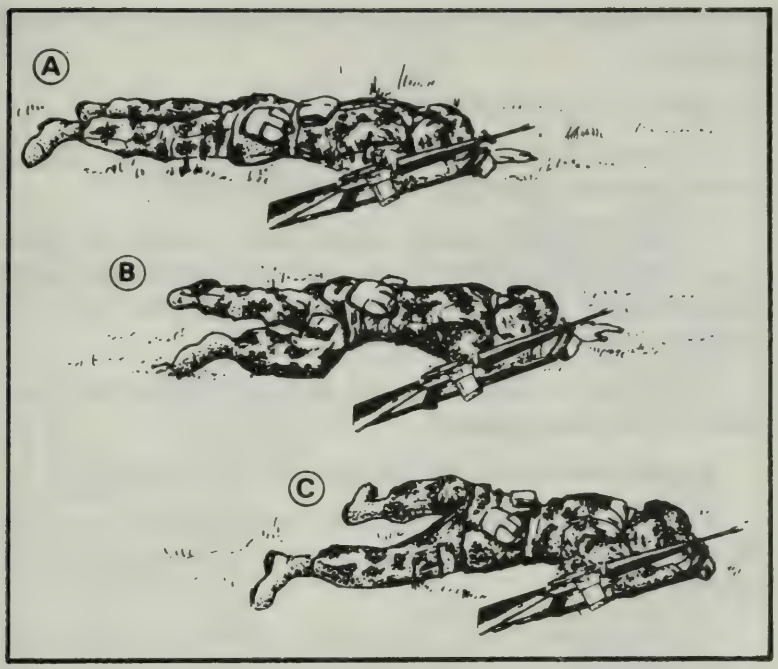


Figure 208. Low crawl.

a. Keep your body as flat as possible to the ground. Grasp the rifle sling at the upper sling swivel, letting the hand guard rest on your forearm and the butt of the rifle drag on the ground, keeping the muzzle off the ground.

b. To move forward, push your arms forward, and pull your right leg forward. Then pull with your arms and push with your right leg. Continue this push-pull movement until you reach your next position.

c. Change your pushing leg frequently to avoid fatigue.

5. Use the rush (Figure 209).

a. Start from the prone position by slowly raising your head and selecting your next position.

b. Lower your head, draw your arms in to your body, keep your elbows down, and pull your right (left) leg forward. With one movement, raise your body by straightening your arms.

c. Spring to your feet, and step off with either foot. Run to the next position.

d. Just before hitting the ground, plant both feet.

e. Slide your right hand down to the heel of the rifle butt and fall forward, breaking your fall with the butt of the rifle.

f. Roll on your side, place the butt of the rifle in the hollow of your shoulder, and then roll into a firing position.

Note: *Use short rushes from one covered position to another when enemy fire allows brief exposure. Maneuver teams, buddy teams, or individuals may advance by short rushes to avoid accurate enemy fire. Try not to stay up any longer than three to five seconds so that you do not give the enemy time to track you with his automatic fire. The rule is: Rush from cover to cover. Do not hit the ground in the open just because you have been up for five seconds.*

Note: *Do not rush from a position from which you have been firing. Roll right or left or crawl before you spring to your feet.*

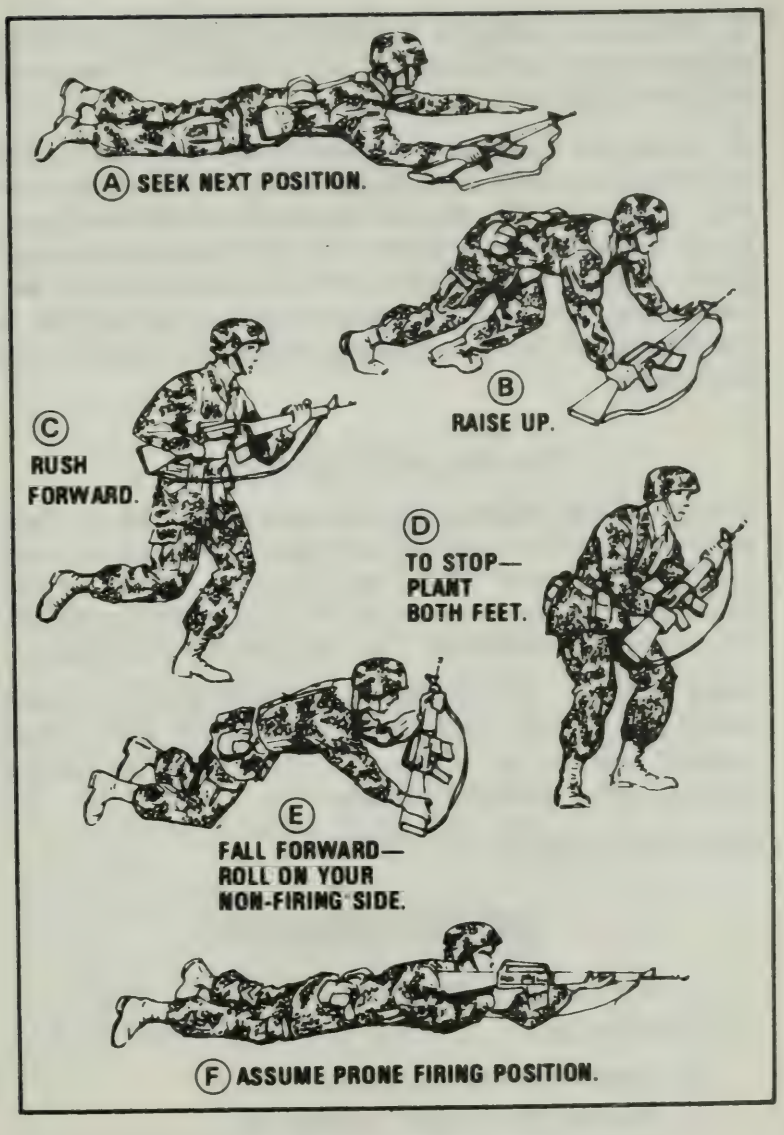


Figure 209. Rush.

3. When you complete a rush to a position providing concealment (weeds, bushes) but no cover, roll or crawl to a new position before firing.

4. When you move as a member of a buddy team, you must communicate with each other. Ensure that one man covers by fire any movement by the other man. When moving as a member of a fire team, watch and listen to your team leader; he will lead you along the best route available and ensure that covering fire is provided when you move. Stay with him and follow his example.

Evaluation Preparation

Setup: Take soldiers on a simulated march or field exercise in battle dress with weapons. Select an area with varying cover types and heights. Select a site about 300 meters away to serve as an enemy position. Point out site to soldiers. Pair up soldiers to be tested.

Brief Soldier: Tell soldiers to pretend they are under direct fire. Tell them they must move from their present position to within 100 meters of the enemy position using the buddy system.

Evaluation Guide: 071-326-0502

MOVE UNDER DIRECT FIRE

	Performance Measures	*Results*	
1.	High Crawl:	P	F
	a. Keeps body off the ground.		
	b. Cradles rifle in arms, muzzle off the ground.		

	c. Puts weight on forearms and lower legs.		
2.	Low Crawl:	P	F
	a. Places body flat on ground.		
	b. Holds rifle by upper sling swivel, with rifle resting on forearm, rifle butt dragging on ground, and muzzle off the ground.		
	c. Pulls with arms and pushes with leg, switching frequently.		
3.	Rush:	P	F
	a. Raises head slowly and looks for next position.		
	b. Hits ground by planting feet and using butt of rifle to break fall.		
	c. Rolls into firing position.		
	d. Exposes self less than 5 seconds.		
4.	Uses high crawl or rush with high cover such as trees, walls, and ravines.	P	F
5.	Uses low crawl with low cover such as weeds, grass, and low rises.	P	F
6.	Fires rifle when buddy moves.	P	F
7.	Exits from a position other than the firing position.	P	F
8.	Communicates with buddy.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-75
TEC Lesson 010-071-1041-F

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MOVE OVER, THROUGH, OR AROUND OBSTACLES (EXCEPT MINEFIELDS)

071-326-0503

CONDITIONS

Given one smoke grenade, wood or grass mat or chicken wire, a grappling hook, wrapping material, and wire cutters. During daylight or darkness, you are at a field location, moving over a route with man-made crossings and man-made obstacles (walls and barbed wire entanglements).

STANDARDS

Move along a predesignated route from a distance of 200 to 250 meters to within 100 meters of the enemy's position without being hit.

TRAINING AND EVALUATION

Training Information Outline

1. Use smoke to cover your advance while crossing the obstacle.

2. Cross barbed wire obstacles.

a. To cross over barbed wire, you may put wood, grass mat, or some chicken wire netting over it. Cross carefully, because such a mat or net forms an unstable path (Figure 210).



Figure 210. Moving over barbed wire.

b. To cross under the wire, slide headfirst on your back under the bottom strands. Push yourself forward with your shoulders and heels. Carry your weapon lengthwise on your body. Let the wire slide on the weapon to keep wire from catching on clothing and equipment. Hold the wires with one hand while moving (Figure 211).



Figure 211. Moving under barbed wire.

WARNING

CHECK BARBED WIRE FOR BOOBY TRAPS OR EARLY-WARNING DEVICES. IT IS THREAT DOCTRINE TO ATTACH TRIPWIRE-ACTIVATED MINES TO BARBED WIRE. A GRAPPLING HOOK WITH A LENGTH OF ROPE ATTACHED SHOULD BE USED FIRST TO PULL THE WIRE. BEFORE PULLING WIRE, CHECK FOR ATTACHED EARLY-WARNING DEVICES. IF NO SUCH DEVICES ARE FOUND, CROSS THE BARBED WIRE, USING ONE OF THE METHODS LISTED IN PARAGRAPH 2.

c. If you must cut your way through barbed wire, cut only the lower strands. Leave the top wire in place to make it less likely that the enemy will discover the gap. Wrap cloth, such as rifle patches, around the wire between your hands and cut partly through the wire. Quietly bend the wire back and forth until it separates (Figure 212).

Note: *Obstacles are normally covered by either fire or observation.*

3. To cross roads, trails, or small streams, select a point at or near a bend in the road or stream: If possible, select a bend that has cover and concealment on both sides. Crawl up to the edge of the open area and observe the other side carefully before crossing. Cross rapidly but quietly. Get down on the other side; check the area around you (Figure 213).

4. To go over a wall, roll quickly over the top. Do not go over standing upright (Figure 214).



Figure 212. Cutting a wire obstacle.

Note: *When crossing a wall or other obstacle, use the buddy system: one person covers while one crosses.*

Evaluation Preparation

Setup: Select a good field location having crossings, walls, and barbed wire entanglements. Designate a position of opposing forces and point it out to the soldiers. Establish a time by running the course two times and timing yourself and an assistant over the



Figure 213. Crossing a danger zone.

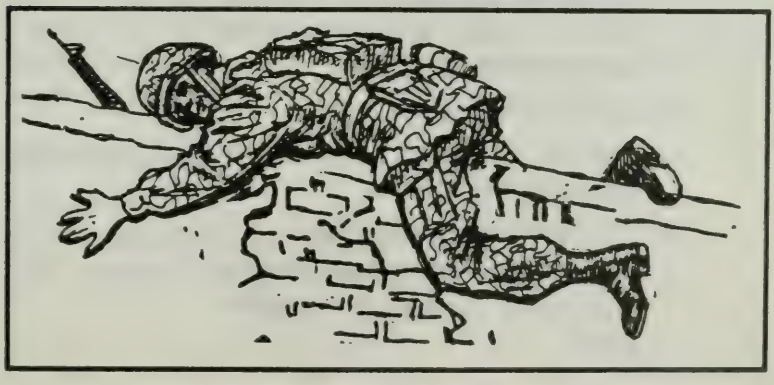


Figure 214. Crossing a wall.

course. Average times and add 10 percent as maximum time for soldiers.

Brief Soldier: Tell soldiers they are going to be evaluated on how they move over, through, and around the obstacles while attempting to get within 100 meters of enemy position. Tell them they must negotiate at least one of each type obstacle: crossing, barbed wire, and wall. Tell them they must run the course within _____ minutes (fill in the blank with the time determined during test setup).

Evaluation Guide: 071-326-0503

MOVE OVER, THROUGH, OR AROUND OBSTACLES (EXCEPT MINEFIELDS)

	Performance Measures	*Results*	
1.	General movement.	P	F
	a. Uses smoke (if available) to conceal advance while crossing obstacles.		
	b. Completes course within minutes. (Note: Insert time determined during test setup.)		
2.	Barbedwire obstacles.	P	F
	a. Checks for booby traps and/or early warning devices.		
	b. Wraps wire before cutting.		
	c. Partially cuts only lower strand(s) and bends strands to complete break.		

d. Crosses over wire after putting wood, grass mat, or chicken wire over wire.

e. Crosses under wire by sliding headfirst under bottom strands on back and carrying weapon lengthwise.

3.	Crossings.	P	F
	a. Crosses at bends, when possible.		
	b. Crawls to edge of open area and observes other side carefully before crossing.		
4.	Walls.	P	F
	a. Uses buddy system when crossing walls; covers for buddy while he crosses.		
	b. Rolls over wall quickly.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-75
TEC Lesson 947-071-0071-F
TEC Lesson 947-071-1047-F

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REACT TO INDIRECT FIRE WHILE DISMOUNTED

071-326-0510

CONDITIONS

As a member of a squad or section, other than team leader or squad leader.

Situation 1: You are not moving. You are in a defensive position or at a break in a tactical movement. You hear either the sound of incoming rounds or someone shouting "Incoming!"

Situation 2: Your squad or section is moving on foot. You hear either the sound of incoming rounds or someone shouting "Incoming!"

STANDARDS

React to each situation by following leader's directives or performing appropriate actions. Be prepared to adjust your mission-oriented protective posture (MOPP) level in case of a nuclear, biological, or chemical (NBC) attack.

TRAINING AND EVALUATION

Training Information Outline

1. If there is a possibility of an indirect fire attack, be alert for incoming artillery, mortars, rockets, and so on. There may be a warning before the first shell explodes in your area such as:

a. The sound of incoming shells.

b. A shouted warning of "Incoming!"

c. The sound of shells passing overhead or exploding nearby.

2. First, shout "Incoming!" when you hear any of the above warnings. This is the procedure to use to alert other personnel for incoming indirect fire. Indirect fire will normally be from artillery, mortars, rockets, or similar weapons.

3. Look to your fire team or squad leader before taking any other actions.

4. When you are not moving:

a. When you hear any of the warnings in paragraph 1, shout "Incoming!"

b. Remain in your defensive position, taking advantage of any available cover. If you are not in a defensive position, look for cover that will protect you from indirect fire. Any movement could let the enemy know your exact location.

c. Incoming indirect fire (zeroed in on your position) may be an indicator of a coming attack by ground forces.

5. When you are moving:

a. When you hear any of the warnings in paragraph 1, shout "Incoming!"

b. Follow your team leader's actions.

c. And you cannot see your team leader or squad leader, run out of the impact area in the direction and distance he orders.

Evaluation Preparation

Setup: Take soldiers on a simulated march or field exercise in battle dress with weapons.

Brief Soldier: Tell soldiers they are to be evaluated on their ability to react to indirect fire on the move and when in a fixed position. Trigger exercise by shouting "Incoming!" when on the march and when in a fixed defensive position.

Note: *Test soldiers individually under three different terrain positions.*

Evaluation Guide: 071-326-0510

REACT TO INDIRECT FIRE WHILE DISMOUNTED

	Performance Measures	*Results*	
1.	In a fixed position.	P	F
	a. Shouts "Incoming" in loud, easily recognizable voice.		
	b. Watches leader for instructions.		
	c. Does not leave cover unless told to do so by leader.		
2.	On the move.	P	F
	a. Shouts "Incoming" in loud, easily recognizable voice.		
	b. Watches leader for instructions.		
	c. Runs out of impact area if he does not see leader.		
	d. Keeps body low.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-75
TEC Lesson 010-071-1041-F

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REACT TO FLARES

071-326-0511

CONDITIONS

Given a tactical situation at night, upon hearing a flare rising or when suddenly illuminated by a ground or overhead flare.

STANDARDS

1. React to a ground flare when not under direct enemy fire and when under direct enemy fire.

2. React to overhead flare with warning, without warning, when not under direct enemy fire, and when under direct enemy fire.

TRAINING AND EVALUATION

Training Information Outline

1. Ground flares. Move out of illuminated area.

a. When alone, reorient yourself and continue mission.

b. As a member of a combat element, regroup (by standard operating procedure [SOP] or as instructed), and continue mission.

2. Overhead flare with warning (sound of rising flare). Assume a prone position (behind concealment when available) before the flare bursts.

3. Overhead flare without warning.

a. Assume the prone position, making maximum use of nearby cover and concealment and shadows until the flare burns out. Close one eye to protect your night vision; observe with the other (Figure 215).

b. When crossing wire obstacles where the prone position is not possible, crouch low until flare burns out.

4. Ground or overhead flare while under or followed by direct enemy fire. Use maneuver (select temporary position, rush, low crawl, as specified in applicable tasks) as you would during daylight.

Evaluation Preparation

Setup: Have a ground flare set so that you can initiate it when you are ready. You will have two hand held flares. A fire team of soldiers will be graded together.



Figure 215. React to overhead flare.

Brief Soldier: Tell the soldiers that they will be graded on their individual actions both under direct simulated fire and not under fire. Tell them they are to react to the flares as they appear. After grading the soldiers on the ground flare and the overhead flare with warning and simulated direct fire, tell them that the next flare should be acted on only after the flare has burst (simulate "without warning" with direct fire).

Evaluation Guide: 071-326-0511

REACT TO FLARES

	Performance Measures	*Results*	
1.	Ground flare (not under direct enemy fire).	P	F
	a. Moves out of the illuminated area.		
	b. Reorients himself and continues the mission (when alone).		
	c. Regroups in accordance with unit SOP and continues the mission (when part of a group).		
2.	Ground flare (under direct enemy fire).	P	F
	a. Uses fire and movement to move out of the illuminated area.		
	b. Uses rushes and low crawls.		

c. Reorients himself and continues the mission (when alone).

d. Regroups in accordance with unit SOP and continues the mission (when part of a group).

3.	Overhead flare with warning.	P	F
	a. Assumes prone position, using nearby cover or concealment, before the flare bursts.		
	b. Uses fire and movement when engaged by direct fire regardless of the flare type.		
	c. Reorients himself and continues the mission (when alone).		
	d. Regroups in accordance with unit SOP and continues the mission (when part of a group).		
4.	Overhead flare without warning.	P	F
	a. Gets into prone position.		
	b. Uses nearby cover and concealment and shadows.		
	c. Closes one eye while flare burns.		
	d. Observes with other eye.		

e. Crouches low (when crossing wire obstacle) until flare burns out.

f. Reorients himself and continues the mission (when alone).

g. Regroups in accordance with unit SOP and continues the mission (when part of a group).

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-75
TEC Lesson 010-071-1048-F

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SELECT TEMPORARY FIGHTING POSITIONS

071-326-0513

CONDITIONS

At an overwatch position, after initial movement into a tentative defensive position, at a halt during movement, or upon receiving direct fire.

STANDARDS

1. Select and occupy a firing position that allows good observation and field of fire and provides (in order of priority):
   a. Cover and concealment.
   b. Cover only.
   c. Concealment only.
2. Remain as low as possible.
3. Observe and fire around, rather than over objects.

TRAINING AND EVALUATION

Training Information Outline

1. Select temporary firing or observation position that takes advantage of available cover and concealment. (See Figure 216.)

2. Observe and fire around the side of an object. This conceals most of your head and body.

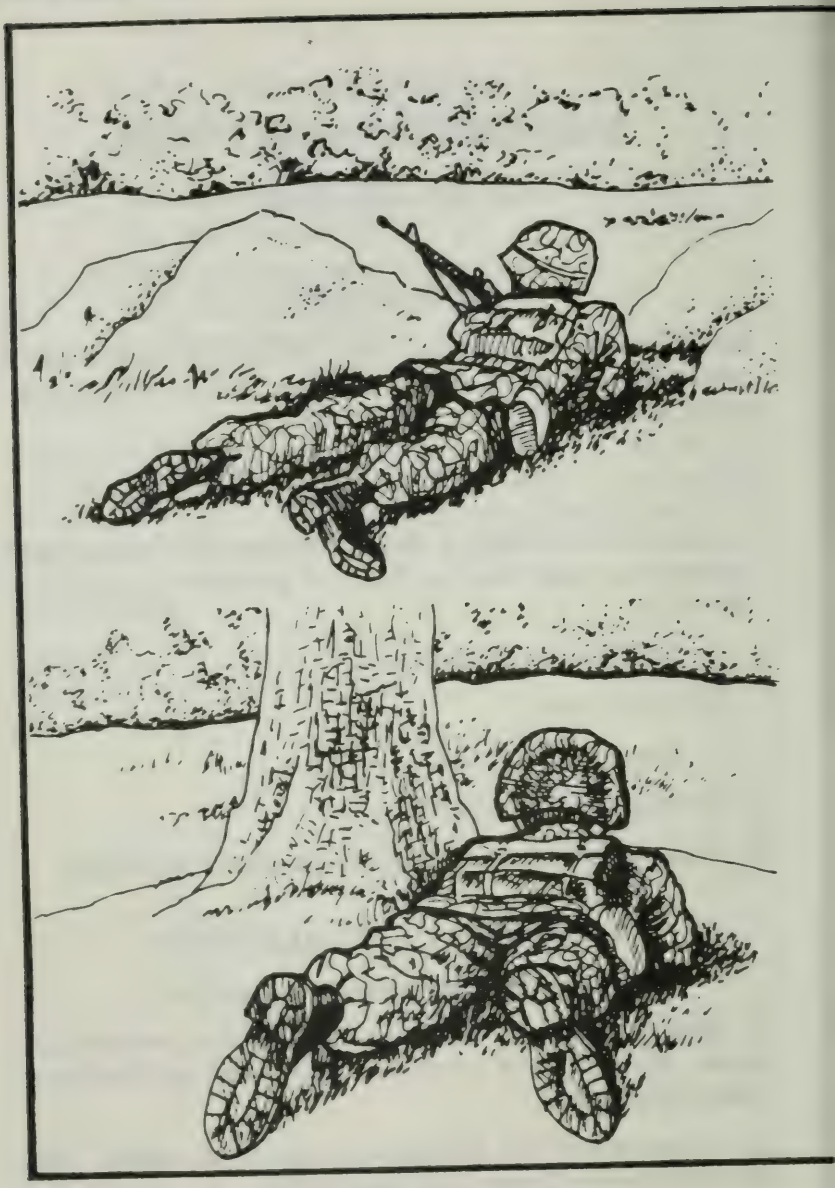
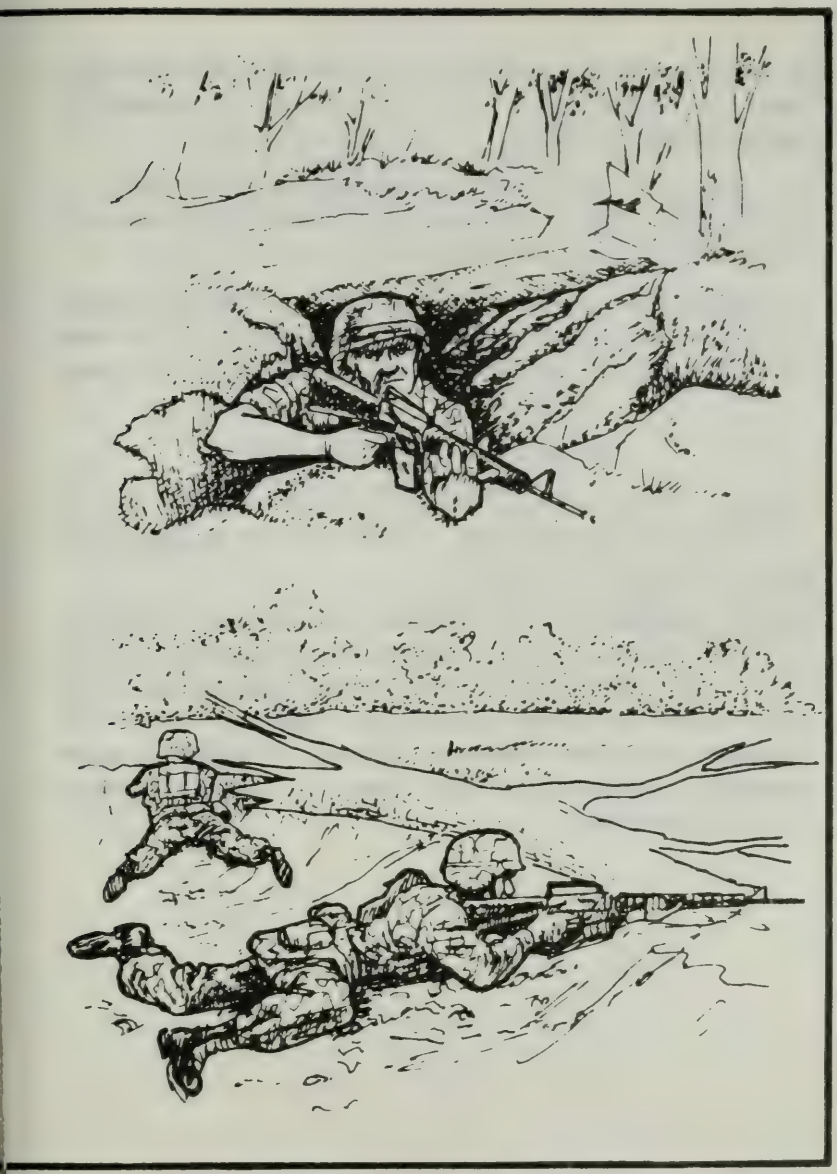


Figure 216. Temporary



fighting position.

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3. Stay low to observe and fire whenever possible. You can aim better and take advantage of concealing vegetation.

4. Select a good background before observing. A background that does not silhouette the individual reduces chances of detection.

5. Follow the team leader's directions after your initial selection of a temporary battlefield position; he may reposition you to gain better team coverage of the area.

Evaluation Preparation

Setup: Select an area of terrain with varying degrees of cover and concealment. Take soldiers in full battle gear on a simulated march.

Brief Soldier: Tell soldiers the enemy has been reported in the area and might be encountered at any time. At preselected points during march, at a rest halt, after ordering soldiers to take an overwatch position, or after ordering soldiers to take tentative defensive positions, order them to take temporary fighting positions.

Evaluation Guide: 071-326-0513

SELECT TEMPORARY FIGHTING POSITION

	Performance Measures	*Results*	
1.	Selects a background with no silhouette.	P	F
2.	Follows team leader's directions quickly and correctly.	P	F
3.	Simulates firing and observes from around side of an object.	P	F
4.	Remains as low as possible.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-75

★ ★ ★ ★ ★

CLEAR A FIELD OF FIRE

071-331-0852

CONDITIONS

Given a partially completed fighting position with an assigned sector of fire containing thick underbrush and small to medium trees, an entrenching tool, an axe, a specified depth or sector of fire to be cleared, and a designated amount of time in which to clear the field of fire.

STANDARDS

Within designated time, clear your sector of fire out to the specified distance so that:

1. Anyone moving through your sector of fire can be seen from your position.

2. Anyone moving into your sector of fire will not recognize it as a cleared area.

TRAINING AND EVALUATION

Training Information Outline

Note: *In preparing defensive positions for expected contact with the enemy, clear a suitable field of fire within the assigned sector of fire for each position.*

Note: *Before clearing the field of fire, make a careful estimate as to how much clearing can be done in the time available. This estimate often determines the*

nature and extent of the clearing to be undertaken, since a field of fire improperly cleared may afford the enemy better concealment and cover than if you left the area in its natural state.

1. Do not disclose your position by excessive or careless clearing (Figure 217).

2. In areas organized for close defense, start clearing near your position and work forward.

3. In all cases, leave a thin natural screen of vegetation to hide the defensive position.

4. In sparsely wooded areas, remove lower branches of large trees.

Note: *In heavy woods, complete clearing of the field of fire may not be possible or desirable within the time available. Restrict work to thinning undergrowth and removing lower branches of large trees. Clear a narrow lane of fire for an automatic weapon, making sure that you clear in an irregular pattern that will not reveal the weapon's position.*

5. Remove or thin dense brush. It is never a suitable obstacle and it obstructs the field of fire.

6. Cut weeds only where they obstruct your view.

7. Drag away cut brush, limbs, and weeds to points where they will not be detected by the enemy or furnish him with concealment.

8. Cover cuts on trees and bushes forward of the position with mud, dirt, or snow.

9. Ensure that no trails are made in your sector of fire as lanes are cleared.

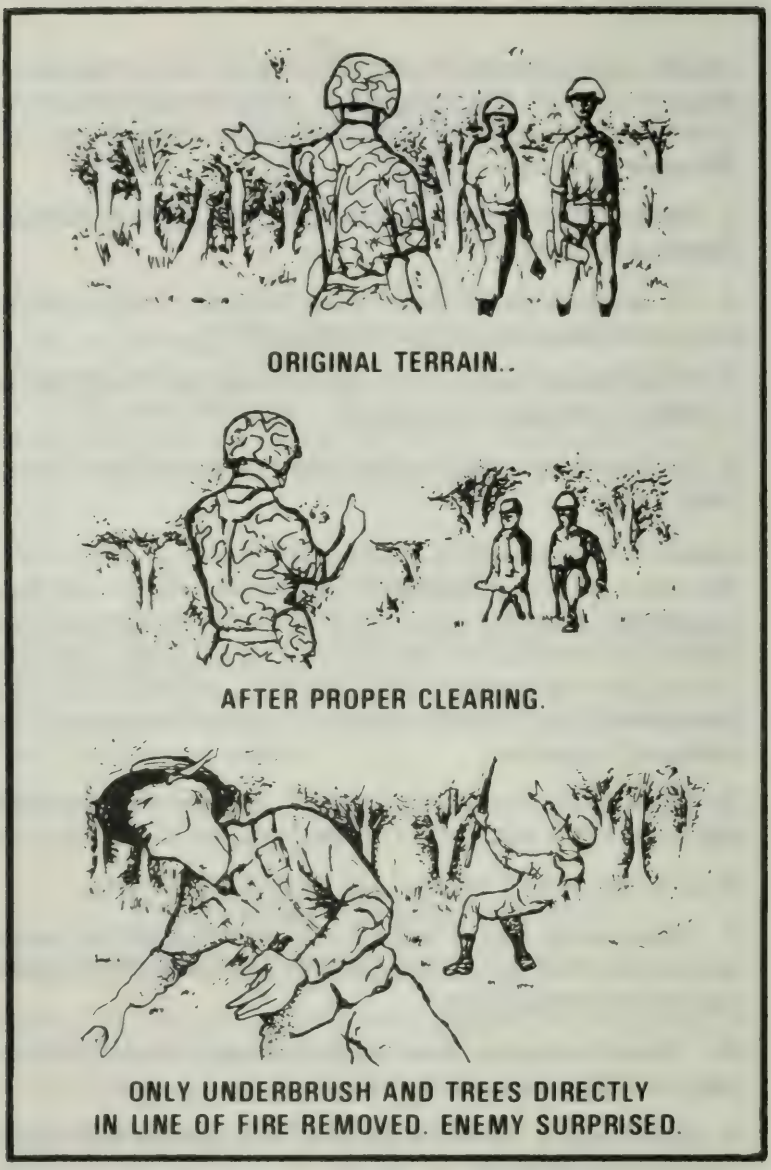


Figure 217. Clearing a field of fire.

Evaluation Preparation

Setup: Select suitable section of terrain for exercise.

Brief Soldier: Tell soldier he is going to be evaluated on clearing a field of fire.

Evaluation Guide: 071-331-0852

CLEAR A FIELD OF FIRE

	Performance Measures	*Results*	
1.	Cuts away all necessary undergrowth, weeds, and limbs.	P	F
2.	Covers all cuts on trees forward of position with mud, dirt, or snow.	P	F
3.	Removes all debris or uses it for concealment.	P	F
4.	Makes no trails in sector of fire; leaves screen of vegetation for cover.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 7-7
FM 7-8

★ ★ ★ ★ ★

CONSTRUCT AN INDIVIDUAL FIGHTING POSITION

071-326-5703

CONDITIONS

Given load-bearing equipment with bayonet, scabbard, entrenching tool, poncho, and M16A1 rifle; the specific location and sector of fire of the position to be constructed; and logs to construct overhead cover.

Note: *Position should afford natural cover, such as mounds of earth, stumps, trees, rocks, observation, and field of fire.*

STANDARDS

Construct a hasty fighting position and a modified fighting position that provide coverage of the sector of fire and sufficient protection from direct and indirect fire.

TRAINING AND EVALUATION

Training Information Outline

1. Hasty fighting position. When you first move into battle position, there may be little or no time to prepare the position. In such a situation, occupy a hasty fighting position. It should be behind whatever cover is available. It should give frontal protection and allow shooting to the front and oblique. The hasty fighting position should be in a small depression or hole at least half a meter (18 inches) deep. The term "hasty position" does not mean that there is no digging. Even

if you only have a few minutes, you can dig or scrape out a prone shelter that will give you some protection (Figure 218).

2. Modified fighting position.

a. One-man fighting position. This type of position allows flexibility in the use of cover. The hole only has to be long enough for one man and his equipment. A soldier must be able to shoot to both the front and oblique from behind frontal cover. The one-man position does not have the security of a two-man position (Figure 219).



Figure 218. Hasty fighting position.



Figure 219. One-man modified fighting position.

b. The two-man modified fighting position is used in close terrain, where grazing fire and mutual support extend no farther than to an adjacent position, or to cover dead space directly in front of his position. This is done by extending one or both ends of the hole around the sides of the frontal cover (Figure 220).

(1) The advantage of extending the ends of the two-man position:

(a) Both soldiers can see better and have greater sectors of fire to the front.



Figure 220. Two-man modified fighting position.

(b) One soldier can watch the entire sector of fire while the other soldier sleeps or eats.

(c) If they receive fire from the front, they can back behind the protection of the frontal cover.

(2) The disadvantage of extending the ends of the two-man position:

(a) It needs more digging and, therefore, extra time.

(b) It is harder to camouflage.

(c) It provides a better target for enemy hand grenades.

3. Prepare positions on steep terrain.

a. On a steep slope, a soldier in a hole behind frontal cover cannot shoot attackers without being exposed to enemy fire.

b. To overcome this problem, dig the hole and dig out firing ports at each end of the hole.

The ground between the firing ports then serves as frontal cover for the position (Figure 221).

4. Construction of a fighting position should generally follow this sequence:

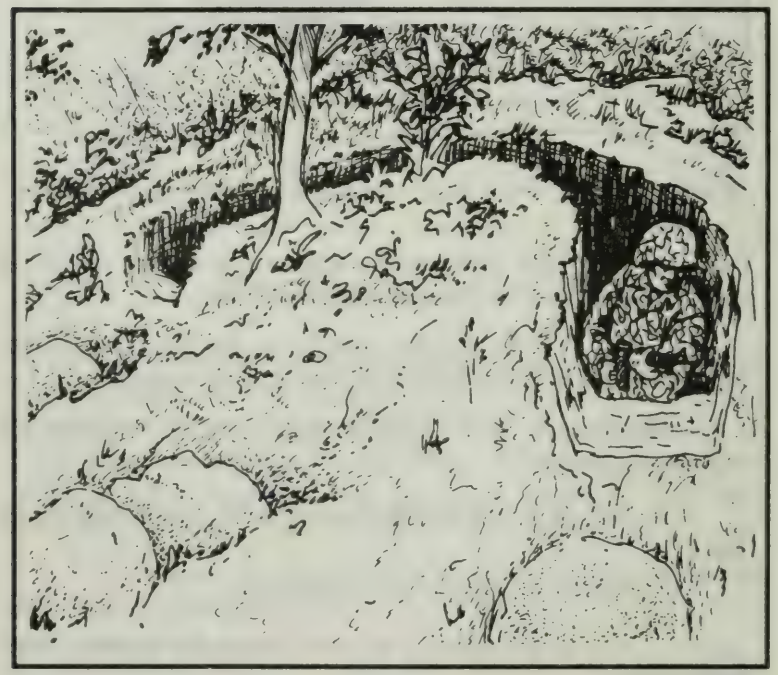


Figure 221. Fighting position on a slope.

a. Obtain position location and sector of fire from your squad leader. Put in sector-of-fire stakes to limit engagements to assigned sector-of-fire.

b. Partially clear field of fire within your sector, and dig a hasty fighting position for minimum protection. Be careful not to destroy natural camouflage around your position. Save grass clumps for use as camouflage later. At this stage of construction of the position, you should be able to fight effectively in the event of a surprise attack.

c. Next, dig in. Make the hole armpit deep (Figure 222). If you have a natural frontal parapet, carry away



Figure 222. Fighting position armpit deep.

and camouflage dirt from the hole; if not, make a frontal parapet with dirt from the hole.

(1) Use the dirt from your hole to build the frontal parapet or save it for use as flank, overhead, and rear cover later. Carry away and camouflage excess dirt (Figure 223).

(2) Shape the hole to fit the natural cover available. Depending on the size and shape of the frontal cover that you are using, you may not be able to dig a rectangular hole.

(3) Ideally, a natural parapet, such as a tree, mound, rock, or stump that will blend with the surrounding terrain, will be available for frontal cover. Otherwise, you must build your own parapet using dirt from the hole. At least 18 inches of earth should be between you and the enemy. Frontal cover is important so you can shoot without exposing your head to enemy fire.

d. Dig two trench-shaped grenade sumps. One should be at each end of the position. Dig the trenches as wide as an entrenching tool blade, as deep as the entrenching tool, and as long as the position is wide. The floor should slope toward the sumps. The slope should be steep enough so that a grenade thrown into the position will roll into one of the sumps (Figure 224).

e. Complete clearing field of fire. Clear only what is absolutely necessary. Get in firing position and check observation and field of fire. Save any cut foliage, dirt, or grass clumps for camouflage of position.

Note: *Task 071-331-0852: Clear a Field of Fire, gives detailed information on this task.*

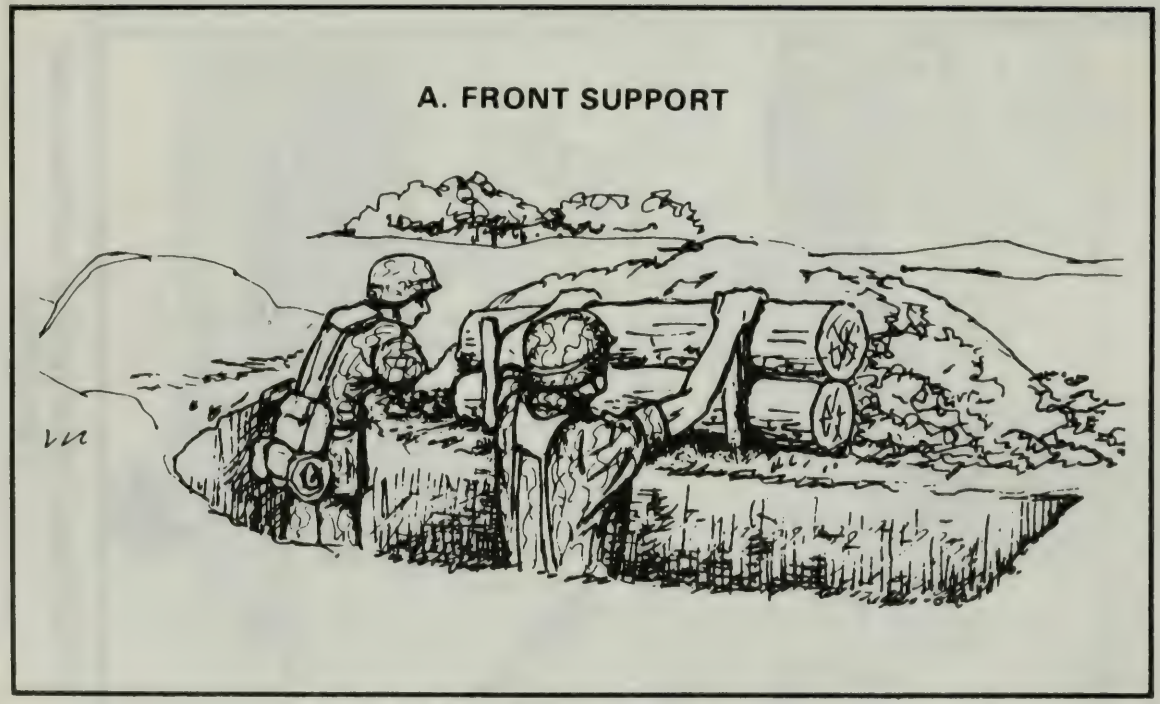


Figure 223. Constructing overhead cover.

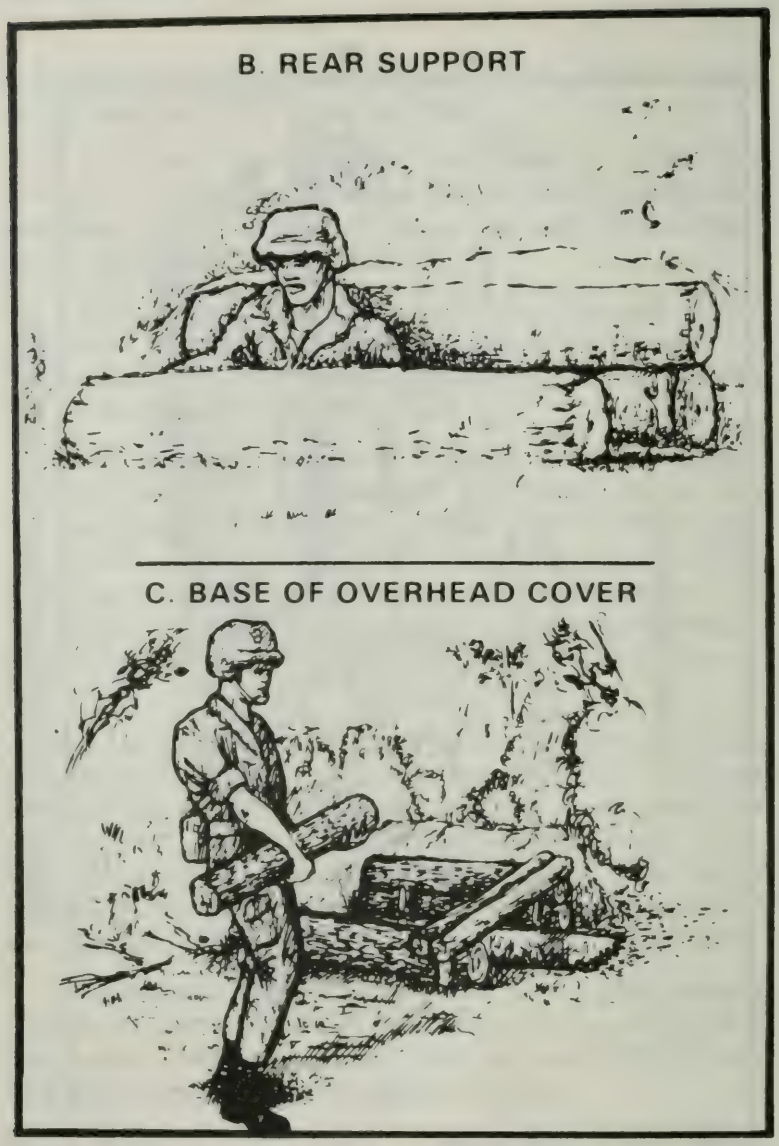


Figure 223. Constructing overhead cover (continued).

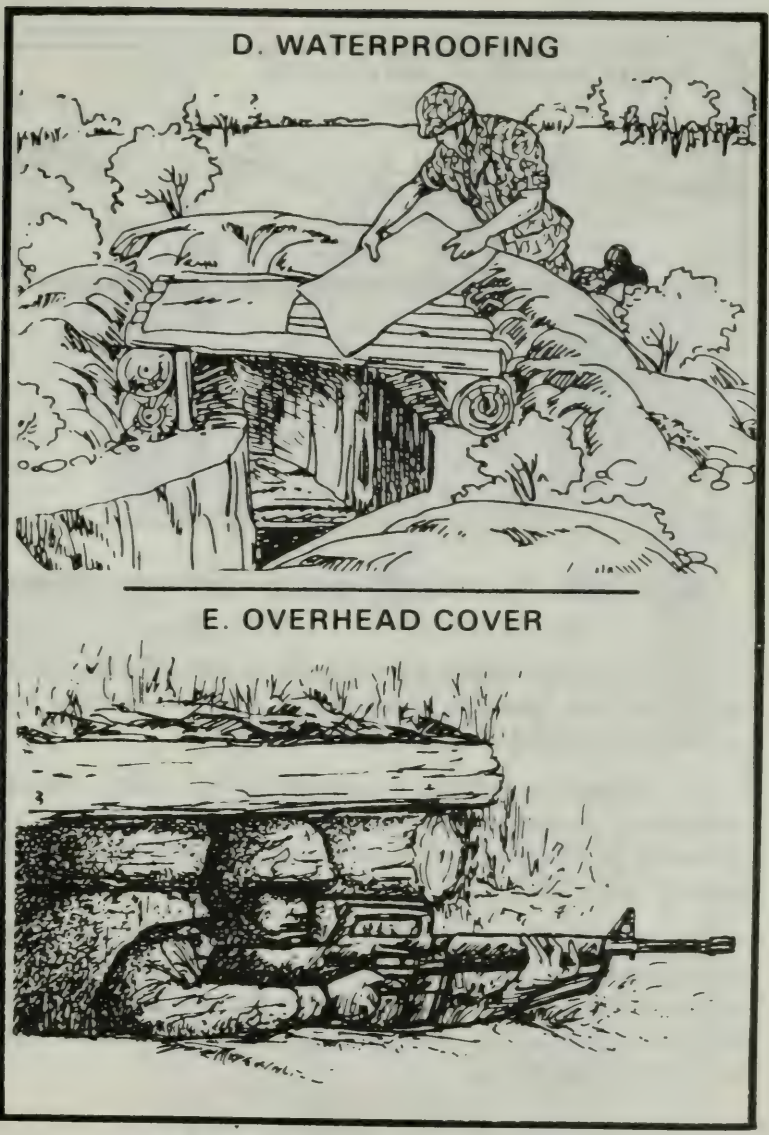


Figure 223. Constructing overhead cover (continued).

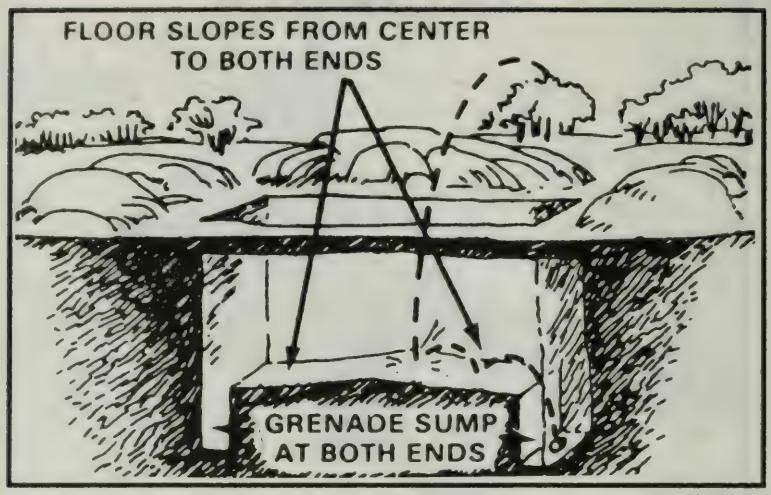


Figure 224. Two trench-shaped grenade sumps.

f. Construct fighting overhead cover. Cover should provide best possible protection from airbursts and allow you to fight from underneath it.

g. Construct flank overhead cover when frontal overhead cover would significantly increase the silhouette of the position, making it vulnerable to detection (Figure 225).

h. Camouflage position using available materials (grass clumps, foliage). Make your position blend into surroundings. Check camouflage by moving 35 meters to the front; if you can spot it easily, you need more work on camouflage.

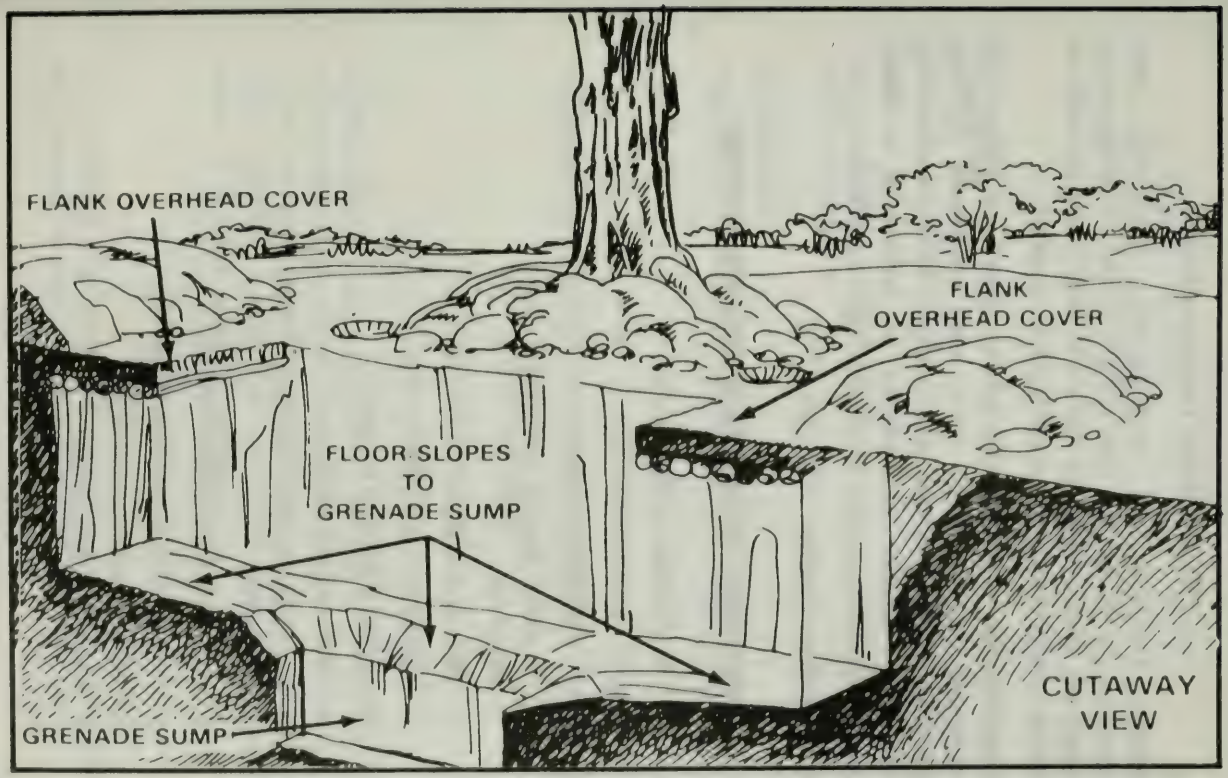


Figure 225. Flank overhead cover.

071-326-5703

Evaluation Preparation

Setup: Provide all equipment, material, and information given in the task conditions statement. Select an area of terrain with varying features such as fences, hedgerows, rocks, trees, and ravines.

Brief Soldier: Inform the soldier that he is going to be evaluated on preparing hasty and improved fighting positions. Tell him the approximate location of enemy positions. Order the soldier to construct a hasty fighting position, and a modified fighting position.

Evaluation Guide: 071-326-5703

CONSTRUCT AN INDIVIDUAL FIGHTING POSITION

	Performance Measures	*Results*	
1.	Hasty Fighting Position.	P	F
	a. Uses natural terrain.		
	b. Provides frontal protection from direct fire.		
	c. Allows soldier to fire forward.		
	d. Has clear field of fire.		
2.	Modified Fighting Position.	P	F
	a. Uses natural terrain.		
	b. Provides frontal protection from direct fire.		
	c. Allows soldier to fire forward.		
	d. Has protection against shrapnel.		
	e. Uses natural camouflage.		
	f. Has clear field of fire.		

g. Digs armpit deep.
h. Has overhead cover.
i. Has flank and rear cover.
j. Has sector of fire stakes in place.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 7-8

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CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT

051-191-1361

CONDITIONS

Given load-bearing equipment, weapon, Kevlar helmet with camouflage cover and band, camouflage sticks (or other materials that can be used to camouflage exposed skin), burlap, sandbags, or cloth strips. Soldier is wearing the battle dress uniform.

STANDARDS

Camouflage all exposed skin areas and individual equipment to avoid visual detection.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Provide the soldier with camouflage equipment.

Brief Soldier: Tell the soldier to camouflage exposed skin and equipment.

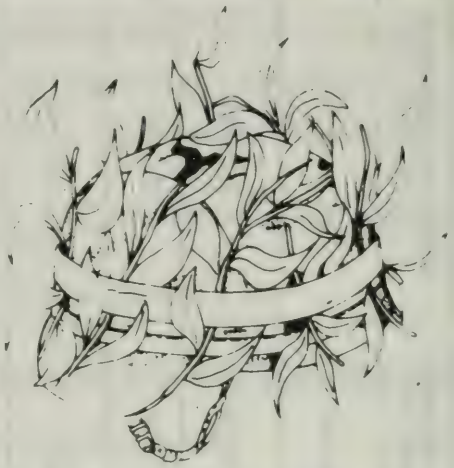
Evaluation Guide: 051-191-1361

CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT

	Performance Measures	*Results*	
1.	Covers shine and shadow areas of face by following the chart in Figure 226.	P	F
2.	Rolls down shirt sleeves.	P	F
3.	Covers the exposed skin on the neck, throat, ears, and back of hands with the same colors used to cover the face.	P	F
4.	Camouflages Kevlar helmet (with camouflage cover) by following examples in Figure 227.	P	F
5.	Changes the outline and covers shiny parts of the weapon and load-bearing equipment using burlap, sandbags, cloth strips, or camouflage sticks.	P	F
6.	Removes or conceals all shiny objects such as watches and rings.	P	F
7.	When applicable, covers the uniform with white cloth strips or snow camouflage whites in snow covered terrain.	P	F

CAMOUFLAGE MATERIAL		SHINE AREAS	SHADOW AREAS
		FOREHEAD, CHEEKBONES, NOSE, AND CHIN	UNDER EYES, UNDER NOSE AND CHIN
LOAM AND LIGHT GREEN STICK	ALL TROOPS USE IN AREAS WITH DARK GREEN VEGETATION	USE LOAM	USE LIGHT GREEN
SAND AND LIGHT GREEN STICK	ALL TROOPS USE IN AREAS LACKING DARK GREEN VEGETATION	USE LIGHT GREEN	USE SAND
LOAM AND WHITE	ALL TROOPS USE ONLY IN SNOW COVERED TERRAIN	USE LOAM	USE WHITE
DARK CHARCOAL OR LAMP BLACK	ALL TROOPS USE, IF CAMOUFLAGE STICKS NOT AVAILABLE	USE	DO NOT USE
LIGHT COLOR MUD	ALL TROOPS USE, IF CAMOUFLAGE STICKS NOT AVAILABLE	DO NOT USE	USE

Figure 226. Skin camouflage chart.



RUBBER BANDS, OR EXPEDIENT BANDS MADE FROM OLD INNER TUBES, BURLAP STRIPS. SECURE NATURAL MATERIALS. (NOTE POSITION OF BAND)



BURLAP HELMET COVER PATTERN PAINTED TO BREAK UP SOLID COLOR BEFORE NATURAL MATERIALS ARE INSERTED.

Figure 227. Helmet camouflage.



SLITS IN BURLAP ALLOW INSERTION OF NATURAL MATERIAL.



FORM DISRUPTED BY BURLAP BOWS TIED INTO SLITTED COVER.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

References

FM 5-20
FM 21-75
TC 5-200

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CAMOUFLAGE EQUIPMENT

051-191-1362

CONDITIONS

Given an item of equipment to be camouflaged such as a truck, jeep, tank, or armored personnel carrier (APC); camouflage nets or natural camouflage material, burlap, sandbags, and cloth strips.

STANDARDS

Camouflage equipment to avoid visual detection.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Provide the soldier with equipment to be camouflaged and the camouflage materials.

Brief Soldier: Tell the soldier to camouflage equipment.

Evaluation Guide: 051-191-1362

CAMOUFLAGE EQUIPMENT

	Performance Measures	*Results*	
1.	Hides the equipment by positioning:	P	F
	a. Under natural cover, whenever possible.		
	b. Within natural shadows, whenever possible.		
	c. In natural or constructed depressions in the ground.		
	d. So that it is concealed by existing vegetation, whenever possible.		
	e. Camouflage nets or natural camouflage materials to break up the outline of the equipment.		

Note: *Use appropriate camouflage nets or natural camouflage materials that will blend with the surrounding terrain.*

Note: *The hood of the vehicle should not be placed in the "up" position as a camouflage measure, as the engine will leave a detectable heat signature.*

2.	Covers all shiny areas of the equipment such as headlights, reflectors, mirrors, and windshields.	P	F
3.	Covers or brushes out obvious tracks that lead to the equipment position.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 5-20
TC 5-200
TEC 937-061-0032-F

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LOCATE MINES BY PROBING

051-192-1022

CONDITIONS

Given a nonmetallic probe and mine bonnets or expedient marking materials at the edge of an area containing mines and tripwires, and enemy direct fire is unlikely.

STANDARDS

Locate and mark all mines and tripwires within a 1-meter wide path without causing detonation.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Provide the soldier with a probe such as a pointed stick, mine bonnets, or other suitable marking devices and an area containing buried inert mines or similar objects.

Brief Soldier: Tell the soldier to locate the mines with the probe and to mark each mine.

Evaluation Guide: 051-192-1022

LOCATE MINES BY PROBING

Note: *When you know or suspect that the mines have magnetically influenced fuzes, do not carry any iron or*

steel gear in the immediate vicinity of the mines. Such items as helmets, bayonets, weapons, and cartridge belts should be kept outside the minefield.

Performance Measures	*Results*	
1. Prepares for probing.	P	F
a. When in an uncontaminated environment:		
(1) Remove load-bearing equipment and weapon.		
(2) If not wearing Kevlar vest, put on Kevlar vest.		
(3) Roll up sleeves and remove rings and watches.		
(4) Lower body to a squat position, clear a place for the knees, and kneel.		
b. When in a contaminated environment:		
(1) Maintain protective posture.		
(2) Remove load-bearing equipment and weapon.		
(3) If not wearing Kevlar vest, put on Kevlar vest.		
(4) Lower the body to a squat position only.		

(5) Allow only footgear and probe to touch the ground.

2. Probes with a pointed non-metallic device. P F

a. Look and feel for tripwires and pressure prongs while moving forward.

Note: *When tripwires are located, carefully trace the wires to their origin. After checking to ensure there are no electrical connections, slack tripwires may be cut. Taut tripwires should be marked and bypassed or the attached mines neutralized immediately.*

b. Hold the probe in the hand with palm up and allow the blunt end of the probe to extend beyond the cup of the palm (Figure 228).

c. Probe every 2 inches (5 cm) across a 1 meter wide path.

d. Push the probe at an angle less than 45 degrees from the horizontal, putting just enough pressure on the probe to sink it slowly into the ground.

WARNING
IF PUSHED STRAIGHT DOWN, THE PROBE MAY DETONATE A PRESSURE MINE.



Figure 228. Probing for magnetically fuzed mines.

3.	When a solid object is touched, stops probing and removes only enough earth to find out what the object is.	P	F
4.	Marks the object if it is a mine.	P	F
5.	Continues probing until the path is clear.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 20-32
GTA 5-10-24
TEC 947-071-0188-F
TEC 030-051-6386-F

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CAMOUFLAGE YOUR DEFENSIVE POSITION

051-202-1363

CONDITIONS

Given a constructed defensive position, entrenching tool, and camouflage nets (when available).

STANDARDS

Camouflage your position so that it cannot be visually detected from 35 meters forward.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Schedule this exercise in conjunction with field maneuvers or field exercises, or use defensive positions built during performance of task 071-326-5703: Construct Individual Fighting Position. The position should be located to make maximum use of natural concealment such as boulders, logs, live bushes, and grass.

Brief Soldier: Tell the soldier that evaluation will be completed by camouflaging a defensive position.

Evaluation Guide: 051-202-1363

CAMOUFLAGE YOUR DEFENSIVE POSITION

	Performance Measures	*Results*	
1.	Checks defensive position at approximately 35 meters in front of position to determine materials to be used for camouflaging position and extent of camouflage required.	P	F
2.	Covers the frontal, flank, and rear parapets and overhead cover with indigenous materials such as sod, leaves, topsoil, or snow.	P	F
3.	Hides and conceals excess soil to rear of position.	P	F
4.	Covers the bottom of the hole with leaves, straw, grass, or packed snow to keep the fresh earth from contrasting with the ground around it.	P	F
5.	Covers tracks and other signs of movement forward of the position.	P	F
6.	Places camouflage materials so they do not hinder or prevent engagement of targets within the sector of fire.	P	F
7.	Covers the position with appropriate camouflage netting, when available, to supplement natural concealment.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 5-103
FM 21-75

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PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE

071-331-0815

CONDITIONS

As a member of an element conducting a tactical mission.

STANDARDS

Ensure that:

1. Noise is kept at a minimum.
2. No light is visible to the enemy.
3. The area is free of litter and other evidence of the unit's presence.

TRAINING AND EVALUATION

Training Information Outline

1. Noise discipline.

a. Avoid all unnecessary vehicular and foot movement.

b. Tape or otherwise secure metal parts (for example, weapon slings, canteen cups, ID tags) to prevent them from making noise during movement. Be careful not to restrict moving parts of weapons if doing so would prevent their operation.

c. Talk only when necessary to conduct or explain operations. Use radios only when necessary. Keep volume low so that it can only be heard by the operator.

2. Light discipline.

a. Do not smoke, except when concealed from enemy view. Smoking at night should be restricted, as the enemy can see and smell it.

b. When using flashlights or other light sources, they must be filtered and concealed, such as under a poncho.

c. Cover anything that reflects light (for example, metal surfaces, vehicle, glass).

d. Use all available natural concealment, and camouflage all vehicles and equipment.

3. Litter discipline.

a. When occupying a position, take all litter (empty food containers, empty ammunition cans or boxes, old camouflage) to established collection points.

b. During movement, carry all litter until it can be disposed of without leaving any trace of the unit's passage.

Evaluation Preparation

Setup: Schedule this exercise in conjunction with field maneuvers or field exercises or use defensive positions built during testing of task 071-326-5703: Construct an Individual Fighting Position.

Brief Soldier: Tell the soldier he is to be evaluated on exercising noise, light, and litter discipline.

Evaluation Guide: 071-331-0815

PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE

	Performance Measures	*Results*	
1.	Talks and moves only to conduct or explain operations.	P	F
2.	Keeps tactical radio volume low enough so only the operator can hear it.	P	F
3.	Secures equipment that can make noise.	P	F
4.	Covers all light sources so light does not escape.	P	F
5.	Does not smoke at night.	P	F
6.	Disposes of or transports litter upon departure.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-75

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PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES

071-331-0804

CONDITIONS

Given enemy activity within range of sight or hearing during day and night.

STANDARDS

1. Identify 50 percent of enemy soldiers and vehicles within field of view using proper surveillance techniques.

2. Identify type of weapon by the sound of fire such as heavy machine gun, light machine gun or assault rifle, and rocket or recoilless rifle.

3. Differentiate between tracked-vehicle and wheeled-vehicle sounds.

TRAINING AND EVALUATION

Training Information Outline

1. To conduct a visual search in daylight, you must:

a. Make a fast overall search of the entire area by quickly raising your eyes from just in front of your position to the maximum range you wish to observe (Figure 229). (For a wide area, subdivide and repeat procedure.)

b. Observe by overlapping, 50-meter-deep strips of terrain in detail, alternatively searching left to right, right to left (Figure 230).

c. Search suspicious spots thoroughly.

2. To identify improperly camouflaged personnel, equipment, and positions, look for:

a. Camouflage or foliage that does not match.

b. Dead foliage.

c. Outlines that should be obscured.

d. Bright colors or reflections that should be subdued.

e. Tracks, footpaths, and piles of dirt and litter.

f. Overclearing of fields of fire and observation.

3. To conduct surveillance at night, use these techniques.

a. Dark adaptation. Accustom eyes to low light before night operations by doing one of the following:

Figure 229. Fast overall search.

Figure 230. Overlapping strip search.

(1) Staying in a secure, darkened area for 30 minutes (for example, assembly area at night, initial rally point).

(2) Staying in a red-lighted area for 20 minutes, followed by 10 minutes in darkness.

(3) Wearing red goggles for 20 minutes, followed by 10 minutes in darkness.

b. Scanning. To visually search areas at night, move your eyes in short, quick, irregular movements (Figure 231).

c. Off-center vision. To observe specific objects, look about 6 to 10 degrees left, right, above, or below them (Figure 232).

d. Preserving night vision. When exposed to bright light, close both eyes. If surveillance must be maintained, close one eye only and observe with the other.

Note: *Maintaining surveillance is one of the basic, critical combat skills. Because it is hard to tell if the above techniques are being used, frequent training is the only way to ensure mastery of this skill. This task is easy to integrate with other tactical training. In addition to the training given above, frequent familiarization with the sounds of vehicles and weapons fire, and with common smells, such as gasoline, campfires, and deodorants in a field environment is recommended.*

Figure 231. Night vision search.

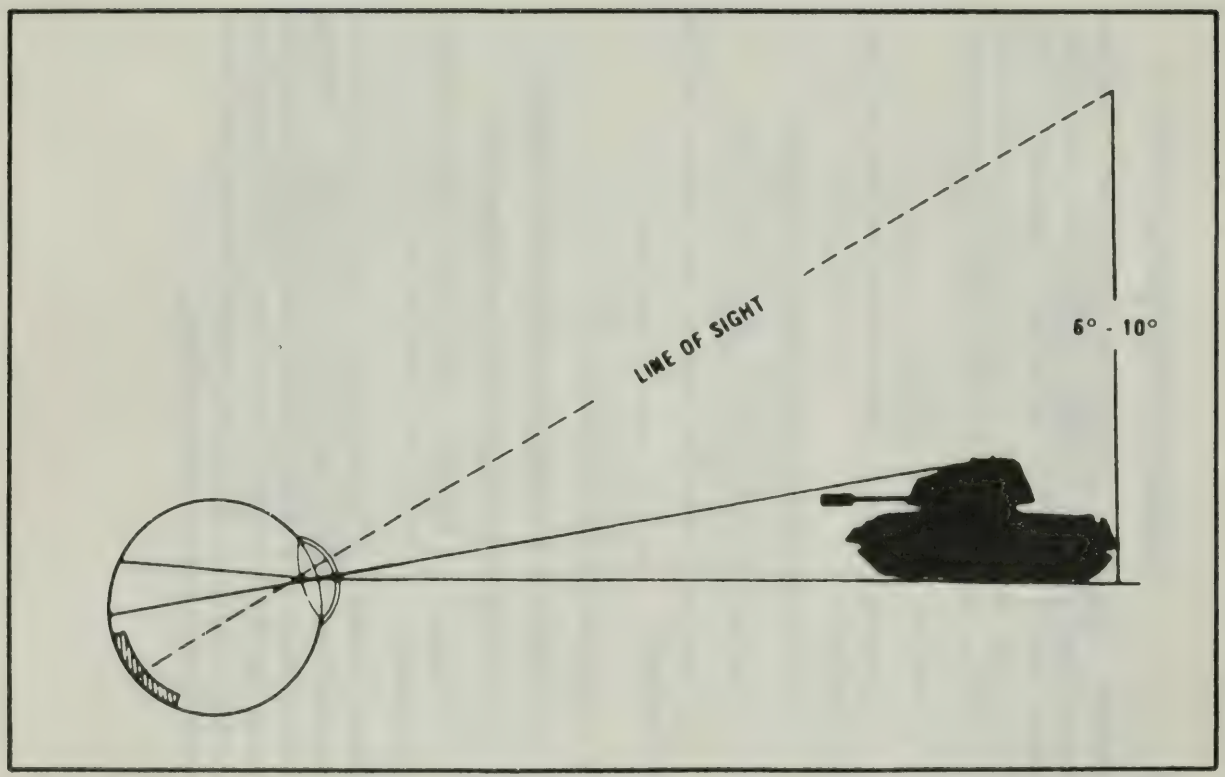


Figure 232. Off-center vision.

Evaluation Preparation

Setup: During a field exercise that involves camouflaging, have soldiers conduct day and night surveillance. Simulate situations described below. Have each soldier conduct surveillance at night and during the day before scoring the soldier GO or NO-GO.

1. Situation 1, day surveillance.

   a. Improperly camouflaged enemy soldiers in fighting positions.

   b. Stationary, properly camouflaged vehicles.

   c. Sounds of friendly and enemy weapons fire.

   d. Sounds of wheeled vehicle and tracked vehicle movement.

2. Situation 2, night surveillance.

   a. Moving and stationary enemy soldiers skylined.

   b. Sounds of friendly and enemy weapons fire.

   c. Sounds of wheeled vehicle and tracked vehicle movement.

Brief soldier: Tell the soldier that he must conduct surveillance during the day and at night. During surveillance, the soldier must locate 50 percent of the enemy soldiers within field of view, must differentiate between tracked-vehicle and wheeled-vehicle, and must identify weapons by sound of firing.

Evaluation Guide: 071-331-0804

PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES

	Performance Measures	*Results*	
1.	Situation 1, day surveillance.	P	F
	a. Identifies 50 percent of improperly camouflaged enemy soldiers in fighting positions.		
	b. Identifies camouflaged wheeled vehicle and tracked vehicle.		
	c. Identifies weapons types by sound of fire.		
	d. Differentiates between tracked-vehicle and wheeled-vehicle sounds.		
2.	Situation 2, night surveillance	P	F
	a. Identifies moving and stationary skylined soldiers.		
	b. Identifies weapons type by sound of fire.		
	c. Differentiates between tracked-vehicle and wheeled-vehicle sounds.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-75

★ ★ ★ ★ ★

USE CHALLENGE AND PASSWORD

071-331-0801

CONDITIONS

Given the current challenge and password and a defensive position with designated sector of fire. Enemy and friendly personnel may enter your sector.

STANDARDS

1. Detect and halt personnel in your sector.
2. Challenge them using correct challenge.
   a. If given correct password, allow personnel to pass.
   b. If not given correct password, attempt to detain (capture) personnel.

TRAINING AND EVALUATION

Training Information Outline

1. If one person desires to pass:

a. On seeing or hearing someone approach your position, command the person to halt before that person gets close enough to pose a threat. Use a clear voice, just loud enough to be heard.

b. Seeing the stranger halt, keep him covered and, without exposing your position, ask "Who is there?" Again, use a clear voice just loud enough to be heard so the enemy will not overhear if nearby.

c. When the stranger identifies himself, such as "Private Willard, messenger," you order him to "Advance to be recognized."

d. Maintain your concealed position and keep the stranger covered with your weapon. When the stranger gets within 2 or 3 meters of you, again order him to halt.

e. Issue the challenge in a soft voice and wait for the stranger to reply with the correct password. On hearing the correct password, give permission to pass if you have no other reason for doubt. If doubt still exists, demand further identification or ask a question only a friendly person would be able to answer.

2. If a group desires to pass:

a. The procedure and precautions for a group are almost the same as for one person. On seeing or hearing a group approach, order them to halt before they are close enough to pose a threat.

b. The leader of the group should identify the group, such as "Friendly patrol." Since you do not want the whole group to advance on you at once, order "Advance one man to be recognized."

c. When the leader has come forward to be recognized, give him the challenge and get the password in reply.

d. Once you are satisfied that the leader is friendly, have the rest of the patrol advance one by one and ensure the leader identifies each person.

e. Disarm and detain any person(s) not able to identify themselves to leader's satisfaction. Then notify your immediate superior.

Evaluation Preparation

Setup: Simulate a situation in which soldiers can use challenge and password. Issue the challenge and password to those who will play the role of friendly troops and the correct and incorrect password to those who will play the role of unidentified troops. Give the soldier to be tested a weapon or simulated weapon to use in the exercise, and have the person playing the part of the intruder vary responses upon being challenged.

Brief Soldier: Tell the soldier to challenge all those who approach the defensive position.

Evaluation Guide: 071-331-0801

USE CHALLENGE AND PASSWORD

	Performance Measures	*Results*	
1.	Says "Halt" before person is close enough to pose a threat.	P	F

Note: *Assume the person has halted.*

2.	Says "Who is there?" while keeping stranger covered.	P	F

Note: *Assume the stranger identifies himself.*

3.	Says "Advance to be recognized."	P	F
4.	Maintains concealed positions, keeps the stranger covered and says "Halt" when he is 2 or 3 meters away.	P	F
5.	Issues the challenge.	P	F
	a. Allows to pass if password is correct.		
	b. Disarms (if applicable) and detains if password is not correct.		
	c. If still doubtful, asks for further identification or asks a question only a friendly person would be able to answer.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-75
FM 22-6

★ ★ ★ ★ ★

PUT ON, WEAR, REMOVE, AND STORE YOUR M17-SERIES PROTECTIVE MASK WITH HOOD

031-503-1004

CONDITIONS

Given an M17-series mask with hood and carrier and any of the following situations:

1. You hear or see a chemical/biological alarm.
2. You realize otherwise that you are under a chemical or biological attack.
3. You are ordered to mask.
4. After masking, you are given the "All clear" order.

STANDARDS

Put on, clear, and check mask within nine seconds. Pull hood over head and zip the front closed to cover all bare skin. Do this within an additional six seconds. Remove and store your mask when given all clear order. Store the mask with hood in carrier as follows:

1. Tuck hood straps within the fold of the hood.

2. Ensure hood does not cover the chin opening of the mask.

3. Ensure mask faces out of the carrier and is in an upright (lenses up) position.

4. Close and snap the carrier.

TRAINING AND EVALUATION

Training Information Outline

1. Put on, clear, and check your mask within nine seconds.

a. Stop breathing.

b. Remove your headgear and place it in a convenient location, avoiding contaminated surfaces, if possible.

c. If you wear glasses, take them off and place them in a safe place (for example, overgarment pocket).

d. Open your mask carrier with your left hand and hold it open.

e. Grasp your mask just below the eyepiece with your right hand. Pull the mask out of the carrier. Let the hood hang inside out in front of the facepiece.

f. Grasp the facepiece with both hands. Slide your thumbs up and inside the mask and open the head harness and facepiece as wide as you can (Figure 233).

g. Put your chin in the chin pocket (Figure 234).

h. Pull the head harness up over your head. Make sure the head pad is centered at the top back of the head and the mask is smooth against your face and forehead.

Note: *Never put head harness over head first and then pull mask down over face.*

i. Grasp cheek straps with both hands and adjust with moderate jerks.

j. Clear the mask. Seal the outlet valve and voicemitter by cupping the heel of one hand over the



Figure 233. Open head harness and facepiece.



Figure 234. Seat chin in mask chin pocket.

outlet valve and placing the other hand over the voicemitter, applying pressure (Figure 235). You can either put your hands over or under the hood to do this.

k. Blow hard to force air out around the edges of the mask.

l. Check the mask. Place the palms of your hands over both inlet valve caps, and seal the valves by applying pressure (Figure 236). You can either put your hands over or under the hood to do this.

m. Suck in your breath and hold it. If there are no leaks, your mask will collapse against your face and stay that way until you breathe out. If you find your mask has no leaks, go to step 1n. If your mask does not collapse, stop breathing and:



Figure 235. Clear mask. Figure 236. Check mask.

(1) Check to see if there is anything, such as hair or clothing, between your face and the mask.

(2) Remove anything which would keep the mask from sealing against your face.

(3) Make sure the head straps and the head pad are not twisted. Tighten the head straps, if necessary.

(4) Clear your mask again (steps 1j and 1k).

(5) Recheck your mask for leaks (steps 1l and 1m).

n. Start breathing normally.

2. Pull the hood up and over your head, down onto the shoulders and zip the front closed all the way within six seconds (make sure the edge of the hood does not get caught in the collar of the overgarment).

3. Pull draw cord slider snug, as the mission allows.

4. Fasten and adjust underarm straps as the mission allows (use buddy aid, if available).

5. Replace your headgear (Figure 237).

6. Close your mask carrier.

7. Continue your mission.

Note: *You should be able to wear your mask (with hood) at least six hours while performing your regular duties.*

8. Remove your mask with hood after the "All clear" order is issued.

a. Remove headgear.

b. Unfasten underarm straps, and loosen draw cord.



Figure 237. Replace headgear.

c. Unzip front. Gently pull back of hood completely over front of mask.

d. Loosen cheek straps.

e. With your hand over the hood, grasp the mask at the outlet valve, chin position.

f. Remove the mask with a down, out, and up motion.

g. Replace your headgear on your head.

9. Store your mask in the carrier.

a. Hold the edges of the facepiece with one hand. With the other hand, gently pull the hood over the front of the mask inside out (Figure 238).

b. Fold the hood over to either side of the mask (Figure 239A) so that the mask and hood can be held with one hand (Figure 239B).

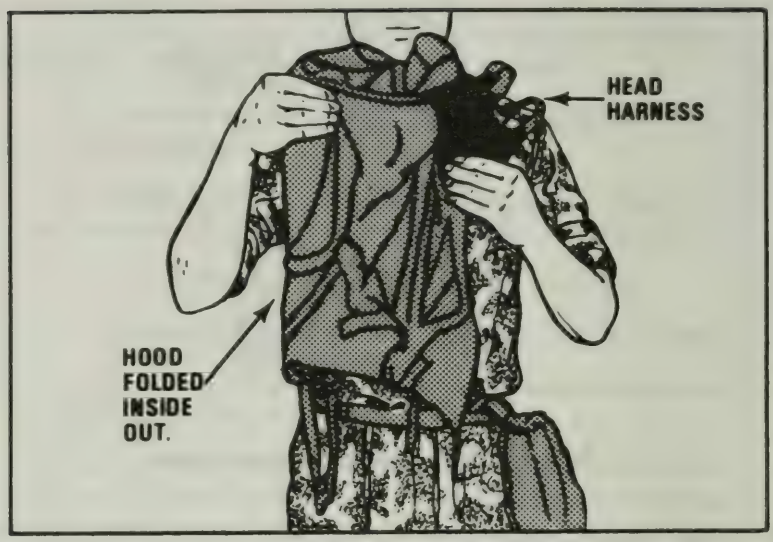


Figure 238. Pull hood over the front of mask.

c. Fold the hanging part of the hood up to the folded side and tuck the straps inside the fold (Figure 239C). You should be able to hold the mask and folded hood with one hand. Do not let the hood cover the chin opening.

d. Hold the mask upright and put it in the carrier with the lenses up and facing out toward the opening of the carrier (Figure 239D). Let the head harness hang freely inside the carrier.

e. Snap the carrier closed.



Figure 239. Fold hood.

Evaluation Preparation

Setup: Evaluate this task during field exercise or a normal training session. For testing purposes, the soldier should be standing and wearing the mask carrier containing the protective mask with hood attached. The mask has been previously fitted to the face.

Brief Soldier: Tell the soldier the mask must be put on, cleared, and checked within nine seconds; the hood must be pulled over the head, zipped closed within an additional six seconds. Tell the soldier to begin masking when you say "Gas," and to keep the mask on until the "All clear" order is given. Tell the soldier to store the M17-series mask with hood in its carrier.

Evaluation Guide: 031-503-1004

PUT ON, WEAR, REMOVE AND STORE YOUR M17-SERIES PROTECTIVE MASK WITH HOOD

	Performance Measures	*Results*	
1.	Stops breathing, and removes headgear.	P	F
2.	Opens carrier and removes mask.	P	F
3.	Opens facepiece, puts chin in mask chin pocket, and pulls head harness over head.	P	F
4.	Adjusts cheek straps.	P	F
5.	Clears and checks the mask.	P	F
6.	Pulls back of hood up and over head, down onto the shoulders, and zips front closed.	P	F

7.	Completes steps 1 through 5 in sequence in nine seconds or less.	P	F
8.	Completes steps 1 through 6 before a total of 15 seconds elapses.	P	F
9.	Pulls neck cord slider snug.	P	F
10.	Fastens and adjusts underarm straps.	P	F
11.	Replaces headgear and closes mask carrier.	P	F
12.	Removes mask after the "All clear" order is given.	P	F
13.	Folds hood over to either side.	P	F
14.	Folds the hanging part of the hood up to the folded side and tucks all straps inside the fold. No part of the hood covers the chin pocket opening.	P	F
15.	Stores the mask inside the carrier with the lenses up and facing out toward the opening of the carrier.	P	F
16.	Snaps the carrier closed.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-279-10

★ ★ ★ ★ ★

MAINTAIN YOUR M17-SERIES PROTECTIVE MASK WITH HOOD

031-503-1005

CONDITIONS

Given an M17-series protective mask (with authorized accessories and components) that requires cleaning, and has defective filters; a container of warm, soapy water; a container of clear water; clean rags; a small brush; optical lens cleaning compound (NSN 6850-00-592-3283); a set of replacement filters; and TM 3-4240-279-10.

STANDARDS

1. Identify and correct all deficiencies or shortcomings correctable at the operator level IAW TM 3-4240-279-10.

2. Clean and condition the mask.

3. Remove defective filter elements and install new filter elements in the M17-series protective mask so that the mask is operational and without damage to the mask.

4. Report deficiencies or shortcomings not corrected to the supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. Empty carrier to ensure all issued items are present (Figure 240). For additional authorized items, refer to TM 3-4240-279-10.

Note: *In combat, remember to check the mask weekly to keep it in good condition. In peacetime, check it every 6 months and after each test or training mission. If any of the problems described in paragraphs 2 through 11 below are found and which the soldier is not authorized to correct, the mask is unserviceable. Turn in the mask and draw a replacement. Uncorrected deficiencies or shortcomings must be recorded on a DA Form 2404, Equipment Inspection and Maintenance Worksheet, in accordance with DA Pam 738-750. However, recording deficiencies is not a performance measure of this task.*

Note: *Remove the hood to allow inspection of the faceblank.*

2. Check the faceblank for the following problems (Figure 241).

a. Dirt.

b. Permanent set which may affect fit of mask. Signs of permanent set are: Difficult to spread open, too much stiffness in sealing area of faceblank.

c. Holes, tears, splits, soft or sticky spots.

d. Rubber next to eye lenses to ensure eye lenses will not pull away from faceblank.

e. Dry rot in the head harness tabs.

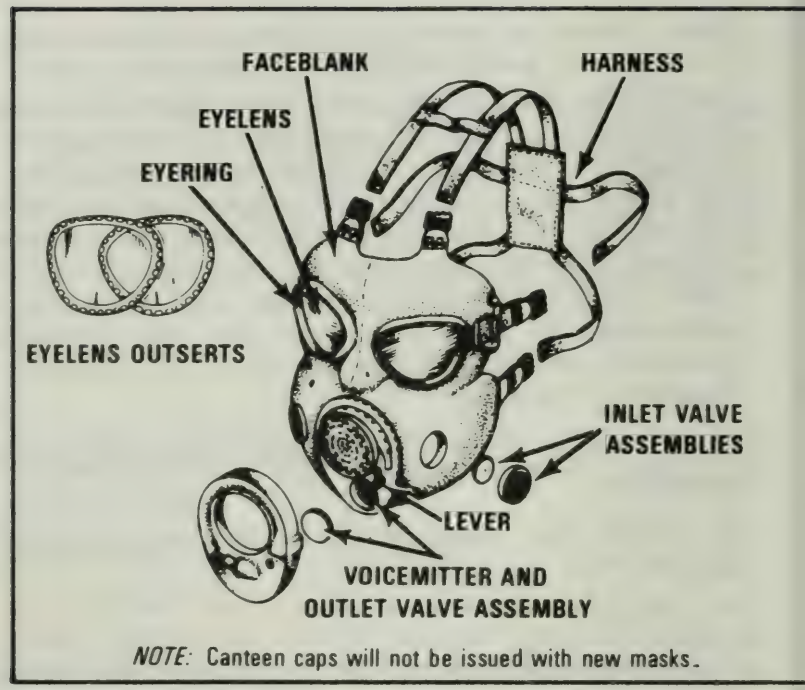
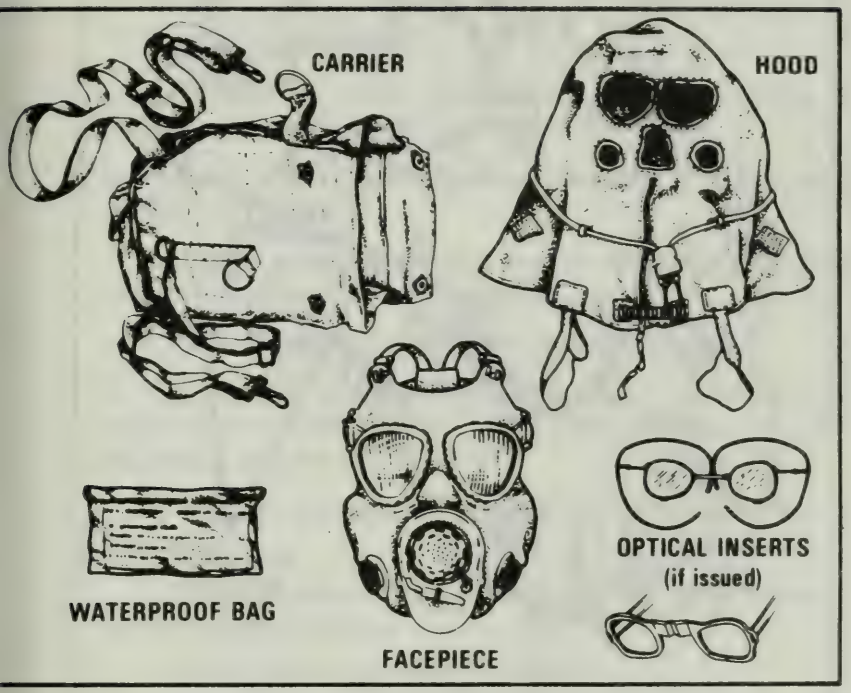


Figure 240. M17 series mask with



authorized accessories and components.

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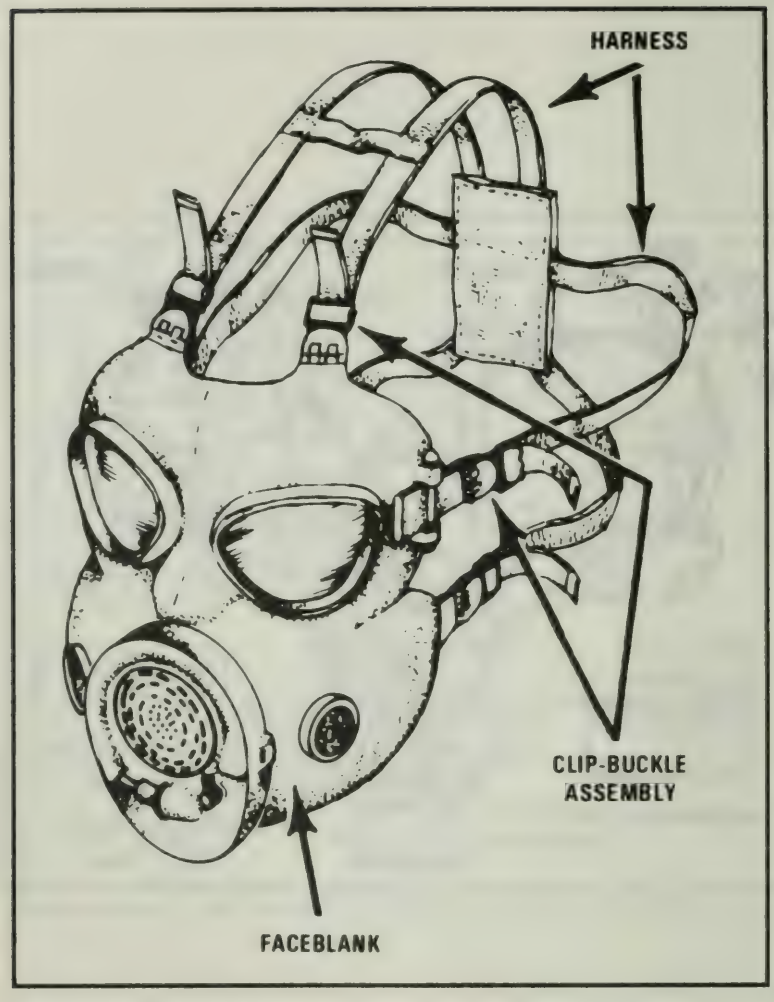


Figure 241. Faceblank, clip-buckle assembly, and harness.

f. Stiff areas which crumble when rubbed between your fingers and exhibit cracks which expand when rubber is stretched.

3. Check the head harness for the following problems:

a. Dirt.

b. Loss of elasticity.

c. Straps for cuts, tears, missing metal clips, or deterioration such as mildewing or fraying.

4. Check the clip-buckle assembly for the following problems (Figure 241).

a. Finish (lacquer) on clip-buckle assembly covers all clip-buckle assembly surfaces.

b. Missing or broken clip-buckle assemblies.

5. Check the voicemitter-outlet valve assembly and voicemitter-outlet valve assembly cover for the following problems (Figure 242).

a. Outlet valve disk is present and is torn, curled, or distorted.

b. Dirt or other foreign matter which prevents outlet valve from seating.

c. Cover for cuts, tears, or holes.

6. Check the inlet valves for the following (Figure 243).

a. Inlet valves are in place.

b. Valve disks are present.

c. Valve disks are rotated to ensure they are not stuck.

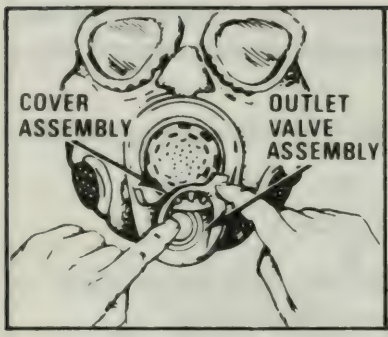


Figure 242. Voicemitter-outlet valve.

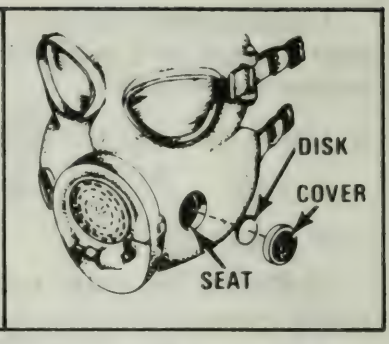


Figure 243. Inlet valve.

d. Curled, discolored, or dirty valve disks.

e. Inlet valves are installed with the word TOP on the rim of the inlet valve cover at the top when mask is in the as-worn position.

7. Check the filter elements for the following (Figure 244).

a. Loose connectors and torn mesh screening.



Figure 244. Filter element.

b. Filter elements are an unmatched set.

c. Connector surfaces of elements for dirt.

d. Check the serviceability date.

e. Proper installation and that pouch flaps are buttoned.

f. Excessive resistance to breathing.

Note: *The serviceability date for filter replacement is found in SB 3-30-2.*

Note: *Refer to paragraph 14 for filter element replacement steps.*

8. Check nose cup assembly for the following problems (Figure 245).

a. Long flap buttons buttoned over.

b. Torn button holes or missing buttons.

c. Nose cup valve seats for dirt.

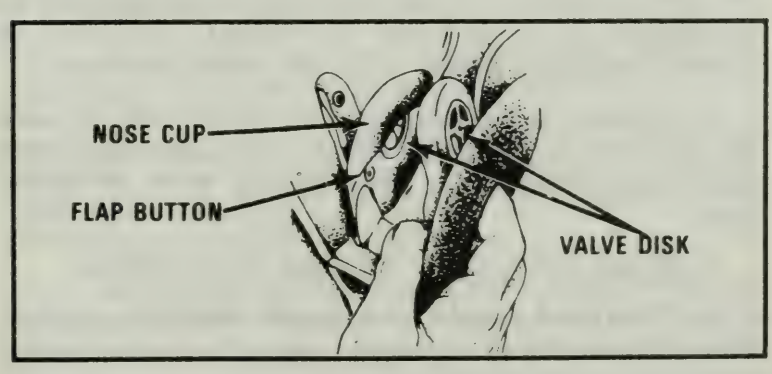


Figure 245. Nosecup assembly.

d. Chin portion of nosecup assembly lies over chin stop.

e. Nose cup valve disks present.

f. Valve disks not stuck or curled.

9. Check eyelenses, eyerings, and eyelens outserts for the following problems:

a. Eyelenses for cracks, cuts, scratches, or strains that affect vision.

b. Eyerings for distortion or corrosion.

c. Eyelens outserts for cracks, chips, or discoloration that affects wearer's vision. Rubber rings for tears, looseness, brittle spots, soft or sticky spots, or cracked rims.

Note: *Remember, a properly fitted mask will protect you from the effects of a chemical attack. Therefore, you should take care of it and make sure it is in good condition.*

10. Check the hood. If any of the problems described in paragraphs a or b below are found, the hood is unserviceable and should be turned in and replaced

a. Outside of the hood has cuts, holes (two or more pin holes per panel), tears, sticky or gummy areas; coating peeling from fabric base; coating worn off fabric base.

b. Straps, cords, zipper damaged or not working.

c. The hood should be checked weekly in combat, every six months in peacetime, and after each exercise or training mission.

Note: *If serviceable, put the hood back on the mask.*

11. Check the carrier. Empty carrier and check for surface dirt or mildew. Remove dirt or mildew by brushing with a stiff-bristle brush. If the carrier has torn straps, or missing hardware, it is unserviceable. Turn in the carrier and draw a replacement.

12. Clean the mask. There is a semiannual requirement to clean the mask; however, clean the mask anytime it needs it. Remember, it does not have to be shiny black. A white or rust-colored waxy film does not mean your mask is dirty. The film (called bloom) comes from a preservative built into the rubber, and it will continue to bleed off as long as the facepiece is good. Just brush or wash off the bloom when it accumulates or gets crumbly. For a good cleaning job, use soft cloths; a soft bristle brush (like a small paintbrush); warm, soapy water; and warm, clear rinse water. To clean the mask, follow the procedures below.

CAUTION
DO NOT DUNK THE MASK OR CARRIER IN WATER

a. Remove the voicemitter-outlet valve cover and disk, inlet valve assemblies, and eyelens outserts.

b. Do not remove the filter elements unless instructed to do so. Make sure pouch flaps are securely buttoned and KEEP WATER AWAY FROM THE INLET VALVE CONNECTORS.

c. Dip a clean, soft cloth into warm, soapy water and wring it out well. Wipe the mask and hood carefully inside and out. Do the same for the voicemitter-outlet valve cover and inlet valve assemblies. Be extra careful when cleaning disks in the valve assemblies.

d. Rinse the cloth in clean, warm water and wring it out. Wipe all washed parts.

e. Dry everything with a dry, clean, soft cloth. Use the dry, soft brush to get around corners, joints, frames, crimped edges, and other hard-to-reach places.

f. Replace the voicemitter-outlet valve cover, eyelens outserts and inlet valve assemblies. Be sure disks in the inlet and outlet valve assemblies are snug and flat. Press inlet valves covers hard so they will snap in place. Remember, the louvers slant down. To ease replacement of the outlet valve cover, touch a moist finger to the sealing ring, frame, and locking studs.

13. Clean the lenses. To keep eyelenses and eyelens outserts clean and clear, use optical lens cleaning compound (NSN 6850-00-592-3283), if available, or use warm, soapy water.

14. Remove defective filter elements and replace filter elements without damaging mask.

a. Remove the inlet valve assemblies by pushing up on bottom edge of the valve flange with your thumbs or use the thumbsaver tool.

b. Work the collar from under the filter element connector flange (figure 246).

c. Reverse the head harness by lengthening all straps and looping harness over the front of the mask. To avoid damage, don't pull the pad below the lenses.

d. Carefully unbutton the nose cup from the flap button (Figure 247).

e. Carefully unbutton top pouch flap from both flap buttons on each side of the mask (Figure 248).

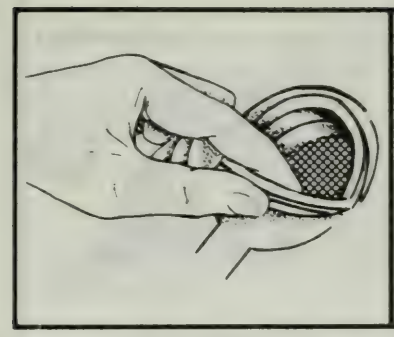


Figure 246. Remove collar from filter element connector.

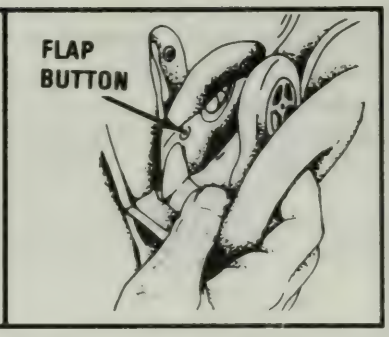


Figure 247. Nosecup button.

f. Grasp the upper part of one filter element between fingers and thumb. Grasp outside of facepiece between voicemitter outlet-valve assembly and connector with other hand. Pull filter element from mask. Remove second filter in same way (Figure 249).

g. Filter elements are marked either right or left. Check the filter elements against the outside of the cheek pouches to be sure you are installing them correctly (Figure 250).

h. Hold the filter element by the square corner with your fingers on the connector side. Pull the lower pouch flap outward just enough to open the cheek pouch. Insert the curved edge of the filter into the pouch with a slight turning motion. Push the filter up into the pouch (Figure 251).

i. Grasp the corner of the filter first inserted into the mask, and work the filter into place (Figure 252).



Figure 248. Pouch flap button.



Figure 249. Filter removal.

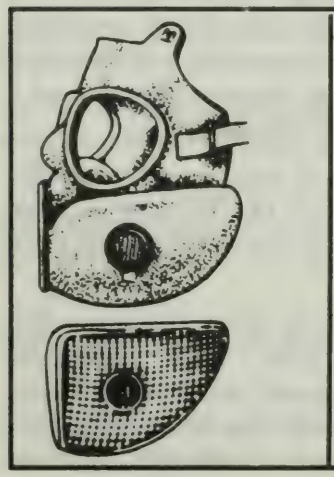


Figure 250. Match filter with mask.

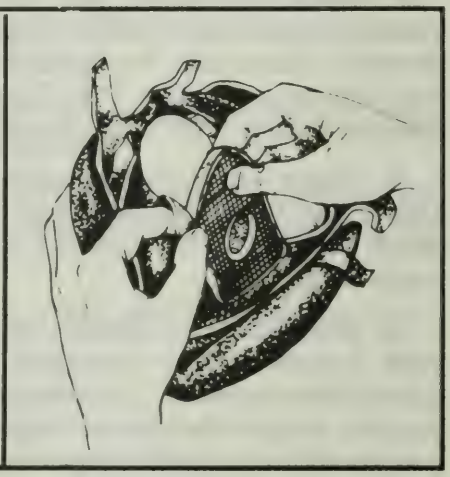


Figure 251. Install filter.

j. Allow the nose cup and pouch flaps to fall into proper position. Check to ensure that the bottom of the nose cup lies on top of the chin stop so moist exhaled air does not enter the pouches and damage the filter elements (Figure 253).

k. Work the collar under the connector flange and recheck the filter element position. Adjust if necessary (Figure 254).

l. After both filters are installed, button the pouch flaps and the nose cup. Place one finger under the short (outer) button and slip the corresponding hole in the flap over that button.



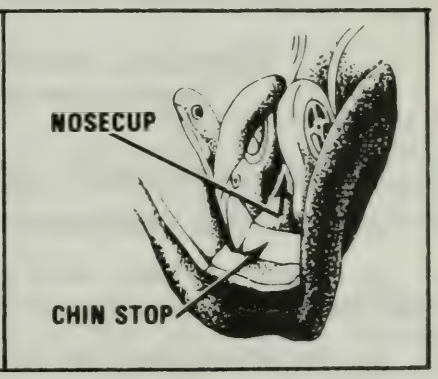


Figure 252. Install filter. **Figure 253. Seating the chin stop.**

Apply a small amount of moisture (for example, water or saliva) onto the button to allow easier buttoning. Repeat with the long (inner) button (Figure 255).

m. Slip the hole in the nose cup over the inner button.

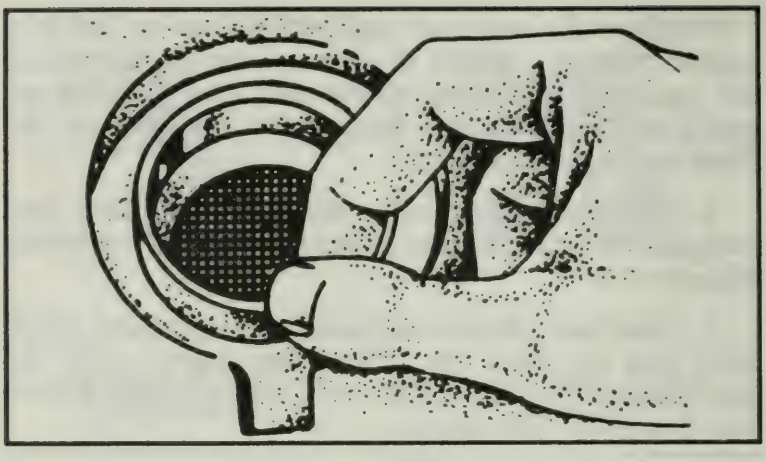


Figure 254. Mounting collar in filter connector flange.

n. Button both sides in a like manner.

o. Return the head harness to the normal position.

p. Install the inlet valve assemblies ensuring that the louvers are down (Figure 256).

q. Report to supervisor for mask fitting.

Evaluation Preparation

Setup: A good time to evaluate this task is during normal care and cleaning of the mask. Place all of the required equipment on a field table or another suitable surface. Simulate defects in the mask by removing components from the mask or using a defective mask not issued to the soldier. During training and evaluation sessions, an old set of filters can be used

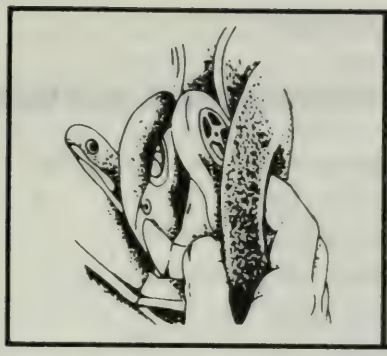


Figure 255. Buttoning pouch flap and nose-cup.

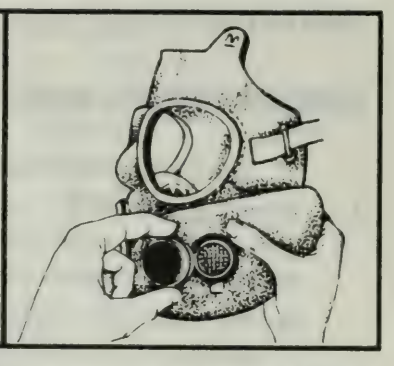


Figure 256. Install inlet valve assembly.

several times by different soldiers to avoid expending a new set each time. If the soldier has not made adequate progress towards completing the task within 30 minutes, stop him and give him a NO-GO. This time standard is administrative.

Brief Soldier: Tell the soldier there is no time standard for this task on the job, but for testing purposes he or she must perform the task within 30 minutes. Tell the soldier to perform operator preventive maintenance checks and services (PMCS), clean, and condition the mask, and replace the filters in the M17-series protective mask.

Evaluation Guide: 031-503-1005

MAINTAIN YOUR M17 SERIES PROTECTIVE MASK WITH HOOD

Performance Measures	*Results*
1. Performs PMCS correcting all deficiencies/shortcomings correctable at the operator level.	P F
a. Removes the hood to allow inspection of the faceblank.	
b. Checks faceblank for tears, cracks, holes, dry rot, distortion, dirt; lost temple straps; damaged, corroded, or missing, clip and buckle assemblies.	
c. Checks eyelenses and eyelens outserts for broken, scratched, discolored, or dirty lenses; eye rings damaged or corroded.	
d. Checks harness-canvas pad for rips, mildew, or dirt; straps frayed, broken, nonelastic, metal tips missing; harness installed upside down.	
e. Checks inlet valve assemblies for dirt, damage, or looseness.	

f. Checks voicemitter and outlet-valve assembly for dirt, damage, or looseness; locking studs damage; voicemitter diaphragm dirty; outlet valve disk dirty, kinked, folded, torn, lost, or loose.

g. Checks drinking tube adapter and quick-disconnect coupling-half for damage, dirt, looseness, or missing.

h. Checks M1 canteen cap for fit on canteen, dirt, or damage.

i. Checks the nose cup for dirt, deformity, tears, and unbuttoned flaps.

j. Checks filter element for wetness, discoloration, dirt, crushed, or improperly installed.

2. Cleans and conditions mask. P F

a. Washes or brushes off excess bloom.

b. Wrings out cloth to wash and rinse the mask.

c. Washes with warm, soapy water.

d. Rinses with warm, clear water.

e. Removes voicemitter-outlet valve cover and disk, inlet valve assemblies, and eye-lens outserts.

f. Keeps water away from the inlet-valve connectors.

g. Dries everything with a dry, clean, soft cloth.

h. Replaces the voicemitter-outlet valve cover, eyelens outserts, and inlet-valve assemblies.

3. Replaces filter elements. P F

a. Removes inlet valves.

b. Reverses head harness.

c. Unbuttons nosecup.

d. Unbuttons top pouch flap from both flap buttons.

e. Removes filters.

f. Installs new filters correctly.

g. Ensures pouch flaps fall into proper position and pouch flaps are buttoned.

h. Buttons pouch buttons and nosecup assembly flaps.

i. Returns head harness to normal position.

	j. Installs inlet valve caps with louvers down.		
4.	Reports deficiencies/shortcomings not corrected to the supervisor.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-279-10

★ ★ ★ ★ ★

PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE MASK WITH HOOD*

031-503-1012

CONDITIONS

Given an M24, M25, or M25A1 protective mask with hood and any of the following situations:

1. You hear or see a chemical agent alarm, that indicates the presence of an agent.

2. You realize otherwise that you are under a chemical or biological attack.

3. You are ordered to mask.

4. After masking, given the "All clear order.

STANDARDS

1. Put on, clear, and check your M24 protective mask within 19 seconds (this includes 10 seconds to remove your flight helmet), or:

2. Put on, clear, and check your M25-series protective mask within 21 seconds (this includes 6 seconds to remove your combat vehicle crewman (CVC) helmet and an additional 6 seconds for putting on the hood).

3. Remove and store your M24 or M25-series protective mask.

TRAINING AND EVALUATION

Training Information Outline

Time is critical in not becoming a casualty while masking. Soldiers should mask when a chemical alarm sounds, when under a chemical or biological attack, or when ordered to do so. Procedures for using the M24 protective mask will be discussed and then those for the M25 series protective mask. Appropriate aircraft and CVC helmets are required for this training.

*Only soldiers whose duty positions require this training and who are issued an M24 or M25-series protective mask should train for this task.

1. The M24 Protective Mask. A soldier should be able to remove the helmet and put on, clear, and check the M24 aircraft mask in 19 seconds (this includes 10 seconds to remove the flight helmet). Putting on the hood is not timed.

a. Put on mask (timed).

(1) Stop breathing.

(2) Remove the helmet and place it between your knees or on your lap.

(3) If you are wearing glasses, take them off.

(4) Remove mask from carrier. Pull open flap on carrier. Grasp facepiece at top and remove from carrier (Figure 257). Allow hood to hang inside out in front of facepiece

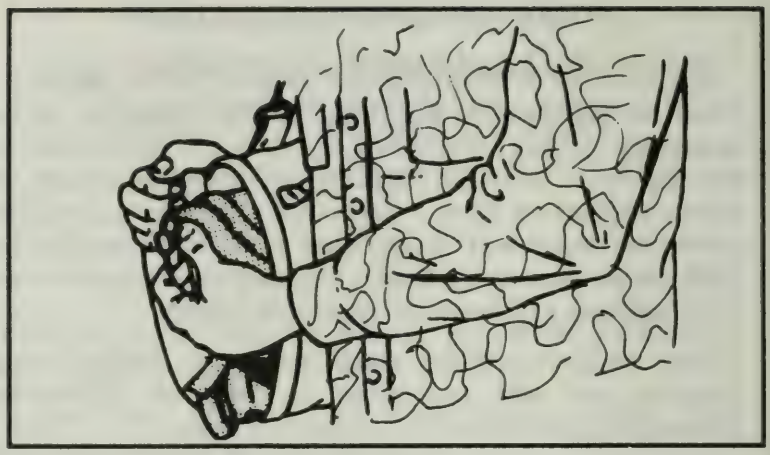


Figure 257. Remove mask from carrier.

CAUTION

DO NOT JERK SHARPLY (OR FORCIBLY OPEN) THE FACEPIECE, ESPECIALLY IN FREEZING TEMPERATURES, AS THIS MAY DAMAGE THE LENS. OPEN THE FACEPIECE SMOOTHLY AND GENTLY.

(5) Place your thumbs under the cheek straps and the temple straps with your little fingers around the cheek strap and the index fingers over the temple straps. Spread your hands to open facepiece (Figure 258).

Note: *Never put the head harness over the head first and then pull the mask down over your face.*

(6) Put on mask. Put your chin in the facepiece chin pocket. Using both hands, slip the head harness

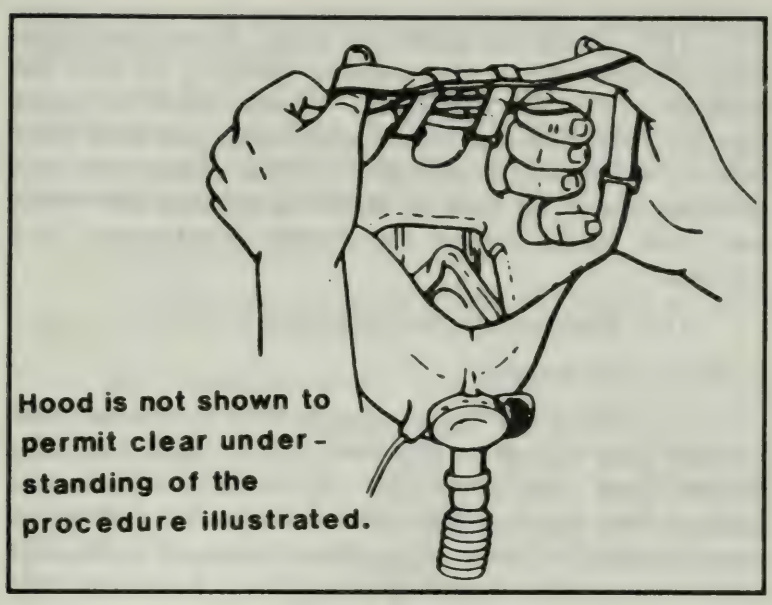


Figure 258. Open faceplace.

over your head and pull the facepiece up onto your face. Grab the ends of the cheek straps with both hands and adjust with a short jerky motion.

(7) Smooth the harness straps. Ensure the straps lie flat against your head.

(8) Smooth the edges of the facepiece. Stroke the facepiece edges of the facepiece with your fingers and push the edges against your face.

(9) Clear your mask. Cover the openings at the bottom of the outlet valve cover with the palm of one hand. Breathe out forcefully so the air escapes around the edges of the facepiece (Figure 259).

(10) Check the mask for leaks. Press your palm over the opening in the canister coupling to seal the canister. Breathe in lightly. If the mask collapses against your face and remains so while you hold your breath, the mask is airtight. If the mask does not collapse, check for hair or clothing between the mask and your face. Adjust the straps if necessary and recheck.

(11) Resume normal breathing.

b. Put on the helmet.

(1) Grasp the helmet inside next to the earcups. Spread your hands to flex the helmet open. Put the helmet over your head and tilt forward so that the helmet first touches the part of the mask resting on your forehead. Lower the helmet back and down over your head until it is seated in position. Carefully slide

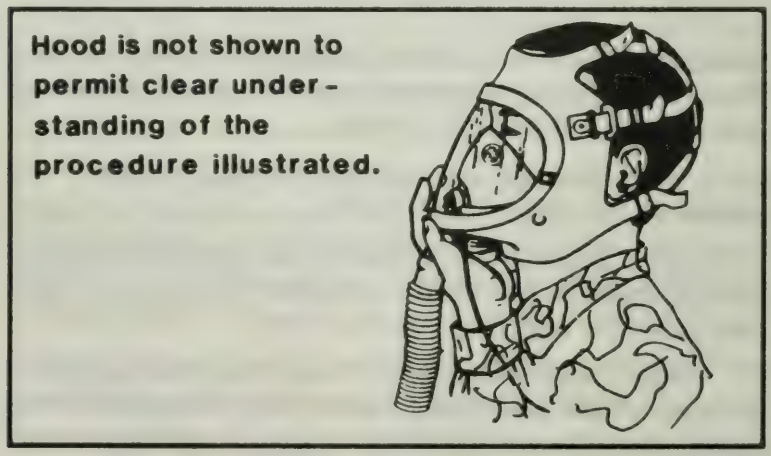


Figure 259. Clear Mask.

your hands out so that the seal between your face and mask is not broken.

(2) Switch microphones. Pull out the boom microphone connector from the receptacle in the helmet and plug the mask microphone connector into the receptacle in the helmet.

c. Put on the M7 hood.

(1) Turn up the collar. Turn your shirt or jacket collar up around your neck.

(2) Put on the hood. Grasp the lower portion of the hood with both hands and roll the hood inward a few turns. Pull the hood over the helment/head and unroll the hood while pushing it down to cover your neck and shoulders (Figure 260).

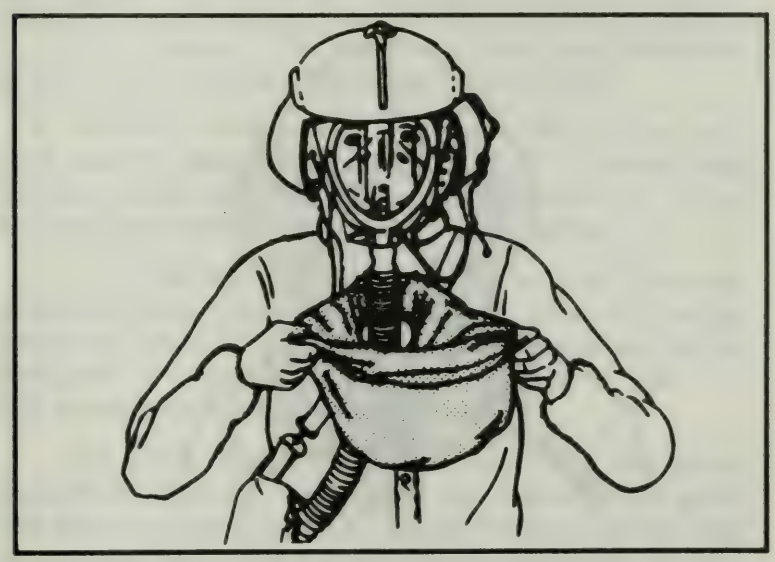


Figure 260. Put on M7 Hood.

(3) Adjust the neck cord. The neck cord should rest over your upturned collar. Tighten to a snug fit (Figure 261).

(4) Adjust M7 underarm straps. Obtain a snug, yet comfortable fit.

(5) Couple the connector on the M1 canister coupling to the M8 oxygen adapter if the aircraft is equipped with oxygen.

(6) Snap the carrier flap closed.

d. Remove and store the M24 protective mask.

(1) Remove the hood. Unfasten the underarm straps, loosen the neck cord, grasp the lower rear



Figure 261. Adjust neck cord.

portion of the hood with both hands and roll the hood outward a few turns. Pull the hood forward over your helmet. Allow the hood to hang on the front of the facepiece.

(2) Unplug mask microphone. Pull out the mask microphone connector from the helmet.

(3) Remove the helmet. Take off your helmet and place it between your knees or on your lap.

(4) Remove the mask, hold the facepiece at your chin, and remove the mask by pulling down, outward, and up.

(5) Put on the helmet.

(6) Plug in the microphone. Plug the boom microphone connector into the receptacle in helmet.

(7) Remove the moisture from the facepiece. Shake the mask, then wipe with a clean cloth.

e. Store the mask with the hood. Adjust the neck cord leather slider on the neck cord to 2 inches from the end of the cord and make sure the shoulder straps are detached from the hood and pile fasteners.

(1) Hold the top front forehead area of the mask with one hand. Using the other hand, grasp the widest portion of your M7 hood, and fold this material to the right side of your mask. Use your thumb to hold this fold in place and release one hand.

(2) With your other hand, reach down and grasp the shoulder straps, neck cord, and microphone cable and fold them up along the right side of the mask. Use the same thumb holding the fold of the hood to hold these items.

(3) With your free hand, fold the bottom of the hood up to the right of the mask. The bulk of the fold of the hood is now at the bottom right side of the mask.

(4) Fold the air duct hose into the facepiece and insert the facepiece with the folded hood into the carrier, chin area first with the lens up. Snap or press the carrier flap closed.

2. The M25-series protective mask. A soldier must be able to remove the helmet, and put on, clear, and check the M25 series mask in 15 seconds (this includes six seconds to remove CVC helmet). Allow six additional seconds to adjust the hood for a total of 21 seconds for the entire procedure.

a. Put on the mask (timed). See procedures for putting on M24 mask, Steps 1a.(1)-(11).

b. Put on the M5 hood.

WARNING

DO NOT BREAK THE SEAL BETWEEN YOUR MASK AND YOUR FACE WHEN PUTTING ON YOUR HELMET OR HOOD. THIS COULD CAUSE LEAKS OF TOXIC AGENTS INTO THE FACEPIECE.

(1) Turn up your collar. Turn up your shirt or jacket collar around your neck.

(2) Pull the hood over your head. Grasp the lower rear portion of the hood and pull it over your head.

(3) Adjust the neck cord. The neck cord should rest over your upturned collar. Tighten to a snug, yet comfortable fit.

(4) Adjust the underarm straps. Obtain a snug, yet comfortable fit.

(5) Put on the helmet. Grasp the helmet inside next to the earcups. Spread your hands to flex the helmet open. Put the helmet over your head and tilt forward so that the helmet first touches part of the mask resting on your forehead. Lower the helmet back and down over your head until it is seated in position. Carefully slide your hands out so that the seal between your face and mask is not broken (Figure 262).

(6) Switch microphones. Pull out the boom microphone connector from the receptacle in the

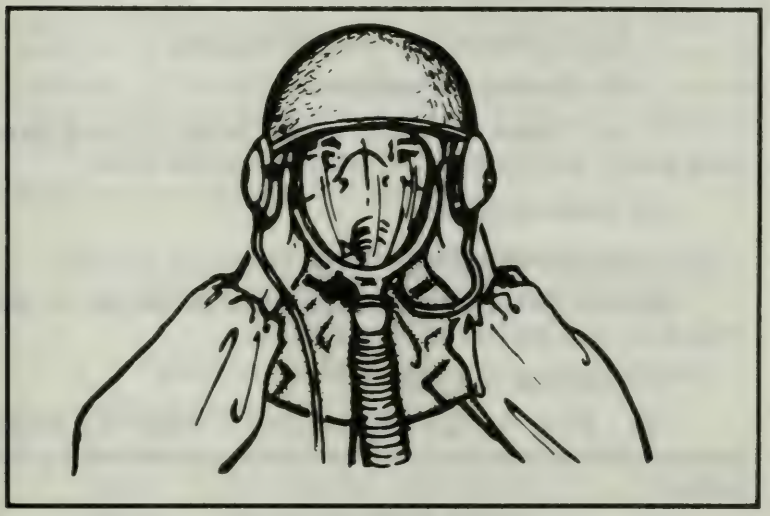


Figure 262. Put on helmet.

helmet and plug the mask microphone connector into the receptacle in the helmet.

(7) Couple the mask to the filter unit. If the mask is worn inside a combat vehicle equipped with a filter unit, couple the filter air hose to the connector on M1 canister coupling.

(8) Snap the carrier flap closed and continue the mission.

c. Remove and store the M25-series protective mask. This procedure is not timed and will begin after the "All clear" order is issued. To remove the mask, follow these eight steps:

(1) Disconnect the mask microphone plug from the helmet receptacle.

(2) Remove the helmet.

(3) Remove the hood.

(a) Unfasten the underarm strap.

(b) Loosen the neck cord.

(c) Draw the back of the hood forward over your head. Leave the hood attached to the mask.

(4) Remove mask.

(a) Loosen the cheek straps.

(b) Grasp the mask with both hands at the chin area and pull down, out, and up.

(5) Replace the helmet.

(6) Plug in the microphone. Plug the boom microphone connector into the receptacle socket in the helmet.

(7) Remove the moisture from the facepiece. Shake the mask, then wipe it with a clean cloth.

(8) Store the mask with the hood. See paragraph 1e (1) through (4) under M24 Mask and Hood Storage.

Evaluation Preparation

Setup: The soldier should report for training with his or her individual protective mask and flight or CVC helmet. For testing purposes, the soldier should be standing, wearing the mask carrier which contains the protective mask (with hood attached) that has been previously fitted to the soldier. An evaluation guide is provided for both the M24 and M25-series protective masks. The trainer should select the appropriate evaluation guide for the soldier being tested.

Brief Soldier: For the M24 aircraft mask, tell the soldier to remove the helmet and put on the mask within 19 seconds. For the M25-series protective mask, tell the soldier to remove the helmet and put on the mask within 15 seconds, and put on the hood within an additional 6 seconds for a total of not more than 21 seconds. The soldier is to begin masking when you say "Gas" and is to keep the mask on until the "All clear" order is given.

Evaluation Guide: 031-503-1012

PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25- SERIES PROTECTIVE MASK WITH HOOD

Performance Measures	*Results*	
For the M24 Protective Mask		
1. Removes the helmet and puts on, clears, and checks the mask within 19 seconds, using the appropriate steps for the M24 aircraft mask.	P	F

a. Stops breathing.
b. Removes helmet.
c. Removes glasses if worn.
d. Opens carrier.
e. Removes mask from carrier.
f. Opens facepiece.
g. Puts chin in chin pocket.
h. Pulls head harness over head.
i. Clears the mask.
j. Checks the mask for leaks.

Note: *Items 2 through 8 below are not timed.*

2.	Replaces helmet.	P	F
3.	Puts on hood.	P	F
4.	Adjusts neck cord.	P	F
5.	Adjusts underarm straps.	P	F
6.	Snaps carrier closed.	P	F
7.	Removes mask after "All clear" order is given.	P	F
8.	Stores mask in carrier.	P	F

For the M25-Series Protective Mask.

1.	Removes helmet and puts on, clears, and checks mask within 15 seconds.	P	F

a. Stops breathing.
b. Removes helmet.
c. Removes glasses if worn.
d. Opens carrier.

e. Removes mask from carrier.
f. Opens facepiece.
g. Puts chin in chin pocket.
h. Pulls head harness over head.
i. Clears the mask.
j. Checks the mask for leaks.

2.	Puts on the hood in an additional 6 seconds.	P	F

Note: *Items 3 through 8 below are not timed.*

3.	Replaces helmet.	P	F
4.	Adjusts neck cord.	P	F
5.	Adjusts underarm straps.	P	F
6.	Snaps carrier closed.	P	F
7.	Removes mask after the "All clear "order is given.	P	F
8.	Stores mask in carrier.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If any step is failed, show what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-280-10

★ ★ ★ ★ ★

MAINTAIN YOUR M24 OR M25-SERIES PROTECTIVE MASK WITH HOOD*

031-503-1011

CONDITIONS

Given an M24, M25-series protective mask, with authorized accessories/components, that requires cleaning; a container of warm, soapy water, a container of warm, clear water; clean rags; a small cleaning brush; optical lens cleaning compound (NSN 6850-00-592-3283); TM 3-4240-280-10.

STANDARDS

1. Identify and correct all deficiencies/shortcomings correctable at the operator level.

2. Clean and condition the mask without removing the canister.

3. Report deficiencies/shortcomings not corrected to the supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. Maintenance. Each soldier, under the supervision of qualified personnel, is required to care for and perform maintenance on his or her mask. Figure 263 shows the components of the M24 and M25-series protective

mask. The following items should be checked by each soldier..

Note: *Descriptions for the items are written for the soldier performing the checks. If any of the conditions described in a through o below are found which the soldier is not authorized to correct, the mask is unserviceable. Turn in the mask and draw a replace-ment. Uncorrected deficiencies/shortcomings must be recorded on a DA Form 2404, Equipment Inspection and Maintenance Worksheet in accordance with DA Pam 738-750. However, this is not a performance measure of this task.*

*Only soldiers who require this training and who are issued an M24 or M25 series protective mask should train for this task.

a. Faceblank and lens assembly. Examine the faceblank for permanent set which may affect airtight fit of the mask. Signs of permanent set are:

(1) Faceblank is difficult to open, unusual or excessive stiffness of certain areas of the faceblank.

(2) Rubber is soft and sticky or is cracked. Look at the faceblank for holes, tears, or splits. Look for sticky or spongy areas which will crumble when rubbed between your two fingers or cracks which get bigger when the faceblank rubber is stretched. Inspect the faceblank rubber adjacent to the lens to make certain the lens does not separate from the faceblank. Examine the lens for cracks, cuts, tears, scratches, and marked discoloration or distortion which affect normal vision. Put on the mask to check for visual distortion.

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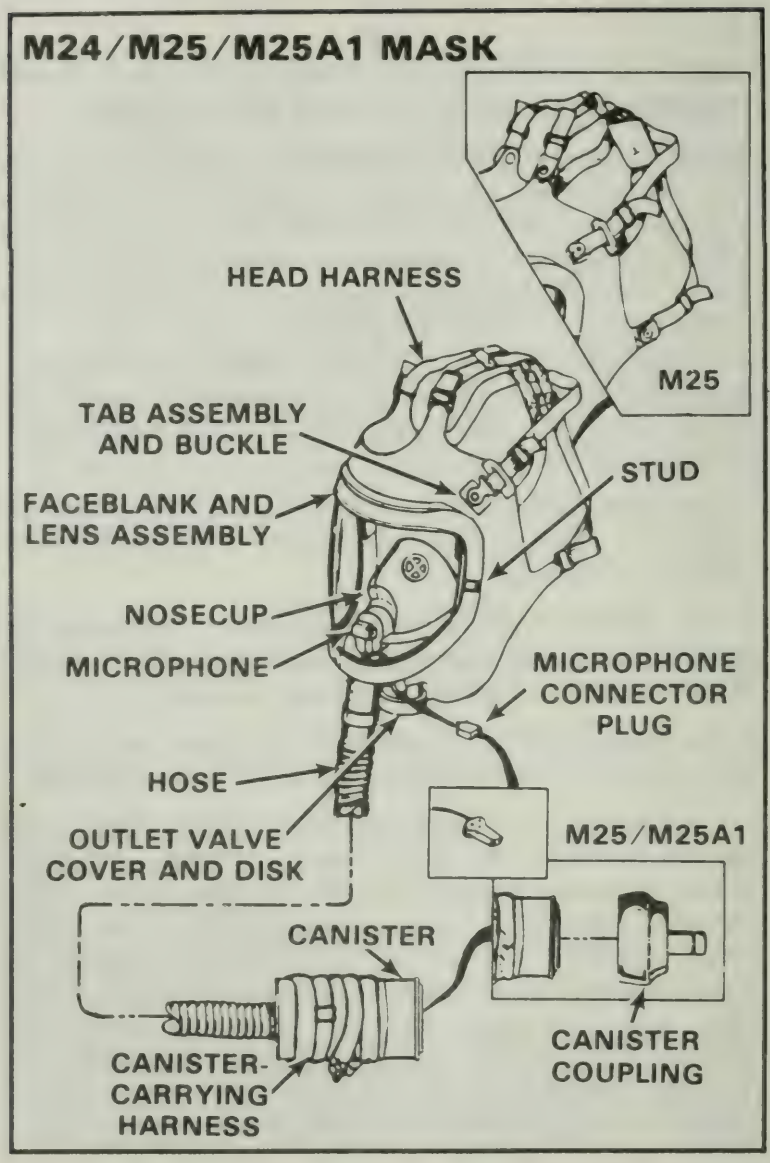


Figure 263. M24 or M25-Series mask.

b. Nosecup. Examine the nosecup to ensure its sides are buttoned to the faceblank, and check the nosecup flap buttons to make sure they are not damaged or missing. Check the nosecup valves to ensure the nosecup valve seats are not separated from the nosecup and that the nosecup valve disks are not curled. Rotate each valve disk to make sure it is not stuck on the valve seat.

c. Optical outsert studs. Check to make sure the studs mounted on the faceblank are not loose and rubber around holes is not torn.

d. Tabs and buckles. Check the tab assemblies to ensure they are fastened securely to the faceblank. Check for worn or torn webbing. Inspect the metal parts for burrs, breaks, chipped paint, corrosion, or missing parts. Inspect for dry rot.

e. Head harness. Check for dirt and damaged, or missing hardware. Check the straps for cuts or tears and deterioration, such as mildew, fraying or loss of elasticity. If deterioration does not affect function of harness, it is serviceable.

f. Outlet valve. Remove the outlet valve cover and inspect the valve seat for dust, dirt, or moisture. Carefully remove any dust, dirt, moisture, or foreign matter with a dry, lint-free cheesecloth. Check the outlet valve disk for proper seating, sticky rubber, cracked or curled disk, tears, or cuts. Inspect the outlet valve cover for permanent set, tears, or cuts.

g. Microphone. Make sure the microphone is properly seated in the pocket of the nosecup. Check the cable for broken or loose connections and worn insulation. Inspect the connector plug for damage. Plug the

microphone into the communications system in the helmet to make sure the microphone is functioning properly. A test of the communications system for the mask and helmet may be performed with the appropriate vehicle communications system.

Note: *The M24 has a male plug and the M25-series has a female plug for communication hook-up.*

h. Hose. Check the hose connections for tightness. (Gently stretch the hose by pulling on the facepiece and canister.) While the hose is stretched, examine it for the following: worn or frayed covering; broken or damaged wire reinforcement; kinks that may cause resistance to breathing when the mask is worn; holes, tears, cuts, dirt, and mildew.

i. Carrying sling. Inspect the canister-carrying sling for tears, broken straps, missing hardware, dirt, and mildew.

j. Canister coupling. Examine the rubber-cup portion of the canister coupling for cracks or holes. Check the nozzles at the end of the coupling for burrs, cracks, dents, or corrosion. Ensure that the canister coupling fits snugly over the bottom of the canister and that it is properly seated.

k. Oxygen supply adapter (M24 only). Look at the oxygen connector for burrs, cracks, dents, or corrosion. Be sure the oxygen supply adapter is free of oil, grease, or dirt which could catch fire in contact with the oxygen under pressure (Figure 264).

CAUTION

DO NOT USE PAPER TO REMOVE MOISTURE. IT MAY BREAK UP AND LODGE IN THE VALVE.

l. M10A1 canister. Pull the coupling from the canister. Slide the carrying sling off the canister. Look at the canister body for holes, dents, splits, rust over large areas, or open or rusted seams. Ensure that the valve disk covers the air inlet. Ensure that the valve disk is black.

m. Carrier. Inspect the carrier for superficial dirt, mildew, rips, torn straps, and missing hardware. Remove dirt or mildew by brushing with a stiff brush and replace the carrier if ripped or torn.

n. Antifogging kit. Inspect the container for damage. Rub a small portion of the lens with the cloth. Breathe on the surface of the treated lens. If the rubbed area becomes fogged, the antifogging kit is unserviceable and should be replaced.

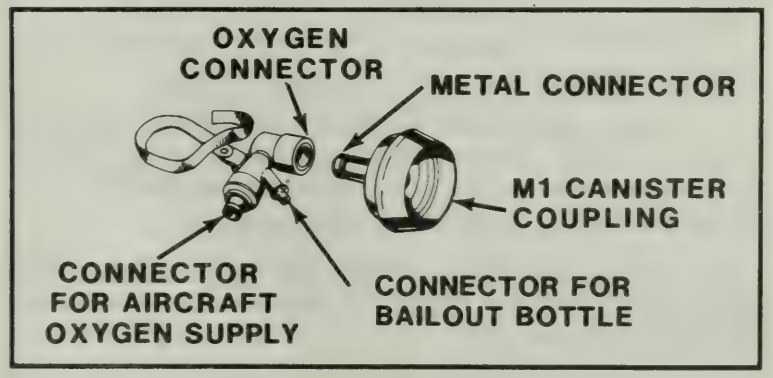


Figure 264. Oxygen supply adapter.

o. Hood. Examine the hood for holes, cuts, or tears, If there are more than two pin holes in any one panel or cuts and tears in the hood, it is unserviceable for protection against toxic agents, but may be used for training.

CAUTION
CARE MUST BE TAKEN NOT TO SCRATCH THE CLEAR PLASTIC LENS WHEN HANDLING THE MASK.

Note: *Face form will be reinserted into the mask after each use to prevent deforming the eye lens.*

2. Cleaning and conditioning.

CAUTION
WASH THE MASK CAREFULLY SO THAT THE CANISTER AND MICROPHONE DO NOT GET WET.

a. Elevate the canister. Position the canister higher than the facepiece.

b. Clean the mask. Use cheesecloth that has been dipped in warm, soapy water and wrung out almost dry. A soft brush or a clean paintbrush can also be used. Wipe the mask and the hood inside and out.

c. Rinse the mask. Wipe the mask with a clean cloth that has been dipped in warm, clear water and wrung out almost dry.

d. Dry the mask. Wipe the mask with lint-free cloth or allow the mask to air dry.

e. Inspect the nosecup valve disks. Check the nosecup valve disks to ensure that they have not been dislodged during cleaning.

f. Clean and polish the lens with optical lens cleaning compound (NSN 6850-00-592-3283). Apply antifogging compound.

g. Clean the hose, canister, and sling. Brush any dirt or grit from carrier. If the carrier is soiled, clean it with a brush and clear, cool water.

Evaluation Preparation

Setup: Place all required equipment on a field table or another suitable surface. You may simulate defects in the mask by removing components from the mask or by using a defective mask not issued to the soldier.

Brief Soldier: Tell the soldier to perform operator Preventive Maintenance Checks and Services (PMCS), clean and condition the mask, and report all deficiencies and shortcomings not correctable to the supervisor.

Evaluation Guide: 031-503-1011

MAINTAIN YOUR M24 OR M25 SERIES PROTECTIVE MASK WITH HOOD

	Performance Measures	*Results*	
1.	Performs operator's PMCS, correcting all deficiencies/ shortcomings correctable at the operator level.	P	F
2.	Cleans and conditions mask without removing the canister.	P	F

a. Elevates mask so the canister is higher than the facepiece.

b. Dips clean cloth in warm, soapy water and wrings out almost dry to clean the mask inside and out.

c. Dips clean cloth in warm, clean water and wrings out almost dry to rinse and wipe the mask clean. Dries with lint-free cloth or lets the mask air dry.

d. Cleans facepiece without causing the nosecup valve disks to become detached from the nosecup.

e. Cleans and polishes lens with optical lens cleaning compound NSN (6850-00-592-3283). Applies anti- fogging compound.

f. Brushes or wipes dirt and mildew from the hose, canister, and sling.

g. Ensures carrier is free of foreign matter; brushes and cleans. Uses cool water.

3. Reports deficiencies/shortcomings not correctable to the supervisor. P F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show what was done wrong and how to do it correctly.

REFERENCES

TM 3-4240-280-10
DA Pam 738-750

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DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT

031-503-1007

CONDITIONS

Given one of the following situations:

1. Your unit has been attacked with chemical agents.

2. You have passed through an area contaminated with chemical agents.

3. You have been exposed to radiological contamination.

You are at Mission-Oriented Protective Posture (MOPP) level 2 with remaining MOPP gear available and have been given a full canteen of water, and an M258A1 decon kit.

STANDARDS

Start the steps to decontaminate your skin and/or eyes within one minute after you find they are contaminated. Perform personal equipment decontamination after decontamination of your skin, face, and/or eyes.

TRAINING AND EVALUATION

Training Information Outline

WARNING

THE M258A1 DECONTAMINATION KIT (OLIVE DRAB CASE AND WIPE PACKETS) WILL ONLY BE USED FOR ACTUAL CHEMICAL DECONTAMINATION. FOR TRAINING AND EVALUATION PURPOSES, USE THE M58A1 TRAINING AID DECONTAMINATION KIT (BLACK CASE AND BLUE WIPE PACKETS). DO NOT USE WIPES ON EYES, MOUTH, OR OPEN WOUNDS. THESE AREAS SHOULD BE FLUSHED WITH WATER. FOR DECONTAMINATION OF BLISTERS, SEE THE TASK GIVE FIRST AID FOR BURNS, TASK NUMBER 081-831-1007.

1. Decontaminate skin, face, and personal equipment using the skin decontamination kit (Figure 265). Refer to TM 3-4230-216-10.

a. Put on your mask and hood. Do not zip the hood. Do not pull the draw strings. Do not fasten the shoulder straps.

Note: *For M17-series protective masks, see the task Put On, Wear, Remove, and Store Your M17-series Protective Mask With Hood, task number 031-503-1004. For the M24, M25, or M25A1 protective masks, see the task Put On, Wear, Remove, and Store Your M24 or M25-series Protective Mask With Hood, task number 031-503-1012. For the M40 protective mask, see the task Put On, Wear, Remove,*

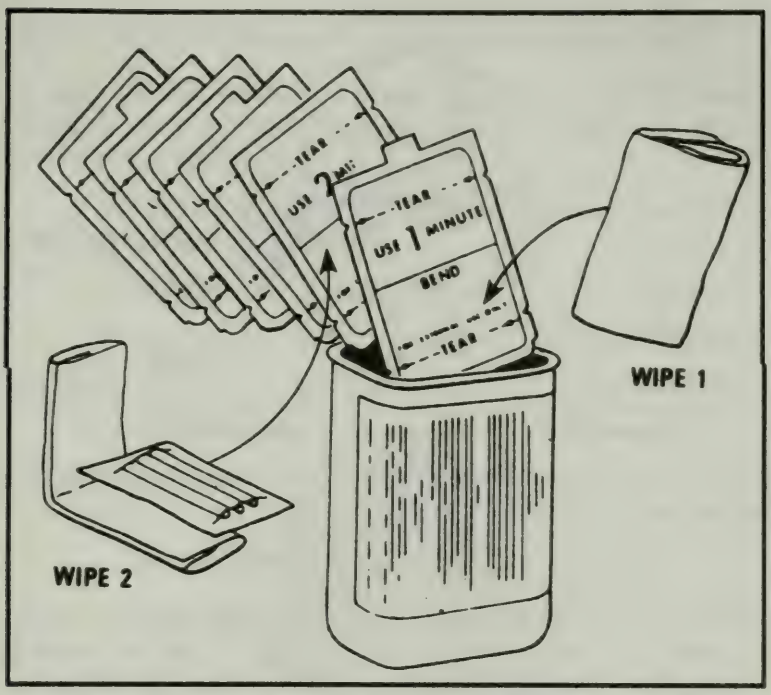


Figure 265. Skin decontamination kit.

and Store Your M40 Protective Mask With Hood, task number 031-503-1025. For the M42 protective mask, see the task Put On, Wear, Remove, and Store Your M42 Protective Mask With Hood, task number 031-503-1028.

b. Seek overhead cover or use your poncho for protection against further contamination.

c. Open the decontamination kit and remove one decontaminating 1 packet.

d. Fold packet on the solid line marked BEND, and then unfold it.

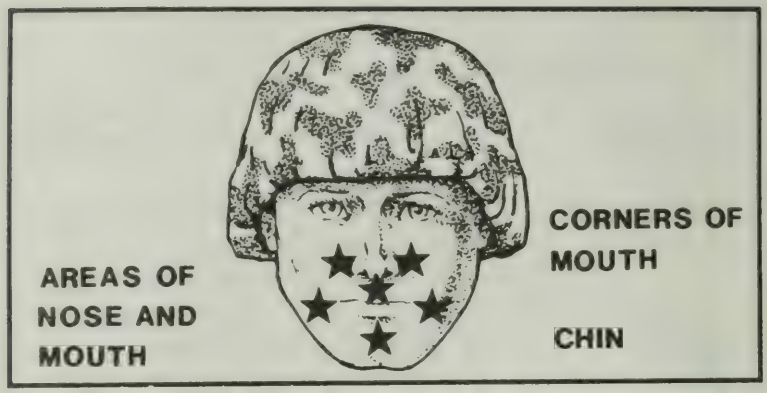


Figure 266. Hard areas to decontaminate.

e. Tear open the packet at the notch, remove the wipe, and fully unfold it.

f. Wipe your skin starting with your hands.

Note: *If you do not have agent on your face, do steps m and n. If you have agent on your face, do steps g through s. The stars in Figure 266 show areas that are hard to decontaminate. When you use the decontamination wipes, pay extra attention to these areas when scrubbing. You must hold your breath while doing steps g through k. If you need to breathe before you finish, reseal your mask, clear it and check it, then continue.*

g. Hold your breath, close your eyes, lift the hood and the mask from your chin.

h. Scrub up and down, from ear to ear (Figure 267).

(1) Start at your ear.

(2) Scrub across your face to the corner of your nose.

(3) Scrub across your face to your other ear.

Note: *The gray area shows the outline of the hood. Eyelens and voicemitter outlet valve assembly show the mask position.*

i. Scrub up and down from your ear to the end of your jawbone (Figure 268).

(1) Begin where step h ended.

(2) Scrub across your cheek to the corner of your mouth.



Figure 267. Decontaminating the face.

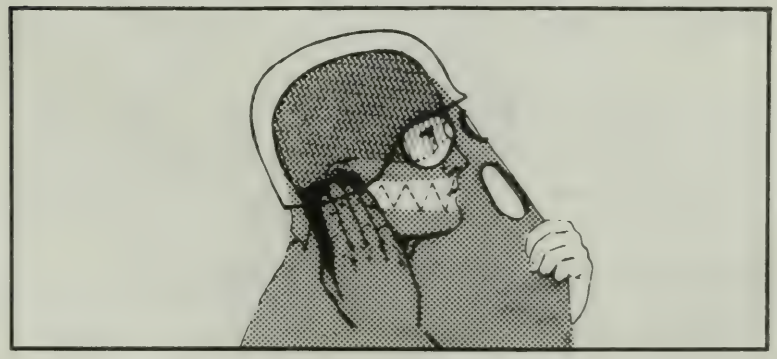


Figure 268. Decontaminating the face.

(3) Scrub across closed mouth to the center of your upper lip.

(4) Scrub across, closed mouth, to the corner of your mouth.

(5) Scrub across your cheek to the end of your jawbone.

j. Scrub up and down from one end of your jawbone to the other. (Figure 269).

(1) Begin where you ended in step i.

(2) Scrub across and under your jaw to your chin, cupping your chin.

(3) Scrub across and under your jaw to the end of your jawbone.

k. Turn your hand out and quickly wipe the inside of the mask that touches your face (Figure 270).

Note: *Do not wipe the mask lens. The decontam-ination solution may leave a film on the lens.*

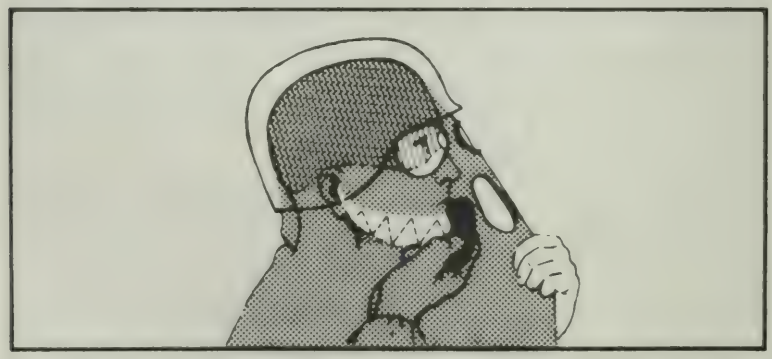


Figure 269. Decontaminating the face.

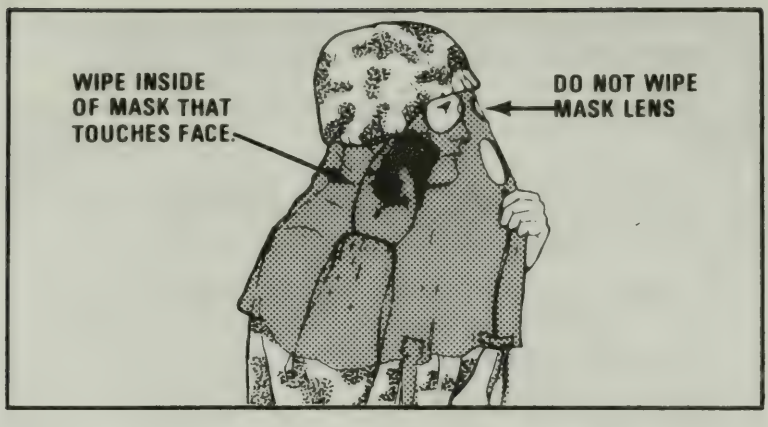


Figure 270. Decontaminating the inside of the mask.

l. Immediately reseal, clear, and check your mask.

m. Using the same decontamination 1 wipe, scrub your neck and ears and redo your hands.

n. Drop the wipe to the ground.

o. Pull out one decontamination 2 wipe packet. Crush the enclosed glass ampule between your thumb and your fingers. DO NOT KNEAD.

p. Fold the packet on the solid line marked CRUSH AND BEND, then unfold it. Tear the packet open quickly at the notch and remove the wipe. Fully open the wipe. Let the encased crushed glass ampule fall to the ground.

q. Using decontaminating 2 wipe, repeat the procedures outlined for decontaminating 1 wipe.

r. Put on your protective gloves.

s. Fasten your hood and cover your skin areas that you have decontaminated. Continue the mission.

2. Remove chemical agent contamination from the eyes.

a. Put on your mask and hood. Do not zip the hood. Do not pull the drawstrings. Do not fasten the shoulder straps.

b. Seek overhead cover or use your poncho for protection against further contamination.

c. Remove your canteen from your load carrying equipment (LCE), and unscrew the cap.

d. Check the canteen mouth for contamination using M8 detector paper. If the canteen mouth is contaminated, obtain an uncontaminated canteen.

Note: *Avoid possible contamination of the canteen cap by pushing up on the bottom of the canteen cover until you can grasp the canteen by its body.*

e. Hold your breath.

f. Lift your mask and continue to hold your breath.

g. Flush your eyes with water from the canteen.

(1) Look up and tilt your head to the side to be decontaminated.

(2) Keep your eyes open.

(3) Pour water slowly into your eye. Do not let the water run onto clothing.

(4) Flush the other eye, if necessary, using the same steps.

h. Reseal, clear, and check your mask. Resume breathing.

i. Put on your protective gloves.

j. Fasten the hood.

k. Cover other skin areas that you have decontaminated. Continue the mission.

3. Decontaminate personal equipment.

a. Decontaminate weapons, gloves, helmet and hand tools first using decontaminating 1 wipe and then decontaminating 2 wipe.

b. When decontaminating the mask and hood, start with decontaminating 2 wipe. Do the eyelens outserts first. Then from the top of your hood, work your way downward. Repeat the same procedure using decontaminating 1 wipe. Using the wipes in this order will prevent a residue from forming on the eyelens outserts.

4. Remove radiological contamination from your clothing, equipment, and exposed skin if necessary.

a. Shake or brush contaminated dust from your clothing, equipment, or exposed skin. Use your hands to brush off contaminated dust if a brush or broom is not available.

b. Wash your body as soon as possible, giving special attention to the hairy areas and underneath fingernails.

Evaluation Preparation

Setup: A good time to evaluate this task is while in a field environment. Place the M58A1 training aid on the LCE of the individual or in the pocket of the mask carrier. Removing radiological contamination can be evaluated separately or in conjunction with chemical decontamination.

Brief Soldier: Tell the soldier to decontaminate the skin using the M58A1 training aid and to decontaminate personal equipment using the M58A1 or the individual equipment decontaminating kit (IEDK) training aid. If you are going to evaluate radiological decontamination, tell the soldier to perform those procedures also.

Note: *The M58A1 training aid will be used in all training and/or evaluation situations. The M258A1 decontaminating kit will only be used for actual decontamination; do not use the M258A1 kit on protective overgarments.*

Evaluation Guide: 031-503-1007

DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT

	Performance Measures	*Results*	
1.	Decontaminates skin.	P	F
	a. Puts on mask, if not on.		

Note: *Putting on the mask properly should not be scored in this task. Masking is tested in tasks Put On, Wear, Remove, and Store Your M17 Protective Mask With Hood, task number 031-503-1004, Put On, Wear, Remove, and Store Your M24 or M25-series Protective Mask With Hood, task number 031-503-1012, Put On, Wear, Remove, and Store Your M40 Protective Mask With Hood, task number 031-503-1025, and Put On, Wear, Remove, and Store Your M42 Protective Mask With Hood, task number 031-503-1028.*

b. Removes one decontaminating 1 wipe packet.

c. Folds decontamination 1 wipe packet at the solid line

marked "BEND," and then unfolds it.

d. Tears packet open at notch, removes wipe and fully unfolds it.

e. Wipes skin starting with hands.

f. Holds breath, closes eyes, and lifts the hood and mask away from chin.

g. Continues to hold breath and scrubs face.

h. Wipes the inside of the mask which touches the face.

i. Reseals, clears, and checks mask.

j. Using the same wipe, scrubs neck and ears and rewipes hands.

k. Drops the decontamination 1 wipe to the ground.

l. Removes one decontamination 2 wipe packet from kit and crushes the enclosed glass ampule.

m. Folds decontamination 2 wipe packet on the solid line marked CRUSH AND BEND, and then unfolds it.

n. Tears packet open at notch, removes wipe and fully unfolds it, and lets the crushed glass ampule fall to the ground.

o. Wipes skin starting with hands.

p. Holds breath, closes eyes, and lifts the hood and mask away from chin.

q. Continues to hold breath and scrubs face.

r. Wipes the inside of the mask which touches the face.

s. Reseals, clears, and checks the mask.

t. Using same wipe, scrubs neck and ears and rewipes hands.

u. Drops the decontamination 2 wipe to the ground.

2. Removes chemical agent contamination from the eyes. P F

a. Puts on mask, if not on.

b. Removes canteen from LCE, and opens canteen cap.

c. Checks canteen mouth with M8 detector paper.

d. Holds breath.

e. Lifts the mask and continues to hold breath.

f. Flushes the eyes with water from the canteen.

g. Reseals, clears, and checks the mask.

3. Decontaminates personal equipment. P F

a. Decontaminates weapon, gloves, helmet, and hand tools.

b. Reverses the order of using the decontamination wipes when decontaminating the protective mask and hood.

4.	Removes radiological contamination from clothing, equipment, and exposed skin, if necessary.	P	F
	a. Shakes or brushes contaminated dust off clothing, equipment, and exposed skin.		
	b. Washes body, giving special attention to the hairy areas and underneath fingernails.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCES

FM 3-5
TM 3-4230-216-10
TM 3-4230-224-10
TM 3-4240-279-10
TM 3-4240-280-10

★ ★ ★ ★ ★

PUT ON AND WEAR MOPP GEAR

031-503-1015

CONDITIONS

Given Mission-Oriented Protective Posture (MOPP) gear (chemical protective overgarment, mask, hood, overboots, protective gloves, individual decontamination kits, and antidotes) and one of the following situations, put on all your MOPP gear when;

1. You are ordered to do so.

2. A chemical attack is about to happen.

3. You will enter an area where chemical agents have been used.

4. You recognize a chemical hazard.

5. If your unit is attacked with chemical agents without warning, mask immediately and go to MOPP 4.

STANDARDS

From MOPP level zero, achieve MOPP levels 1 through 4 within eight minutes. All steps must be performed in sequence.

TRAINING AND EVALUATION

Training Information Outline

1. Put on MOPP gear for MOPP level 1 (Figure 271).



Figure 271. MOPP levels zero, 1, and 2.

a. Put on the overgarment trousers over your normal duty uniform or over your undergarments in hot weather. Snap and zip the trousers and adjust waistband for a snug fit (do not fasten the bottom of the trousers at this time).

b. Put on the overgarment jacket, zip it up, fasten the snaps, and snap the three snaps across the back of the jacket to the trousers.

2. Put on additional MOPP gear (protective overboots) to reach MOPP level 2 (Figure 271).

a. Put the chemical protective overboots on over the leather combat boots and lace or fasten elastic closures according to the instructions provided in the package.

(1) The older model, Figure 272, has a single eyelet at the rear. To don the cover, put it on either foot, and center your foot on the sole. Smooth the excess material as flat as possible, and follow these lacing steps.

(a) Thread the lace through the front eyelet so that the ends are the same length, and tie a single hitch.

(b) Pass one lace end through each eyelet from inside to outside and draw each lace end tight, using a single hitch.

(c) Pass both ends through the rear eyelet from inside to outside.

(d) Bring the ends back through the side eyelets, and tighten them by working the slack out of the lace between the side and back eyelets. The lace should hold the rear eyelet firmly against the boot.

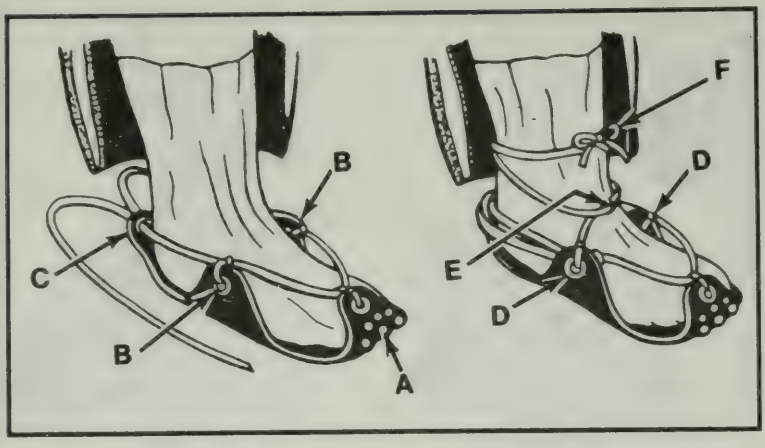


Figure 272. Lacing the old model overboots.

(e) Tie the lace tightly across the instep with a single hitch.

(f) Wrap the excess lace around your leg and tie the ends with a reef or bow knot.

(2) The newer model, Figure 273, has two rear eyelets. To don the cover, put it on either foot, and center your foot on the sole. Tuck the excess front material under the front of your foot, and follow these lacing steps.

(a) Thread the lace through the front eyelet so that both ends are the same length.

(b) Pass each lace end through a side eyelet from inside to outside.

(c) Draw the lace up tightly, and then fasten the lace with a single knot.

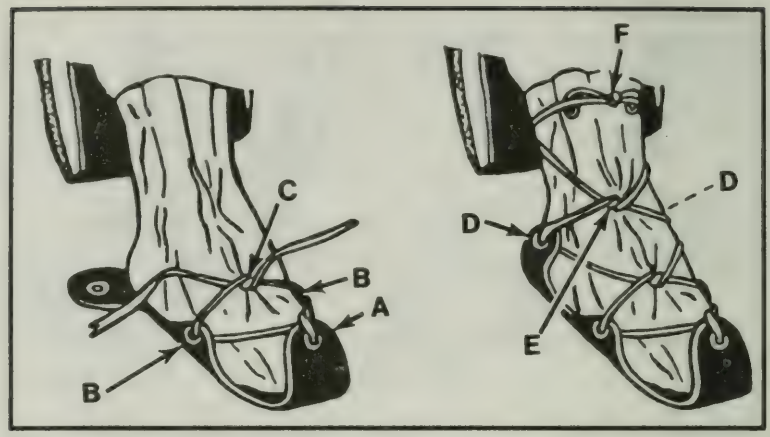


Figure 273. Lacing the new model overboots.

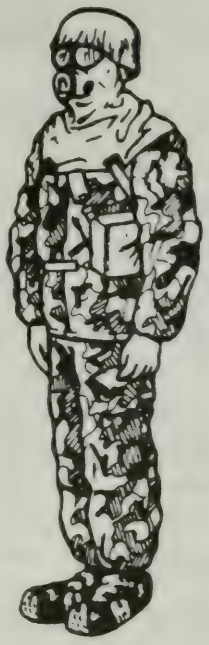
(d) Pass the ends through the rear eyelets from the inside to the outside and pull up firmly, positioning the fishtails neatly at the sides of your ankle.

(e) Tie the lace firmly with a single knot in front.

(f) Wrap the loose lace ends around your leg, tie the ends firmly in front with a bow knot, and tuck in the loose ends.

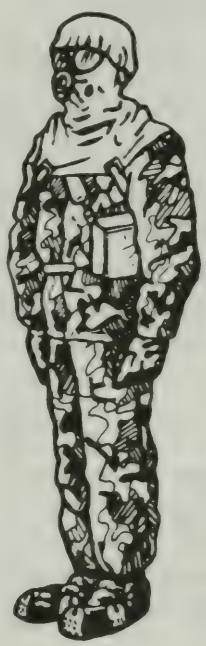
(3) The Green Vinyl Overboot (GVO) is approved as the interim chemical protective footgear. GVO donning procedures are very basic; donning is done just like a regular wet weather boot.

b. Blouse the overgarment trouser legs over the chemical protective overboots, zip and secure velcro closures of the overgarment trouser legs, and tie drawstrings firmly.



MOPP3

OVERGARMENT	WORN *
OVERBOOTS	WORN
MASK/HOOD	WORN *
GLOVES	CARRIED



MOPP4

OVERGARMENT	WORN
OVERBOOTS	WORN
MASK/HOOD	WORN
GLOVES	WORN

Figure 274. MOPP levels 3 and 4.

3. Put on additional clothing and equipment to reach MOPP level 3 (Figure 274). Put on the protective mask with hood. (The time standards for masking do not apply to this task.)

4. Put on additional MOPP gear to reach MOPP 4 (Figure 274).

a. Zip all zippers and close all closures.

b. Put on the chemical protective gloves (the liners first and then the rubber gloves).

c. Pull the elastic cuffs of the overgarment jacket sleeves over the cuffs of the protective gloves.

5. The additional MOPP level posture is "mask only" (mask worn). This posture is not appropriate when a blistering agent is present.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or during a normal training session. Gather all necessary MOPP gear and ensure it is in good condition. The evaluator must be prepared to direct higher MOPP levels immediately as a soldier reaches a preceding level.

Brief Soldier: Tell the soldier that he will be evaluated on his ability to rapidly assume MOPP levels 1 through 4.

Evaluation Guide: 031-503-1015

PUT ON AND WEAR MOPP GEAR

	Performance Measures	*Results*	
1.	Assumes MOPP level 1.	P	F
	a. Puts on overgarment trousers.		
	b. Puts on overgarment jacket.		
	c. Snaps the three snaps across back of the jacket to the trousers.		
2.	Assumes MOPP level 2.	P	F
	a. Puts on overboots.		
	b. Blouses the overgarment trouser legs over the chemical protective overboots, zips and secures velcro closures of the overgarment trouser legs, and ties drawstrings.		
3.	Assumes MOPP level 3.	P	F
	a. Puts on, clears, and checks protective mask. Pulls the hood over the head. (The time standards for masking do not apply to this task.)		
	b. Zips up hood (M17-series protective mask only), adjusts neck cord, and attaches underarm straps.		
4.	Assumes MOPP level 4.	P	F
	a. Puts on protective gloves.		

b. Pulls cuffs of overgarment jacket sleeves over each glove.

5.	Completes steps 1 through 4 in eight minutes or less.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

FM 3-4

★ ★ ★ ★ ★

RECOGNIZE AND REACT TO CHEMICAL OR BIOLOGICAL HAZARD

031-503-1019

CONDITIONS

Given a tactical environment in which chemical or biological weapons might be used by the enemy and having assumed Mission-Oriented Protective Posture (MOPP) level 1 and one or more of the following situations occurs:

1. A chemical alarm sounds.

2. A positive reading is obtained on detector paper or a chemical-agent monitor.

3. Individuals exhibit symptoms of chemical or biological agent poisoning.

4. You observed a standard or Warsaw Pact contamination marker.

5. The supervisor tells you to mask.

6. You come upon personnel wearing protective masks.

7. You observe other signs of possible chemical or biological attack.

STANDARDS

1. Put on your assigned protective mask with hood.

2. Give the alarm

3. Take cover.

4. Put on additional MOPP level gear to reach MOPP level 4.

5. Report the presence of a contamination marker to your supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. Recognize chemical, biological (CB) hazard.

2. Stop breathing, put on your mask with hood, and clear and check the mask. The mask gives immediate protection against inhalation of agent vapors. Do not fasten the hood, but go immediately to the next step.

3. Give the alarm.

   a. Yell "Gas" (Figure 275).

   b. Give hand and arm signal (Figure 276).

4. Take cover, using whatever is readily available to decrease the amount of agent contact and decontaminate exposed skin as necessary. (See the task Decontaminate Your Skin and Personal Equipment, task number 031-503-1007.). Figures 277 and 278 show

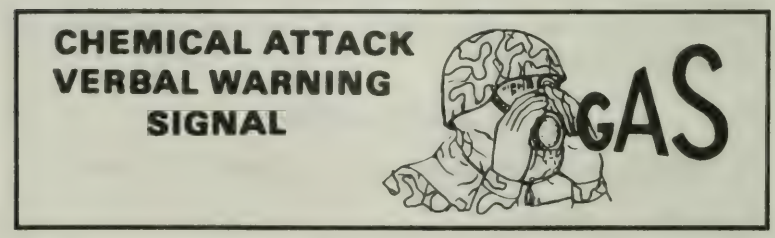


Figure 275. Chemical attack verbal warning.

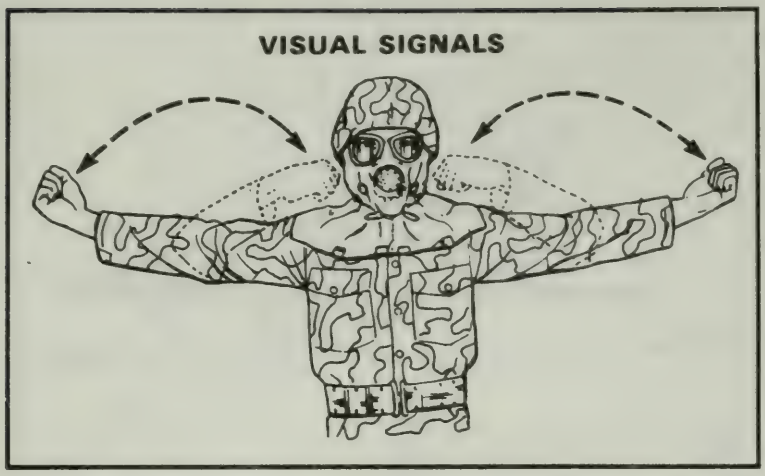


Figure 276. Chemical attack hand and arm signal.

some examples of how cover can decrease the amount of liquid contamination.

5. Put on your gloves with liners. The idea is to cover all skin. The head and body are protected by the mask and overgarment.

6. Zip and fasten the overgarment jacket. Secure the hood; then secure the overgarment to increase protection.

7. Put on your overboots. Combat boots provide protection but should be covered because they absorb chemicals. It takes a long time to lace the overboots, so put them on last in an emergency (Assume MOPP 4).

8. Decontaminate personal equipment as necessary (see task 031-503-1007, Decontaminate Your Skin and Personal Equipment).

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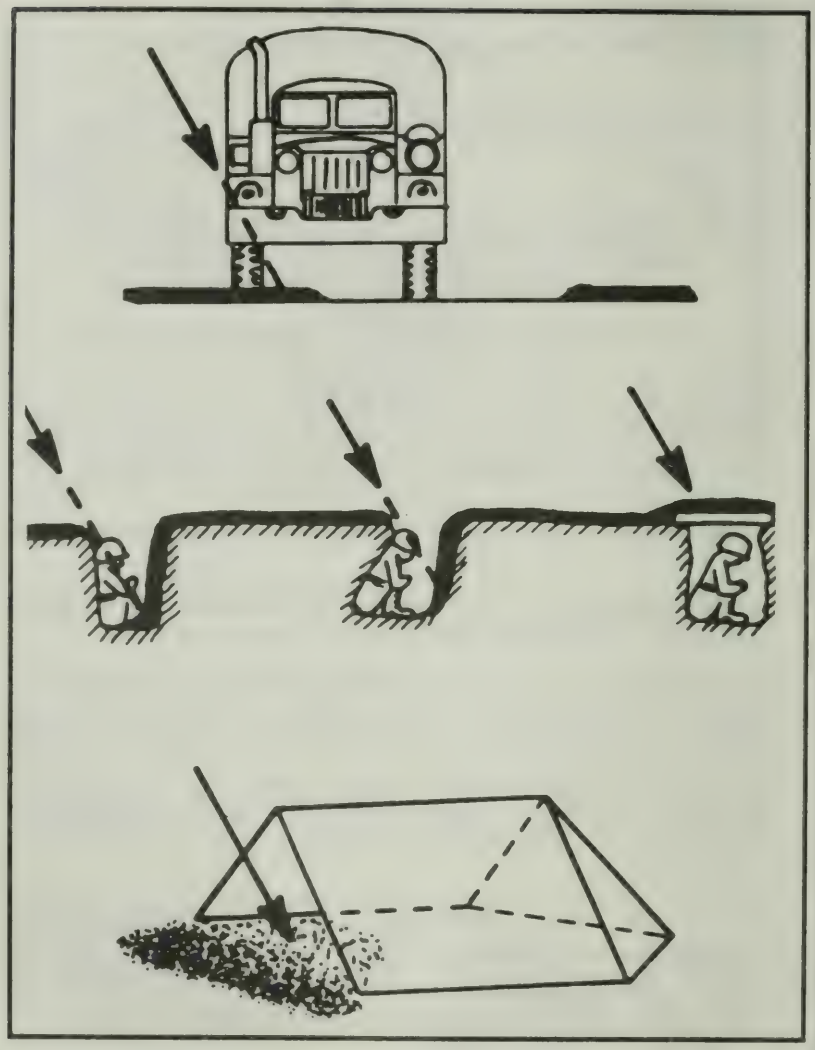


Figure 277. Examples of protective cover against liquid chemical attack.

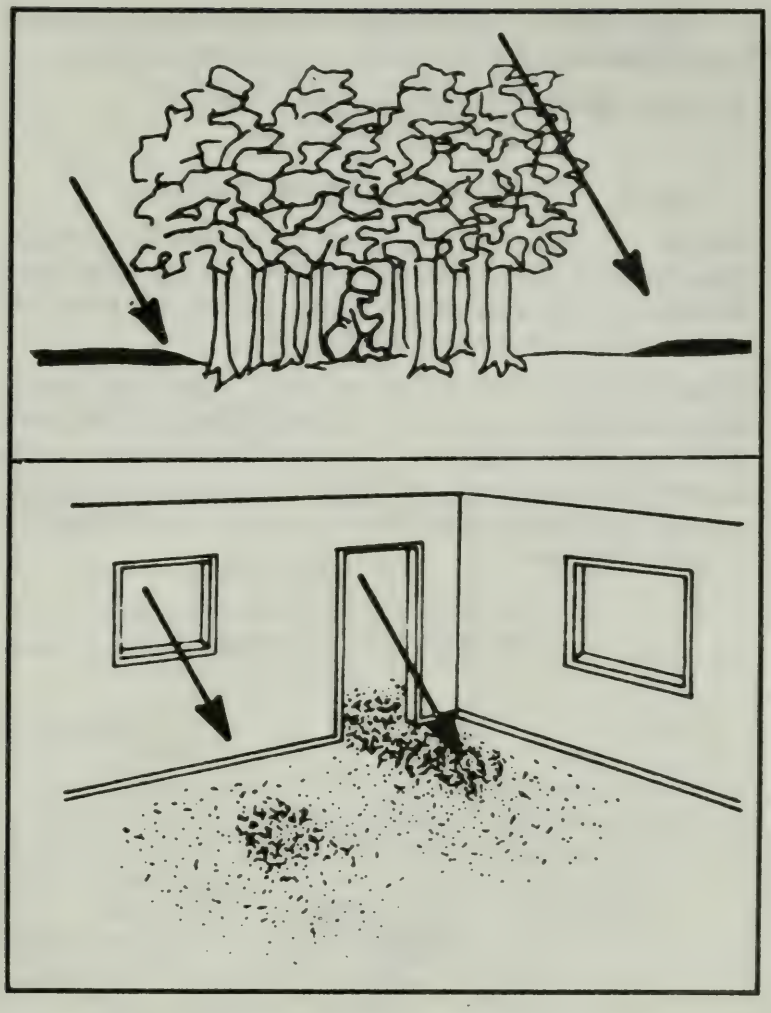


Figure 278. Examples of protective cover against liquid chemical attack.

9. If you observe any CB hazard markers or other CB hazard indicator (Figure 279), notify your supervisor.

10. Continue the mission.

Evaluation Preparation

Setup: A good time to evaluate this task is during a field exercise when a variety of chemical and biological hazards can be simulated. Select a site with adequate cover with soldiers in MOPP level 1.

Brief Soldier: Tell the soldier there will be an encounter with simulated CB contamination and/or a CB alarm will be given. The task is to recognize the hazard and/or alarm and take appropriate action to protect self and warn other soldiers by giving the appropriate alarm.

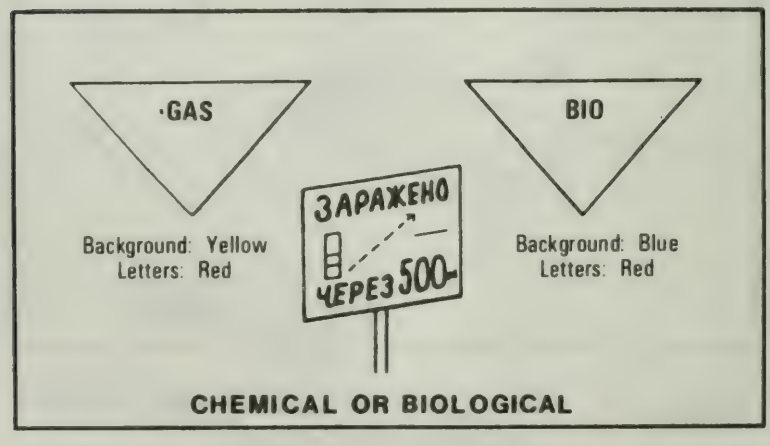


Figure 279. CB hazard markers.

Evaluation Guide: 031-503-1019

RECOGNIZE AND REACT TO CHEMICAL OR BIOLOGICAL HAZARD

	Performance Measures	*Results*	
1.	Stops breathing, puts on mask with hood, and clears and checks the mask. Does not fasten the hood, but goes immediately to the next step.	P	F
2.	Gives the alarm.	P	F
3.	Takes cover.	P	F
4.	Decontaminates skin if necessary.	P	F
5.	Assumes MOPP level 4.	P	F
6.	Reports presence of chemical or biological hazard indicators to the supervisor if present.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCES

FM 3-4
FM 21-60

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REACT TO NUCLEAR HAZARD

031-503-1018

CONDITIONS

Given an area where nuclear weapons have been or may be used and one of the following occurs.

1. You see a brilliant flash of light.

2. You see a standard or Warsaw Pact radiological contamination marker.

3. You are told to take immediate action in response to a nuclear attack.

STANDARDS

1. Take measures to protect yourself from the effects of a nuclear attack with no warning.

2. Take measures to protect yourself from the effects of a nuclear attack with advance warning.

3. Correctly recognize radiological contamination markers and notify your supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. React to a nuclear attack with no warning (a brilliant flash of light).

a. At the flash of intense light, immediately close your eyes and drop to the ground in a prone, head-on position. If in the hatch of an armored vehicle, immediately drop down inside the track.

b. Keep your head and face down and your helmet on.

c. Stay down until the blast wave passes and debris stops falling.

d. Check for casualties and damaged equipment.

2. React to a nuclear attack with a warning.

a. Find the best available shelter. If you are in an armored vehicle, stay there.

b. Keep clothes loosely fitted and wear headgear at all times.

c. Protect eyes and minimize exposed skin areas.

Note: *Soldiers in foxholes can take additional precautions. The foxhole puts more earth between soldiers and the potential source of radiation. Soldiers can curl up on one side. The best position, however, is on the back with knees drawn up to the chest (Figure 280). This belly-up position may seem more vulnerable, but the more radiation-resistant arms and bent legs will protect the head and trunk. Bulky equipment such as packs or radios can be stored in an adjacent pit if they prevent getting as low as possible in the foxhole. Alternatively, place these items over the face and hands for additional radiation and blast protection.*

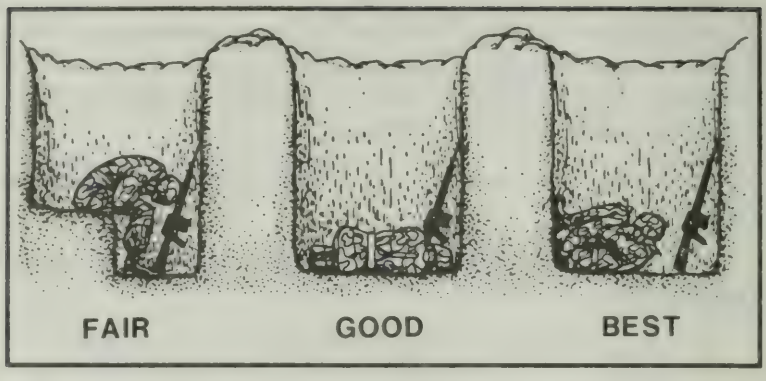


Figure 280. Protective positions in foxholes.

Note: If inside a shelter, soldiers should take protective actions. A blast wave can enter the shelter with great force, and the debris it carries can cause injury. Lying facedown on the floor of the shelter offers worthwhile protection. However, soldiers should avoid the violent flow of air from a door or window. Lying near a wall appears safer than standing away from walls. Near a wall, the pressure wave may be increased by reflection. This is better, however, than being blown about and injured by the blast. Constructing baffles or turns in shelter entrances can prevent overpressure buildups and entry of dust and debris (Figure 281).

d. Stay in the shelter until the blast wave passes and the debris stops falling.

3. Recognize and react to radiological markers.

a. If you see a standard radiological contamination marker (Figure 282), notify your supervisor.

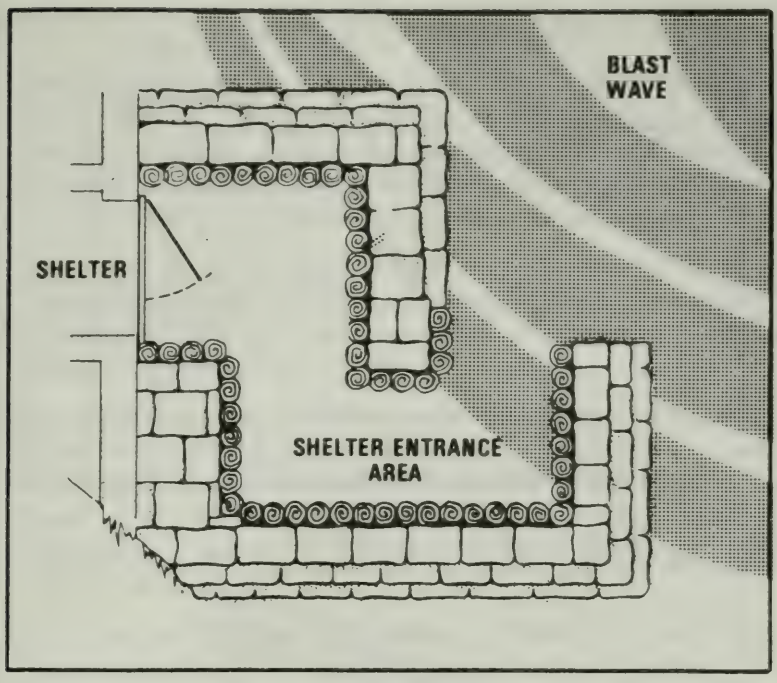


Figure 281. Protection in a shelter.

b. If you see a Warsaw Pact radiological contamination marker (Figure 283), notify your supervisor.

(1) Avoid the area if possible.

(2) Request crossing instructions if you must cross.

(3) Cross quickly by the shortest route. Make maximum use of shielding.

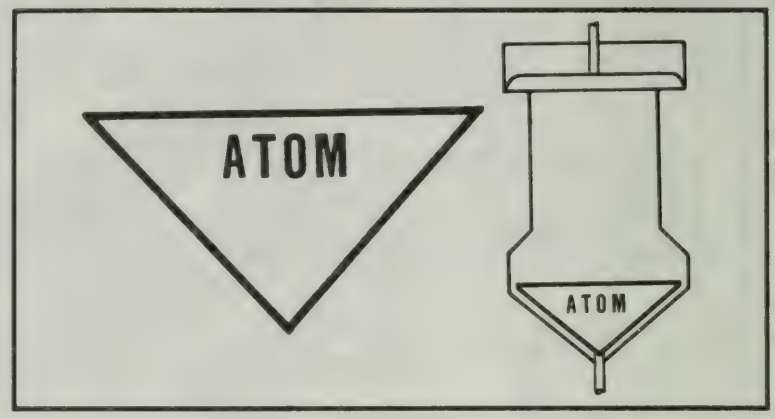


Figure 282. Standard radiological contamination markers.

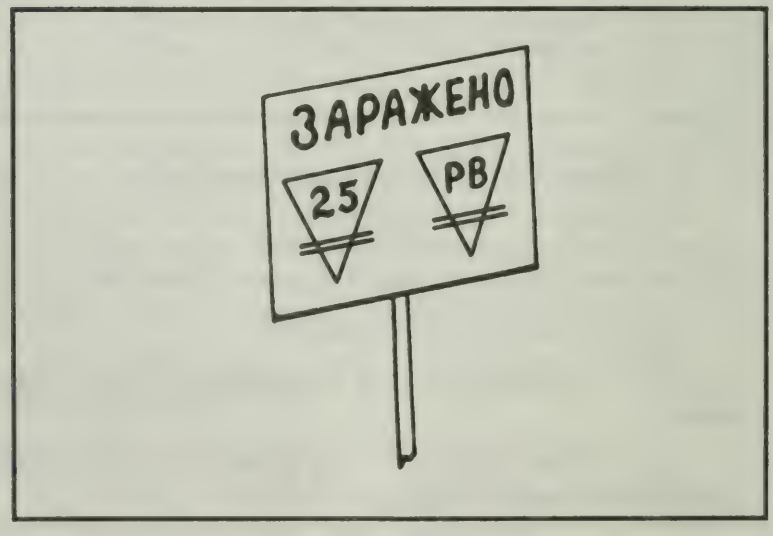


Figure 283. Warsaw Pact radiological contamination marker.

Evaluation Preparation

Setup: A good time to evaluate this task is during a field exercise. The area for this evaluation should have several possible choices for the soldier to take shelter nearby. Examples are in an open area, a shallow ditch or depression, or a foxhole with an overhead cover.

1. Evaluate the soldier's reaction to the nuclear attack, without warning, (brilliant flash of light) by having the soldier stand in an open area with the nearest possible shelter no closer than 12 feet.

2. Evaluate the soldier's reaction to a nuclear attack, when warned, by having the soldier stand in an open area with the nearest possible shelter no closer than 12 feet. Tell the soldier that there will be a nuclear detonation within 2 minutes and to take the best available shelter.

3. Evaluate the soldier's ability to recognize and react to radiological contamination markers by telling the soldier to walk through the area (where a standard marker and the Warsaw Pact marker have been placed) and take the appropriate action.

Note: *To evaluate the soldier's reaction to an attack without warning, you may simulate the task by saying "brilliant flash": or by using the flash attachment of a camera.*

Brief Soldier: Tell the soldier you are evaluating his or her ability to recognize and react to a nuclear hazard.

Evaluation Guide: 031-503-1018

REACT TO NUCLEAR HAZARD

	Performance Measures	*Results*	
1.	Reacts to a nuclear attack without warning.	P	F
	a. Closes eyes and drops to ground in a prone,head-on position.		
	b. Keeps head and face down and helmet on.		
	c. Remains down until all debris stops falling.		
	d. Checks for casualties and damage.		
2.	Reacts to a nuclear attack with warning.	P	F
	a. Identifies the best shelter.		
	(1) Foxholes		
	(2) Inside shelters		
	b. Keeps clothing loosely fitted with headgear on at all times.		
	c. Protects eyes and minimizes exposed skin areas.		
3.	Recognizes radiological markers and reports finding to supervisor.	P	F
	a. Recognizes standard marker.		
	b. Recognizes Warsaw Pact marker.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCES

FM 3-3
FM 3-4
FM 3-100

★ ★ ★ ★ ★

USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT

031-503-1014

CONDITIONS

Given an area where liquid chemical agents have been used. You observe a liquid that might be a chemical agent. You are in Mission-Oriented Protective Posture (MOPP) level 4. You have a booklet of M8 detector paper in your mask carrier.

STANDARDS

1. Do not contaminate your gloves.

2. If the result of the test is positive, the type of agent is identified.

3. Immediately report the result of the test and identified agent to your supervisor.

TRAINING AND EVALUATION

Training Information Outline

Note: M8 paper (Figure 284) will only detect liquid agents. It will not detect gas or vapor.

1. Locate liquid contamination such as puddles, small drops, or barely visible droplets.

2. Remove the M8 paper from your mask carrier.

3. If the M8 paper is in its protective bag, tear open one end of the bag and remove the M8 paper.

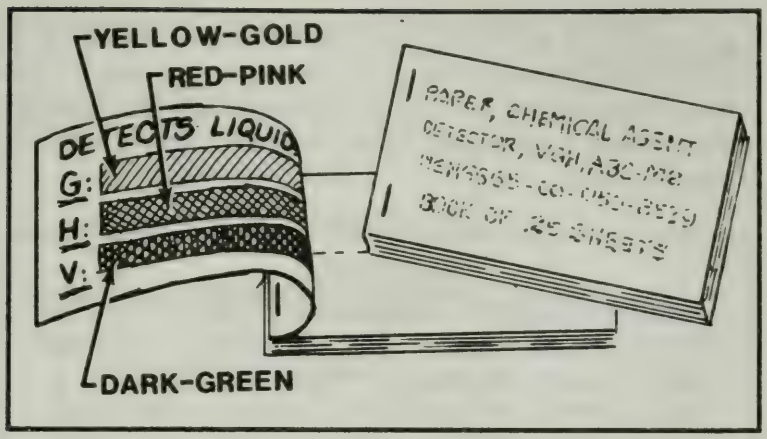


Figure 284. M8 paper.

4. Tear out a sheet of paper from the book (one half of a sheet if the paper is perforated).

5. Blot (do NOT rub) the M8 paper on the suspected liquid agent. Be careful not to touch the liquid with your gloved hand. You may want to put the paper on the end of a stick or another object then blot the paper on the suspected liquid agent.

6. Observe the paper for a color change.

7. If there is a color change, compare the color on the paper to the color chart on the inside front cover of the booklet.

a. A yellow-gold color indicates the presence of G (nerve) agent.

b. A red-pink color indicates the presence of H (blister) agent.

c. A dark green color indicates the presence of V (nerve) agent.

d. If any other color is present or if there is no color change, the liquid cannot be identified using the M8 detector paper.

WARNING

SOME DECONTAMINANTS GIVE FALSE POSITIVE TESTS ON THE M8 PAPER. THE M8 PAPER MAY INDICATE POSITIVE RESULTS IF USED IN AN AREA WHERE DECONTAMINANTS HAVE BEEN USED.

8. Close the booklet of the M8 detector paper and put it away.

9. Keep your protective clothing and protective mask on, even if the liquid cannot be identified.

10 Report the results of the test to your supervisor.

Evaluation Preparation

Setup: Simulate a chemical agent by using expedient training aids (for example, diesel fuel, ammonia, household cleaner, insect repellent, antifreeze or the M72A2 Chemical Agent Identification Surveillant Training Set [SCAITS]). Use a nonporous material (such as an entrenching tool) and contaminate it with simulant. As a minimum, the soldier should wear a protective mask and gloves when performing this task.

Brief Soldier: Tell the soldier to use M8 detector paper to test for a suspected liquid chemical agent. The soldier touches the detector paper to the simulated suspected contamination. Tell the soldier to identify the possible chemical agent.

Evaluation Guide: 031-503-1014

USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT

	Performance Measures	*Results*	
1.	Blots (does NOT rub) the liquid with the M8 detector paper without contaminating the gloves.	P	F
2.	Reports results of test based upon color change (or lack of color change) to the supervisor. If the color matches the chart on the inside front cover of the booklet, the type agent is given.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

TM 3-6665-307-10

★ ★ ★ ★ ★

USE M9 DETECTOR PAPER TO DETECT CHEMICAL AGENT

031-503-1020

CONDITIONS

Given an area where liquid chemical agents may have been used. You observe a liquid that might be a chemical agent. You are in Mission-Oriented Protective Posture (MOPP) level 4. You have been given a serviceable dispenser of M9 detector paper prepared for use.

STANDARDS

1. Apply strips of M9 detector paper to your MOPP gear.

2. Detect the presence of liquid chemical agents by color change on M9 paper (if any).

3. Report any color changes to your supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. Attach M9 paper to individual MOPP gear (Figure 285).

Note: *M9 detector paper will NOT detect chemical agent vapors.*

Note: *Place the M9 detector paper to opposite sides of the body. If you are right handed, place a strip of M9*

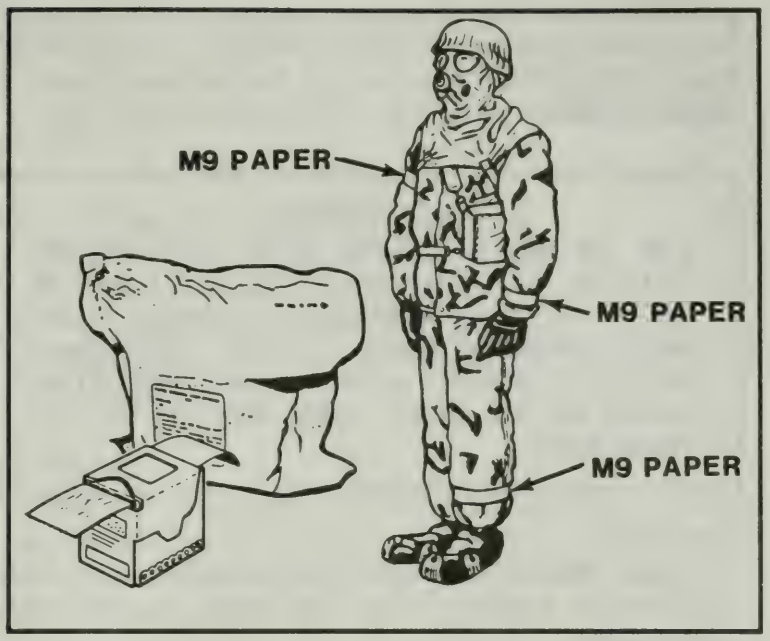


Figure 285. Attached M9 paper.

paper around your right upper arm, left wrist, and around your right ankle. If you are left handed, place the M9 paper around your left upper arm, right wrist, and around your left ankle.

2. Notify your supervisor if any color change appears on the detector paper.

Evaluation Preparation

Setup: Ensure that soldier does not apply M9 detector paper to hot, dirty, oily, or greasy surfaces. Simulate an unknown liquid chemical agent by using expedient

training aids (for example, brake fluid, cleaning compound, gasoline, insect repellent, or antifreeze). Place drops of the simulant on the detector paper to obtain a reading.

WARNING

THE DETECTOR PAPER DYE MAY CAUSE CANCER, BUT BECAUSE VERY LITTLE DYE IS USED, THE RISK IS SMALL. ALWAYS WEAR PROTECTIVE GLOVES WHEN TOUCHING DETECTOR PAPER. DO NOT PLACE DETECTOR PAPER IN OR NEAR YOUR MOUTH OR ON YOUR SKIN.

CAUTION

ENSURE SIMULANT IS PLACED ONLY ON THE DETECTOR PAPER, NOT ON THE PROTECTIVE CLOTHING.

Brief Soldier: Tell the soldier that if you observe any unsafe acts or acts that could produce a false reading, you will stop the test and the soldier will be scored NO-GO. Tell him that he will be entering an area where chemical agents have been used. Attach M9 detector paper to your MOPP gear.

Evaluation Guide: 031-503-1020

USE M9 DETECTOR PAPER TO DETECT CHEMICAL AGENT

	Performance Measures	*Results*	
1.	Attaches M9 paper to MOPP gear on upper arm, opposite wrist, and around ankle.	P	F
2.	Notifies supervisor if any color changes appear on detector paper.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

TM 3-6665-311-10

★ ★ ★ ★ ★

EXCHANGE MOPP GEAR

031-503-1023

CONDITIONS

You are in Mission-Oriented Protective Posture (MOPP) level 4 with load carrying equipment (LCE). Your MOPP gear is contaminated. Your buddy is in MOPP 4 with LCE and is available to assist per your instructions. You have an uncontaminated set of chemical MOPP gear for yourself and your buddy.

1. For chemical or biological decontamination:

   a. One M258A1 personal decontanimation kit per person.

   b. One 50-lb drum of super tropical bleach (STB) dry mix.

   c. Piece of plastic, poncho, or similar material.

2. For radiological decontamination:

   a. Five gallons water. If water is not available for radiological decontamination, brush, wipe, or shake off contamination.

   b. Three pails (3-gallon capacity).

   c. One can government issue (GI) soap or liquid detergent.

   d. Two sponges.

   e. Paper towels.

   f. Piece of plastic, poncho, or similar material.

STANDARDS

1. Decontaminate individual gear and equipment without spreading contamination onto your skin or undergarments. Set gear aside on uncontaminated surface.

2. Change overgarments, overboots, and gloves without spreading contamination to the uncontaminated set of chemical MOPP gear.

3. Change MOPP gear without either yourself or your buddy becoming a casualty.

TRAINING AND EVALUATION

Training Information Outline

Note: *MOPP gear exchange begins when a company* supply vehicle unloads replacement overgarments, decontaminants, *and equipment.*

1. Step 1. Decontaminate your gear.

Note: *If at any time during the technique you suspect you have spread contamination onto your skin or undergarments, decontaminate immediately with the M258A1 personal decontamination kit; then proceed with the MOPP gear exchange.*

a. For chemical and biological contamination: If the personnel armor system ground troops (PASGT) helmet is used, then remove and discard the chemical protective helmet cover. Cover your gear with STB dry mix and brush or rub it into the material. Gently shake off the excess. The soldier and buddy should set their gear aside on an uncontaminated surface (plastic, poncho, or similar material).

b. For radiological contamination: Brush, wipe, or shake off the dust or radiological contamination from your individual gear. Wash the equipment with warm, soapy water, if available. Set the equipment aside to dry on an uncontaminated surface (plastic, poncho, or similar material).

Note: *Do not reverse roles until steps 2-7 are completed.*

2. Step 2. Decontaminate the hood.

a. Decontaminate the hood (Figure 286): The buddy loosens the soldier's draw cord and removes the under-arm straps from under the soldier's arms. The buddy moves the straps over the shoulders and reattaches to the velcro patches on the bottom of the hood.

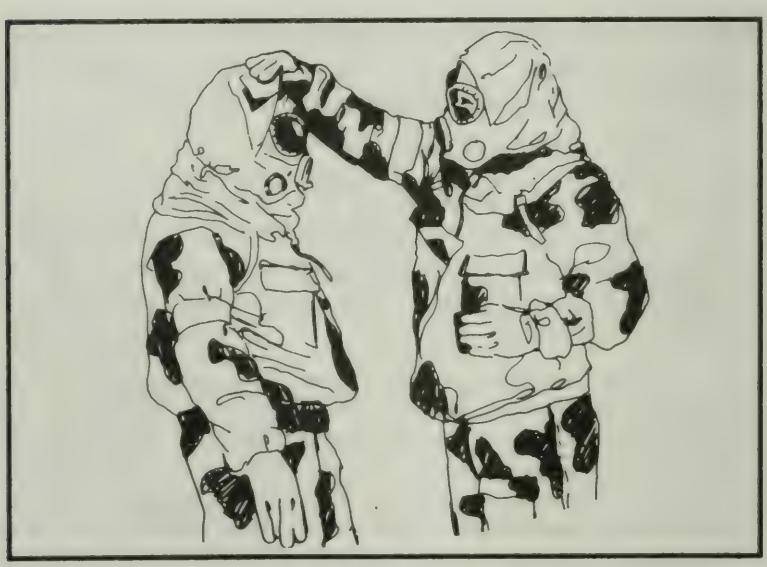


Figure 286. Decontaminating the hood.

(1) For chemical or biological contamination: The buddy uses the M258A1 personal decontamination kit to decontaminate the hood and exposed parts of the soldier's mask (including the canister and hose on M24, M25-series, or M40-series masks). Start with the mask eyelens outserts first, then wipe from the top of the hood down. Use the decontaminating 2 wipe first, then the decontaminating 1 wipe (reverse of the usual order). This prevents residue from the decontaminating 2 wipe being left on the lenses. This will not affect the efficiency of the decontamination, but will keep the eyelens outserts from clouding. When the buddy is finished wiping the soldier's mask, the buddy decontaminates his or her own gloves with the personal decontamination kit.

(2) For radiological contamination: The buddy dips the sponge in hot, soapy water and wipes the soldier's mask and hood (and the canister and hose of the M24, M25-series, or M40-series masks). The buddy then rinses with a sponge dipped in clean water and dries with paper towels or rags. Then the buddy wipes down his or her gloves. Cool, soapy water is not as effective for removing contamination, but can be used if you scrub longer. If no water is available, the M258A1 personal decontamination kit may be used (as for chemical or biological decontamination).

b. Roll the hood: The buddy rolls the soldier's hood (Figure 287). Leave the zipper closed and lift the hood straight up off the soldier's shoulders by grasping the straps. Pull the hood over the soldier's head until most of the back of the head is exposed. Do not pull the hood completely over the soldier's face. Then roll the hood, starting at the chin and working around the mask. Roll it tightly, but do not pull it completely off the back of the soldier's head. The soldier may place his hand over the voicemitter to prevent the mask seal from being broken.



Figure 287. Rolling the hood.

Note: *Do not reverse roles: Go on to the next step. Only one soldier will have the hood decontaminated and rolled at this time.*

3. Step 3. Remove the overgarment.

a. Remove the jacket: The buddy unties the cord and unfastens the snaps on the front of the soldier's jacket, unzips the jacket, and unsnaps the snaps in the back of jacket from the overgarment trousers. The buddy pulls the soldier's jacket off, one arm at a time, turning the jacket inside out (Figure 288). The soldier should make a fist as each sleeve is pulled off to prevent the gloves from coming off. The buddy places the jacket on the ground, black side up, nearby (Figure 289). The soldier will use it later as an uncontaminated surface to stand on while redressing.

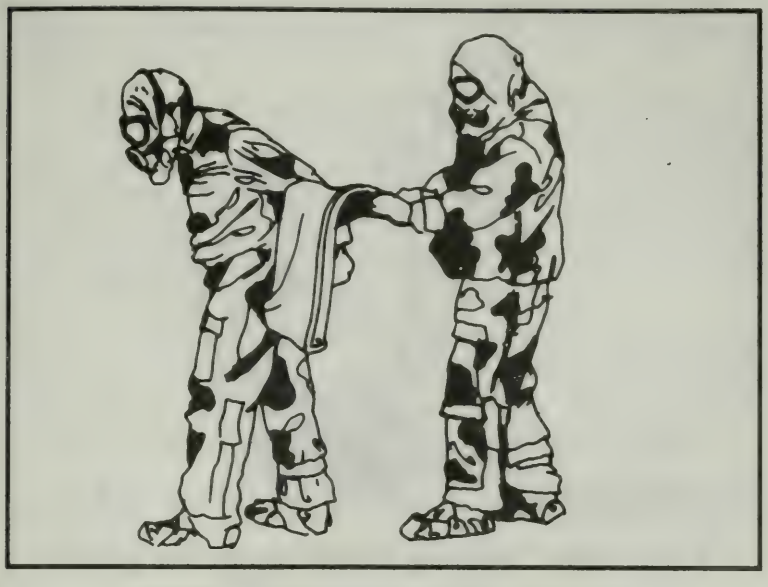


Figure 288. Removing the jacket.

Note: *Remove the M9 paper from the overgarment prior to removing the overgarment.*

b. Remove the trousers: The buddy removes the soldier's trousers by first opening the trouser cuffs, then the waist snap, zipper, and, if necessary, the waist tabs. The buddy grasps the trousers by the cuff, while the soldier pulls one leg at a time from the trousers (Figure 290). The buddy places the trousers out of the way.

4. Step 4. Remove the overboots and the gloves.

a. Remove the overboots: The soldier stands next to his jacket. The buddy unties or cuts the strings of the soldier's overboots. The buddy pulls them off one leg at



Figure 289. Placing the jacket on the ground.



Figure 290. Removing the trousers.

a time. As the overboots are removed, the soldier steps onto his jacket (Figure 291).

b. Remove the green vinyl overboot (GVO). The soldier stands next to his jacket. The buddy unfastens or cuts the elastic closures of the soldier's GVOs. Using either foot, step on the heel of the opposite foot and work the foot free enough so that the buddy can pull the GVO off one leg leg at a time. As the GVOs are removed, the soldier steps onto his jacket.

Note: *If the GVO is extremely tight in the foot, you may use your hands to assist in the removal. Care should be taken not to puncture the gloves. Decontaminate the gloves immediately afterwards.*

c. Remove the rubber gloves: The soldier removes his or her rubber gloves. The buddy assists so that the

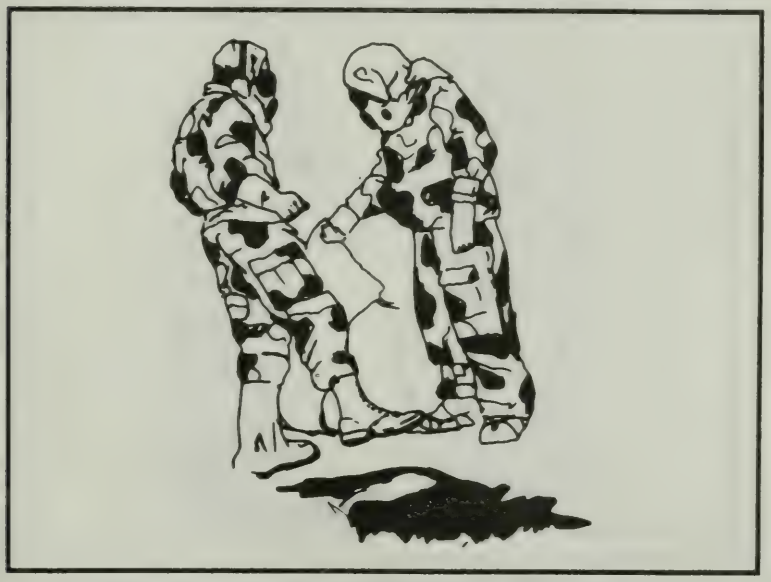


Figure 291. Removing the overboots.

soldier does not touch the outside of the rubber gloves with bare hands (Figure 292).

5. Step 5. Put on the overgarment. The buddy opens a package containing a new overgarment but does not touch the garment itself. The soldier reaches into the package and pulls out the overgarment one piece at a time without touching the outside of the package (Figure 293). The soldier now puts on the new overgarment, leaving the trouser cuffs open (Figures 294-296).

6. Step 6. Put on the overboots and the gloves.

a. Put on overboots: The buddy picks up a new package of overboots and opens it without touching the

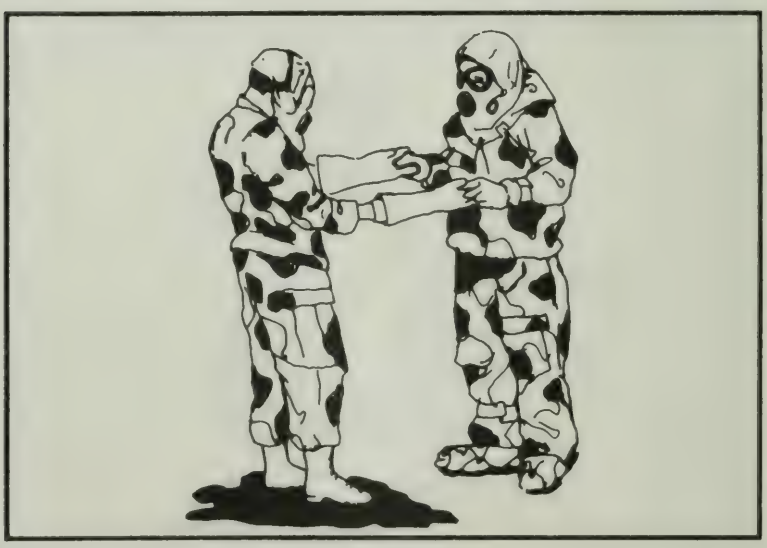


Figure 292. Removing the rubber gloves.

overboots inside. The soldier reaches into the package (Figure 297) removes the overboots, and puts them on (Figure 298).

b. Put on GVOs. The buddy picks up a new package of GVOs and opens it without touching the GVOs inside. The soldier reaches into the package removing the GVOs and puts them on. GVO donning procedures are very basic; donning is done just like a regular wet weather boot.

c. Put on the gloves: The buddy picks up a package of new chemical protective gloves and opens it without touching the gloves inside.

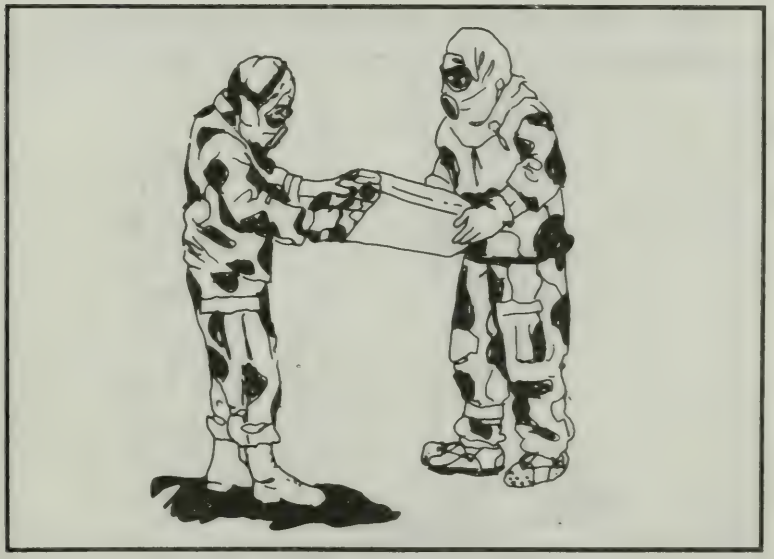


Figure 293. Unpacking the overgarment.



Figure 294. Replacing the trousers.



Figure 295. Replacing the jacket.



Figure 296. Securing the snaps and draw cord.

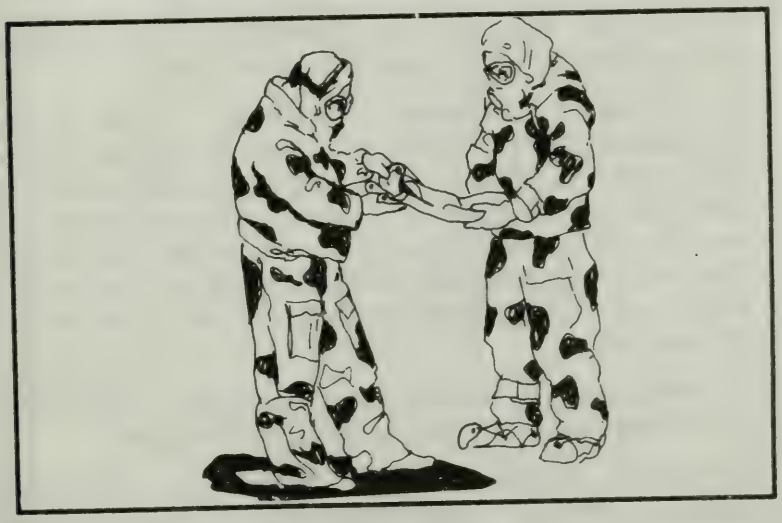


Figure 297. Unpacking the overboot.

331-758 O - 92 - 18 QL 3



Figure 298. Replacing the overboot.

The soldier removes the gloves from the package (Figure 299) and puts them on (Figure 300).

7. Step 7. Secure the hood. The buddy decontaminates his chemical protective gloves (Figure 301) with an M258A1 personal decontamination kit. Once the rubber gloves are decontaminated, the buddy unrolls the soldier's hood and reattaches the straps. The soldier then checks all the zippers and ties on his hood and overgarment to ensure they are closed (Figure 302).

8. Reverse roles. Repeat steps 2 through 7. This time the soldier assists the buddy through the steps.

9. Step 8. Secure your gear. Secure your individual gear. If a PASGT helmet is used, place new chemical protective helmet cover on helmet. Put your individual



Figure 299. Unpacking the gloves.



Figure 300. Replacing the gloves.

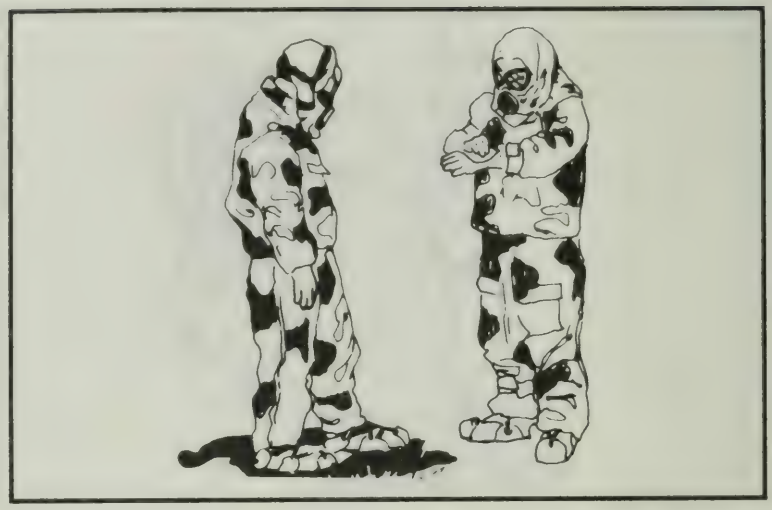


Figure 301. Decontaminating the gloves.

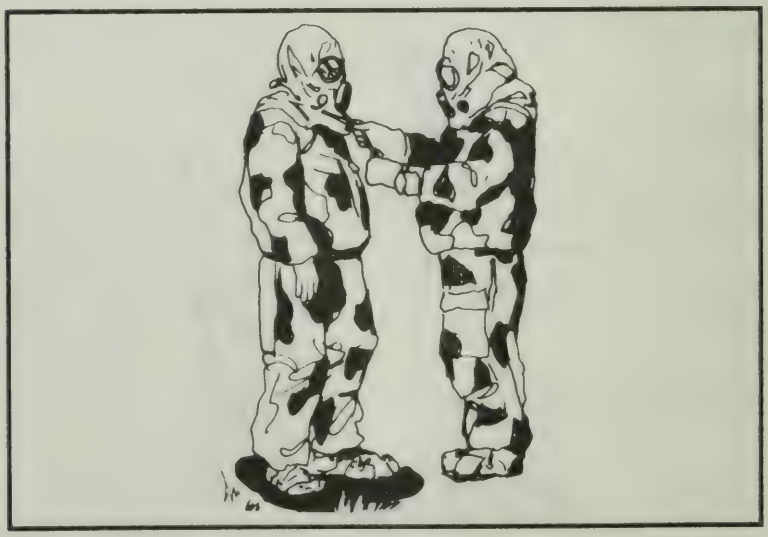


Figure 302. Securing the hood.

gear back on and move to the assembly area. Use the buddy system to check fit of secured gear.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or a normal training session. Soldiers must be in MOPP 4.

Note: *The M58A1 training aid will be used in all training and/or evaluation situations. The M258A1 decontamination kit will only be used in actual decontamination in combat.*

Brief Soldier: Tell the two soldiers they will be evaluated individually on their ability to perform MOPP gear exchange without spreading contamination to the uncontaminated MOPP gear or becoming a casualty. The equipment necessary to perform this task is present. Identify the soldiers as soldier and buddy.

Evaluation Guide: 031-503-1023

EXCHANGE MOPP GEAR

	Performance Measures	*Results*	
1.	Decontaminates gear. Both soldiers perform individually.	P	F
2.	Decontaminates hood. Buddy assists soldier.	P	F
3.	Removes overgarment. Buddy assists soldier.	P	F
4.	Removes overboots and gloves. Buddy assists soldier.	P	F
5.	Puts on overgarment. Buddy assists soldier individually.	P	F

6.	Puts on overboots and gloves. Buddy assists soldier.	P	F
7.	Secures hood. Buddy assists soldier.	P	F
8.	Reverse roles. The soldier assists the buddy in steps 2 through 7.		
9.	Secures gear. Both soldiers perform.	P	F
10.	Completes steps 1 through 8 in sequence.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

FM 3-5

★ ★ ★ ★ ★

REPLACE CANISTER ON YOUR M40-SERIES PROTECTIVE MASK

031-503-1024

CONDITIONS

Given an M40 or M42 protective mask with a defective filter canister and a replacement canister.

STANDARDS

Remove the defective canister and install a new canister on the M40 or M42 protective mask so that the mask will be operational and no damage is done to the mask.

TRAINING AND EVALUATION

Training Information Outline

1. M40 mask.

a. Remove the canister by unscrewing it counterclockwise from the facepiece.

b. Check the connectors of the new canister, the mating surfaces of the facepiece, and the areas between these surfaces for dirt or other debris which would allow contaminated air into your facepiece.

WARNING

BE SURE TO CHECK THE EXPIRATION DATE ON YOUR NEW CANISTER BEFORE INSTALLING IT. AN EXPIRED CANISTER WILL NOT FILTER TOXIC AGENTS.

c. Insert the new canister into the side port of the facepiece.

d. Tighten the canister by screwing it clockwise. The canister will be hand-tight only.

2. M42 mask.

a. Remove the canister carrier cover by pressing in and rotating it counterclockwise.

b. Remove the canister by unscrewing it counterclockwise from the hose and removing it from the canister carrier.

c. Check the connectors of the new canister, the mating surfaces of the facepiece, and the areas between these surfaces for dirt or other debris which would allow contaminated air into your facepiece.

WARNING

BE SURE TO CHECK THE EXPIRATION DATE ON YOUR NEW CANISTER BEFORE INSTALLING IT. AN EXPIRED CANISTER WILL NOT FILTER TOXIC AGENTS.

d. Insert the canister into the canister carrier.

WARNING

MAKE SURE THE GASKET IS PRESENT IN THE CANISTER CONNECTION BEFORE CONNECTING THE CANISTER TO THE HOSE. A MISSING GASKET WILL AFFECT THE SEAL AND WILL ALLOW THE WEARER TO INHALE CONTAMINATED AIR.

e. Position the hose on the canister. Tighten the canister by screwing it clockwise into the hose while holding the hose securely.

f. Position the canister carrier cover on the canister carrier and press in on the canister carrier cover while rotating it clockwise.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or during normal maintenance of the mask. Place all of the necessary equipment on a field table or suitable substitute. During training and evaluation sessions an old canister can be used several times by different soldiers to avoid expending new canisters each time.

Brief Soldier: Tell the soldier to replace the canister on an M40 or M42 protective mask and return the mask to you.

Evaluation Guide: 031-503-1024

REPLACE CANISTER ON YOUR M40-SERIES PROTECTIVE MASK

	Performance Measures for the M40 Mask	*Results*	
1.	Removes canister by unscrewing counterclockwise.	P	F
2.	Checks connectors of canister and mating surfaces of the facepiece to ensure that there is no dirt or other foreign debris.	P	F
3.	Screws canister into the side port of the mask.	P	F
4.	Tightens the canister hand-tight.	P	F

	Performance Measures for the M42 Mask	*Results*	
1.	Removes canister carrier cover.	P	F
2.	Removes canister by unscrewing counterclockwise from hose and removing from canister carrier.	P	F

3.	Checks connectors of canister, mating surfaces of the facepiece, and areas between these surfaces for dirt or other foreign material.	P	F
4.	Inserts canister into canister carrier.	P	F
5.	Positions hose and tightens the canister hand-tight.	P	F
6.	Replaces canister carrier cover.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCES

TM 3-4240-300-10-1
TM 3-4240-300-10-2

★ ★ ★ ★ ★

PUT ON, WEAR, REMOVE, AND STORE YOUR M40 PROTECTIVE MASK WITH HOOD

031-503-1025

CONDITIONS

Given a protective mask with hood and any of the following situations:

1. You hear or see a chemical or biological alarm that indicates the presence of an agent.

2. You realize otherwise that you are under a chemical or biological attack.

3. You are ordered to mask.

4. After masking, you are given the "All clear" order.

STANDARDS

Put on, clear, and check mask within nine seconds. Pull hood over head and zip the front closed to cover all bare skin. Do this within an additional six seconds. Remove and store your mask after the "All clear" order is issued.

TRAINING AND EVALUATION

Training Information Outline

1. Put on, clear, and check your mask within nine seconds.

   a. Stop breathing and close your eyes.

b. Remove your helmet and put it between your legs (above the knees), or hold your rifle between your legs and place the helmet on the flash suppressor.

WARNING
DO NOT WEAR CONTACT LENSES WITH THE PROTECTIVE MASK.

c. Take off your glasses if you are wearing them.

d. Open the carrier with your left hand and hold it open.

e. With your right hand grasp the mask and remove it from the carrier.

f. Put your chin in the chin pocket.

g. Cover the openings at the bottom of the outlet valve with the palm of your hand. Breathe out hard so that air escapes around the edges of the mask.

h. With the palm of your hand, cover the inlet port of the canister and breathe in (Figure 303). The facepiece should collapse against your face and remain so while you hold your breath. If it does, the facepiece is airtight. If the facepiece does not collapse, check for hair, clothing, or other matter between the facepiece and your face.

i. Grasp the tab and pull head harness over your head. Be sure your ears are between the temple straps and the cheek straps.

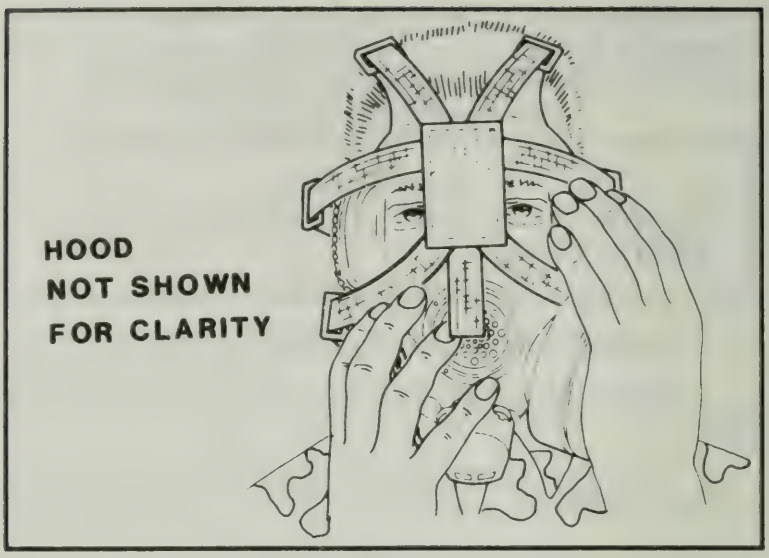


Figure 303. Clear and check the mask.

j. While holding the facepiece to your face with one hand, maintain the seal. Using your other hand, tighten the cheek straps one at a time (Figure 304A).

k. Be sure the headpad is centered at the high point on the back of your head (Figure 304B).

l. The straps should lie flat against your head.

m. Clear your facepiece again and recheck it for leaks.

n. Resume breathing.

CAUTION

BE VERY CAREFUL WHEN PULLING ON THE HOOD. THE HOOD COULD SNAG ON THE BUCKLES OF THE HEAD HARNESS AND TEAR.



Figure 304A. Tighten cheek straps.

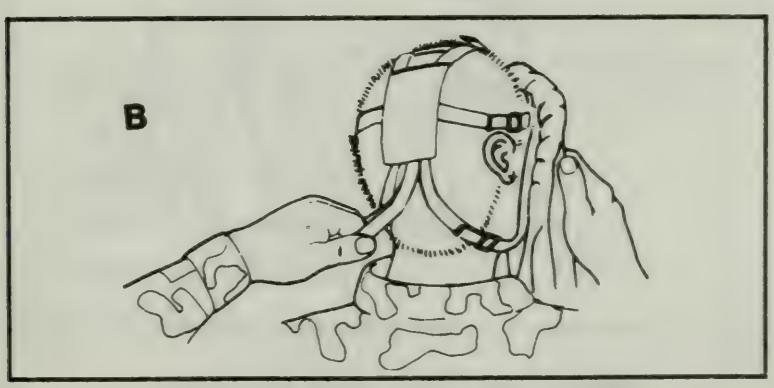


Figure 304B. Center headpad.

o. Grasp the back of the hood skirt (Figure 305) and carefully pull your hood over your head so that it covers the back of the neck, the head, and the shoulders.

p. Pull the zipper slider downward and zip the front closed (Figure 306A).

q. Tighten the draw cord (Figure 306B).

r. Fasten and adjust the underarm straps (Figure 306C).

s. Put on your helmet, close your mask carrier, and continue the mission.



Figure 305. Pull hood over head.

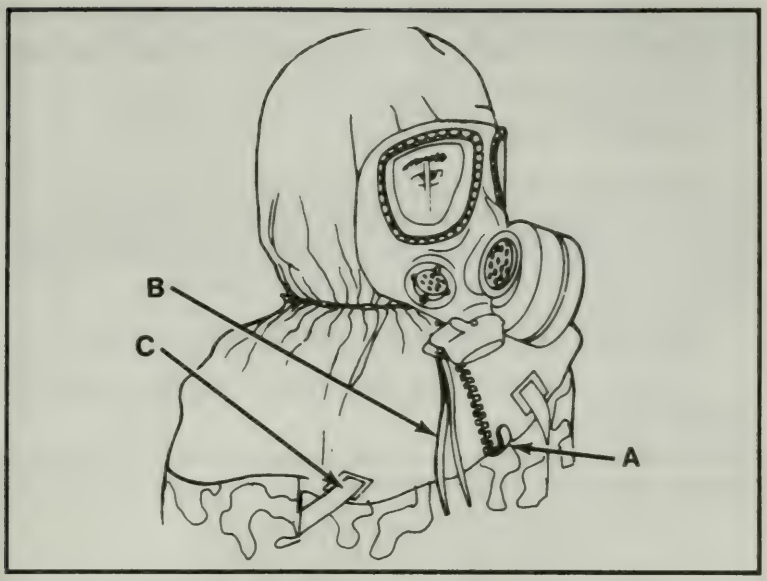


Figure 306. Completely fastened mask.

2. Remove and store your protective mask with hood after the "All clear" order is given. This procedure is not timed.

a. Remove your helmet.

b. Unfasten the underarm straps.

c. Loosen the draw cord.

d. Unzip the zipper on the hood.

e. Place both hands on the back edge of the hood skirt, raise the hood over your head, and pull it over the front of the mask (Figure 307).

f. Loosen the cheek straps.

g. Place one hand on the front of the voicemitter to hold your facepiece to your face. With your other hand grasp the head harness tab, pull the head harness over the front of the mask, and remove the mask.

h. Replace your helmet on your head.

i. Shake and wipe any moisture from the hood and the facepiece.



Figure 307. Pull hood over facepiece.

j. Hold the front of the mask in a horizontal position and smooth the hood over it.

k. Position the head harness over the front of the mask, if necessary.

l. Fold the two edges of the hood over the outlet valve to create a V in the front of the hood. Store the underarm straps and the cord in the V.

m. Fold the V upward to cover the eye lenses. Do not let the hood cover the chin opening (Figure 308).

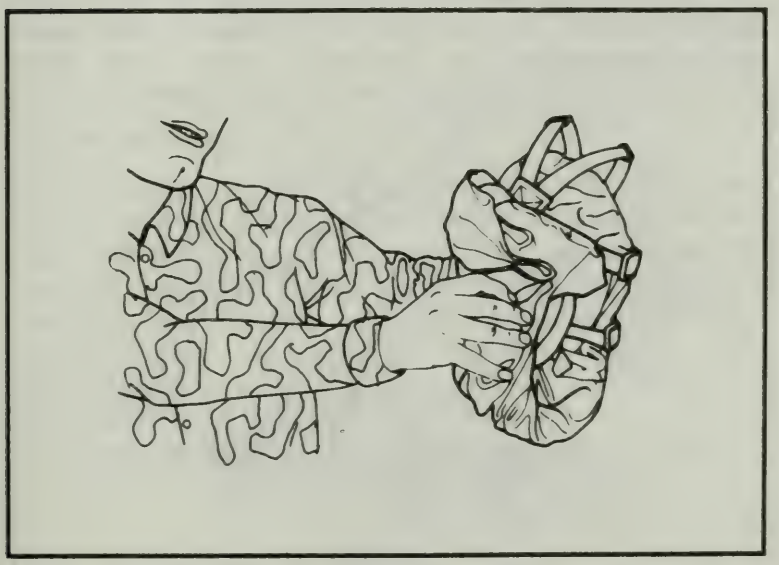


Figure 308. Folding hood.

n. Hold the facepiece upright and put it in the carrier with the lenses facing away from your body (Figure 309).

o. Close the carrier opening.

p. Store the facepiece in the closed carrier in a cool, dry, dark place.

q. It is preferable to hang the carrier (Figure 310A) by the hook (Figure 310B) on the short strap.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or a normal training session. For testing purposes the soldier should be standing and wearing the mask carrier containing the protective mask with hood



Figure 309. Put mask in carrier.

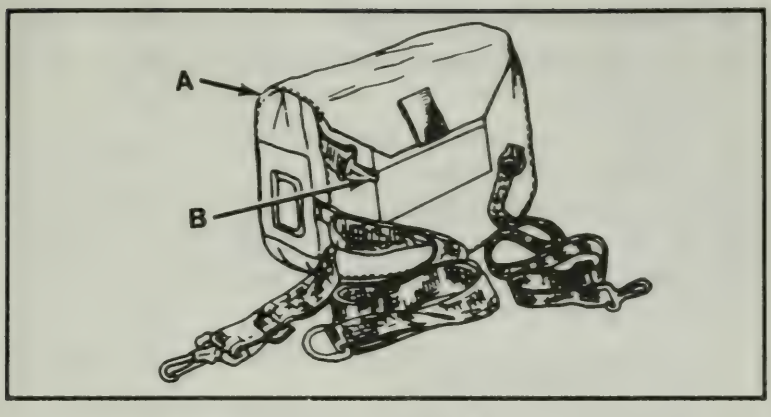


Figure 310. Mask carrier.

attached. The mask has been previously fitted to the individual's face.

Brief Soldier: Tell the soldier to put on, clear, and check the mask within nine seconds; and pull the hood over the head, zip, and close it within an additional six seconds. Tell the soldier to begin masking when you say "Gas" and to keep the mask on until the "All clear" order is given.

Evaluation Guide: 031-503-1025

PUT ON, WEAR, REMOVE, AND STORE YOUR M40 PROTECTIVE MASK WITH HOOD

Performance Measures	*Results*	
1. Stops breathing and removes headgear.	P	F
2. Opens carrier and removes mask.	P	F

3.	Places chin in chin pocket.	P	F
4.	Covers outlet valve and breathes out to clear mask.	P	F
5.	Covers inlet port on canister and inhales to check seal.	P	F
6.	Grasps head harness tab and pulls head harness over head while holding facepiece to face with other hand.	P	F
7.	Adjusts cheek straps while holding facepiece to face.	P	F
8.	Ensures center pad of head harness is in center of head.	P	F
9.	Ensures straps lie flat on face and ears are between temple straps and cheek straps.	P	F
10.	Clears facepiece again to recheck for leaks.	P	F
11.	Resumes breathing.	P	F
12.	Grasps hood skirt and pulls hood over head and down on shoulders and zips hood.	P	F
13.	Completes steps 1 through 11 in nine seconds.	P	F
14.	Completes steps 1 through 12 in a total of 15 seconds.	P	F
15.	Pulls draw cord tight and fastens underarm straps.	P	F
16.	Replaces headgear and closes mask carrier.	P	F
17.	Removes mask after "All clear" order is given.	P	F

18. Stores the mask inside the carrier with the eye lenses up and facing away from the body.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-300-10-1

★ ★ ★ ★ ★

MAINTAIN YOUR M40 PROTECTIVE MASK WITH HOOD

031-503-1026

CONDITIONS

Given an M40 protective mask (with authorized accessories and components) that requires cleaning; a container of warm, soapy water; a container of clear water; clean rags; a small brush; optical lens cleaning compound (NSN 6850-00-592-3283); and TM 3-4240-300- 0-1.

STANDARDS

1. Identify and correct all operator-level deficiencies or shortcomings in accordance with (IAW) TM 3-4240-300-10-1.

2. Clean and condition the mask IAW TM 3-4240-300-10-1.

3. Report deficiencies or shortcomings not corrected to the supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. Empty the carrier to ensure all issued items are present. For additional authorized items, refer to TM 3-4240-300-10-1.

2. Check the filter canister.

a. Check it against the replacement criteria in paragraph 2-6 of TM 3-4240-300-10-1.

b. Check for cracks, dents, or holes, especially around the seams. Ensure the air intake is not clogged with dirt.

c. Check for damaged threads on the canister.

d. Shake the canister to check for sounds and signs of loose absorbent particles.

3. Check the eye lenses, the eye-rings, and the outserts.

a. Remove the outserts from the facepiece.

b. Check the eye lenses for cracks, cuts, scratches, or discoloration that affect your vision.

c. Check the eye-rings for distortion or corrosion.

d. Check both sets of outsert lenses for cracks, chips, or discoloration that affect your vision. Check the rubber rings for tears, looseness, brittle spots, soft or sticky spots, or cracked rims.

4. Check the hood.

Note: *Remove the hood to allow for inspection.*

a. Examine it for cuts, holes, or tears; sticky or gummy areas; and peeled or worn coating.

Note: *Needle holes at the seams are acceptable.*

b. Check for missing, frayed, or torn straps, cord, or hardware; torn, broken, or inoperative zipper; and loose stitching on hook-and-pile fasteners or dirt in them.

5. Checks the facepiece.

a. Visually inspect the inside surfaces of the facepiece for dirt, mud, and greasy or oily substances.

b. Check the facepiece for holes, tears, and splits. Look closely at the edge of the facepiece; check for soft or sticky spots.

c. Check all facepiece housings to be sure the silicone rubber is not pulling away, especially around the eye lenses.

6. Check the head harness.

a. Check for dirt. Check the straps for cuts, tears, missing parts, or deterioration such as mildewing or fraying.

b. Check for missing, broken, bent, cracked, or corroded buckles. Pull on the head harness straps and make sure the buckles hold the straps tightly.

c. Make sure the finish on the buckles is not chipped or scratched, exposing bare metal.

d. Put on the facepiece and check the head harness for loss of elasticity.

7. Check the outlet valve and the outlet valve disk.

a. Grasp the tab at the bottom of the outlet valve cover and carefully lift the bottom portion. Check to see if the disk is present and not curled or distorted. Rotate the disk to ensure it does not stick.

b. Look at the outlet valve disk for any nicks, cuts, tears, or rips. Wipe off any moisture from the disk with a clean, lint-free cloth. Smooth the disk so it lies flat on the outlet valve seat.

c. Check the outlet valve seat for dirt.

d. Check the outlet valve cover for cuts, tears, or holes. Look at the inside of the cover for dirt or moisture. Clean with a soft, clean, dry cloth.

8. Check the internal and external drinking tubes.

a. Ensure that the tubes are present. Look for cracks or cuts in the tubes.

b. Check the internal drinking tube for proper alignment.

c. Check the external drinking tube for solid connections.

d. Ensure that neither tube is clogged by connecting the M1 canteen cap and blowing air through the system.

e. Ensure that the drinking system does not leak.

9. Check the airflow deflector.

a. Ensure that the airflow deflector is securely mounted inside the facepiece and that both flanges on the deflector are in the mounting holes of the facepiece and are not broken.

b. Check the mounting holes for cuts or tears.

10. Check the inlet valve.

a. Ensure that the inlet valve disk and the valve body are present and properly mounted on the post of the airflow deflector.

b. Blow on the inlet valve disk to make sure it is not stuck to the valve body.

c. Check the inlet valve disk for cuts, holes, tears, and dirt.

11. Check the nosecup assembly.

a. Check the nosecup and the nosecup valve seats for dirt, cracks, cuts, or holes.

b. Ensure that the nosecup is secured to the back of the front voicemitter housing by gently pulling it.

c. Ensure that the nosecup valve disks are present, are not curled or torn, and are seated on the inside of the nosecup. Rotate the disks to ensure they are not stuck.

12. Check the voicemitters.

a. Check the retaining rings on the front voicemitter and the side voicemitter for corrosion, cracks, or nicks. Ensure the retaining rings are hand-tight.

b. Check the front voicemitter and the side voicemitter for dents cracks, or punctures. Ensure the four beads in the center of each voicemitter face outward.

13. Check the carrier.

a. Check for dirt, sharp edges, torn straps, or missing hardware. Make sure there are no pencil or pen markings on the carrier.

b. Check for mildew, solvents, or abrasive materials that may harm the facepiece. Check the seams for broken stitches.

c. Check the hook-and-pile fasteners for dirt.

14. Clean your mask and carrier.

Note: *When you clean your mask, use only potable water. You will need to use soft cloths; a soft-bristle brush (like a small paintbrush); warm, soapy water; and warm, clear rinse water.*

a. Remove the canister, the outserts, and the hood. Set the canister aside, away from cleaning operations.

b. Remove the outlet valve cover.

c. If necessary, remove greasy or oily substances from your facepiece with alcohol and a clean cloth.

CAUTION
DO NOT DUNK THE MASK OR THE CARRIER IN WATER. DO NOT ALLOW THE CANISTER TO BECOME WET. A WET CANISTER IS USELESS.

Note: *To clean and polish the eye lenses and both sets of outserts use optical lens cleaning compound (NSN 6850-00-592-3283) if available, or use warm, soapy water.*

d. Dip a clean, soft cloth into warm, soapy water and wring it out well. Wipe the facepiece, the hood, and the outserts inside and out. A soft brush may also be used.

e. Rinse the cloth in clean, warm water and wring it out. Wipe all washed parts.

f. Dry everything with a dry, clean, soft cloth or allow it to air dry.

CAUTION
ENSURE ALL COMPONENTS ARE ENTIRELY DRY BEFORE REASSEMBLING MASK AND STORING.

g. Replace the outlet valve cover, the canister, the hood, and the outserts.

h. Remove the contents from the carrier.

i. Shake the carrier upside down to remove dirt and foreign matter.

j. Soak the brush in cold water, and shake it to remove excess water.

k. Clean the carrier with the brush.

CAUTION
DO NOT SOAK THE CARRIER, AND DO NOT USE HOT WATER, BLEACH, OR DETERGENT TO CLEAN IT. THESE WILL REDUCE RESISTANCE OF THE CARRIER TO WATER AND MILDEW.

CAUTION
ENSURE CARRIER IS ENTIRELY DRY BEFORE STORING COMPONENTS.

Evaluation Preparation

Setup: A good time to evaluate this task is during normal care and cleaning of the mask. Place all of the necessary equipment on a field table or another suitable surface. Simulate defects in the mask by removing components or using a defective mask not issued to a soldier.

Brief Soldier: Tell the soldier to perform operator Preventive Maintenance Checks and Services (PMCS), clean and condition the mask, and report any deficiencies and shortcomings not correctable at operator level to the supervisor.

Evaluation Guide: 031-503-1026

MAINTAIN YOUR M40 PROTECTIVE MASK WITH HOOD

	Performance Measures	*Results*	
1.	Disassembles mask.	P	F
2.	Performs operator PMCS, correcting all deficiencies or shortcomings correctable at operator level.	P	F
	a. Checks canister for cracks, dents, or holes. Checks air intake to ensure it is not clogged with dirt or debris. Checks for damaged threads; shakes canister to check for loose absorbent particles.		
	b. Checks eye lenses, eye-rings, and outsert lenses for cracks, cuts, scratches, or discoloration. Checks rubber rings for tears, looseness, brittle spots, soft or sticky spots, and cracked rims.		
	c. Checks hood for cuts, holes, tears, sticky or gummy areas, and peeled or worn coating. Checks straps, cords, and hardware for fraying and torn or missing parts. Checks to see if zipper is torn, broken,		

or inoperative. Checks loose stitching on hook-and-pile fasteners.

d. Checks mask for dirt, mud, and greasy or oily surfaces; checks for holes, tears, cuts, rips, or splits by holding it up to a light source. Looks closely at edge of hood next to facepiece for soft or sticky spots.

e. Checks headhamess straps for dirt, cuts, tears, fraying, and mildew. Ensures buckles are present. Ensures buckles hold straps tightly. Checks buckles for cracks, corrosion, or bends and checks to see if finish is chipped or shows bare metal. Checks headhamess for loss of elasticity.

f. Checks outlet valve and valve disk to ensure disk is present and rotates freely in the outlet valve. Ensures disk has no cuts, tears, or rips. Wipes off any moisture found in valve or on disk. Ensures there is no dirt in assembly. Checks outlet valve cover for cuts, tears, or holes. Ensures there is no moisture on inside of valve cover.

g. Checks internal and external drinking tubes for cuts, tears, or cracks. Checks that tubes are not clogged by connecting the M1 canteen cap and blowing air

through system. Ensures system does not leak.

h. Checks airflow deflector to ensure it is securely mounted in facepiece and that both flanges are in mounting holes and are not broken. Checks mounting holes for cuts or tears.

i. Checks that inlet valve and inlet valve disk are present and properly mounted on post of airflow deflector. Ensures disk is not stuck to inlet valve body. Checks disk for cuts, tears, or holes. Ensures disk is clean.

j. Checks that nosecup assembly is free of dirt and has no cracks, cuts, or holes. Ensures that it is not pulled away from front voicemitter housing. Ensures nosecup valve disks are present and are not curled or torn. Ensures they are clean, and that they rotate freely. Checks that the disks are seated on the inside of the nosecup.

k. Checks that both voicemitters have retaining rings and are not cracked, corroded, or nicked. Ensures voice-mitters are not dented, cracked, or punctured. Ensures the four beads on them face outward and retaining rings are not loose.

		P	F
3.	Cleans mask and carrier.		
	a. Removes canister, outserts, outlet valve cover, and hood.		
	b. Wrings out cloth to wash and rinse mask.		
	c. Washes with warm, soapy water.		
	d. Rinses with warm, clear water.		
	e. Dries everything with dry, clean, soft cloth or allows to air dry.		
	f. Cleans eye lenses and eye lens outserts using optical lens cleaning compound or warm, soapy water.		
	g. Replaces outlet valve cover, canister, outserts, and hood.		
	h. Removes dirt or mildew from mask carrier by brushing with a stiff brush.		
4.	Reports any defects or shortcomings to supervisor if not corrected.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show soldier what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-300-10-1

331-758 O - 92 - 19 QL 3

★ ★ ★ ★ ★

PUT ON, WEAR, REMOVE, AND STORE YOUR M42 PROTECTIVE MASK WITH HOOD*

031-503-1028

CONDITIONS

Given an M42 protective mask with hood and any of the following situations.

1. You hear or see a biological or chemical alarm.
2. You realize that you are under a biological or chemical attack.
3. You are ordered to mask.
4. After masking, you are given the "All clear" order.

STANDARDS

Put on, clear, and check your M42 protective mask within 15 seconds (this includes 6 seconds to remove your combat vehicle crewman [CVC] helmet). Pull the hood over your head and zip the front closed to cover all bare skin. Do this within an additional 6 seconds. Adjust the neck cord and the underarm straps for a snug fit. Remove and store the mask after the "All clear" order is issued.

TRAINING AND EVALUATION

Training Information Outline

Time is critical in not becoming a casualty while masking. Soldiers should mask when a biological or

chemical alarm sounds, when under a biological or chemical attack, or when they are ordered to do so. Appropriate combat vehicle helmets are required for this training.

* Only soldiers whose duty positions require this training and who are issued an M42 protective mask should train for this task.

WARNING

A SOLDIER SHOULD BE ABLE TO REMOVE THE HELMET, PUT ON, CLEAR, AND CHECK THE M42 PROTECTIVE MASK IN 15 SECONDS (THIS INCLUDES 6 SECONDS TO REMOVE THE CVC HELMET). ALLOW 6 ADDITIONAL SECONDS TO ADJUST THE HOOD FOR A TOTAL OF 21 SECONDS FOR THE ENTIRE PROCEDURE.

1. Put on, clear, and recheck your mask.

a. Stop breathing, and close your eyes.

b. Remove the helmet and place it in a convenient location, avoiding contaminated surfaces if possible.

c. If you are wearing glasses, take them off.

d. Open the carrier with your left hand and hold it ipen. With your right hand grasp the mask by the facepiece and withdraw the mask from the carrier.

e. Put your chin in the chin pocket and press the facepiece snugly against your face.

f. Cover the openings at the bottom of the outlet valve (Figure 311) with the palm of your hand. Breath out hard so that air escapes around the edges of the mask.

g. With the palm of your hand, cover the inlet port of the canister and breath in. The facepiece should collapse against your face and remain so while you hold your breath. If it does, the facepiece is airtight. If the facepiece does not collapse, check for hair, clothing, or other matter between the facepiece and your face.

h. Grasp the tab and pull the headharness over your head. Be sure your ears are between the temple straps and the cheek straps.

i. While holding the facepiece to your face with one hand, maintain the seal. Using your other hand, tighten the cheek straps one at a time (Figure 312).

j. Be sure the headpad is centered at the high point on the back of your head.

k. Straps should lie flat against your head.

l. Clear your facepiece again and recheck it for leaks.

m. Resume breathing.

CAUTION

BE VERY CAREFUL WHEN PULLING ON THE HOOD. THE HOOD COULD SNAG ON THE BUCKLES OF THE HEADHARNESS AND TEAR.

n. Grasp the back edge of the hood skirt (Figure 313) and carefully pull your hood over your head so

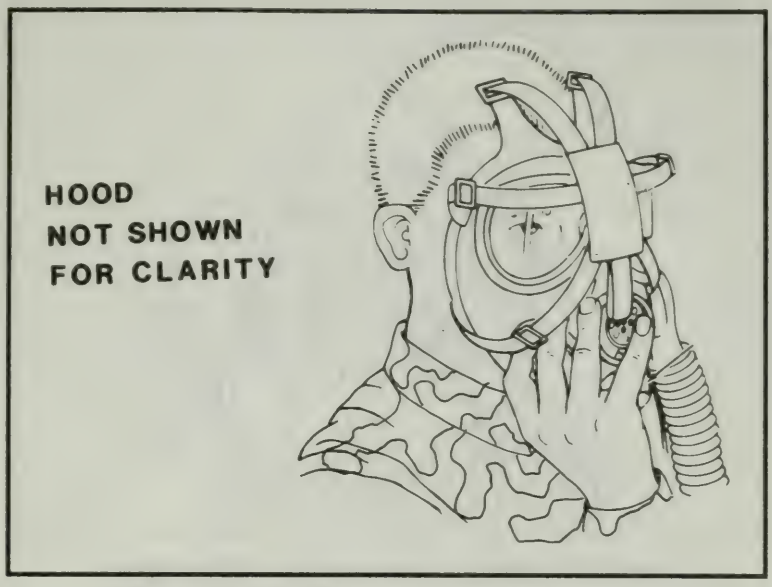


Figure 311. Clear protective mask.



Figure 312. Tighten cheek straps.

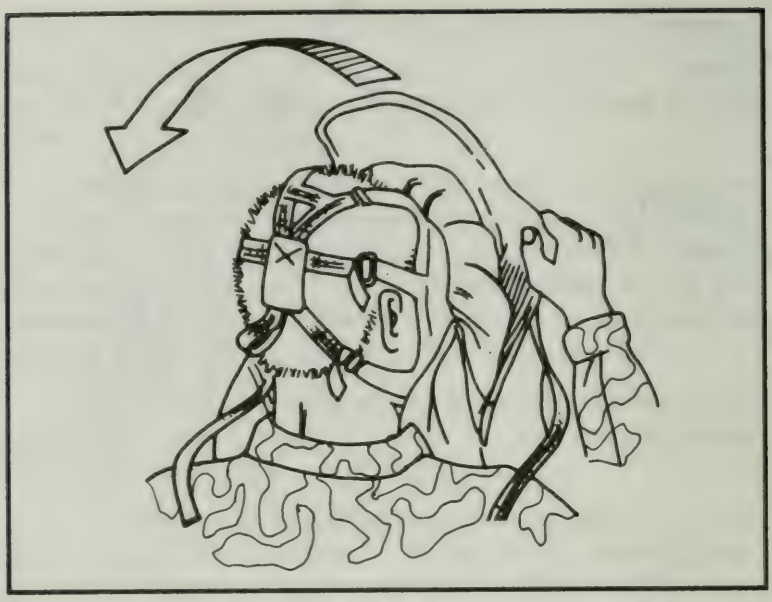


Figure 313. Pulling hood over head.

that it covers the back of the neck, the head, and the shoulders.

o. Pull the zipper slider downward and zip the front closed.

p. Tighten the draw cord.

q. Fasten and adjust the underarm straps (Figure 314).

r. Put on your helmet, close your mask carrier, and continue the mission.

2. Replace the helmet.

a. Disconnect the boom microphone from the helmet and connect the mask microphone to the receptacle in the helmet.

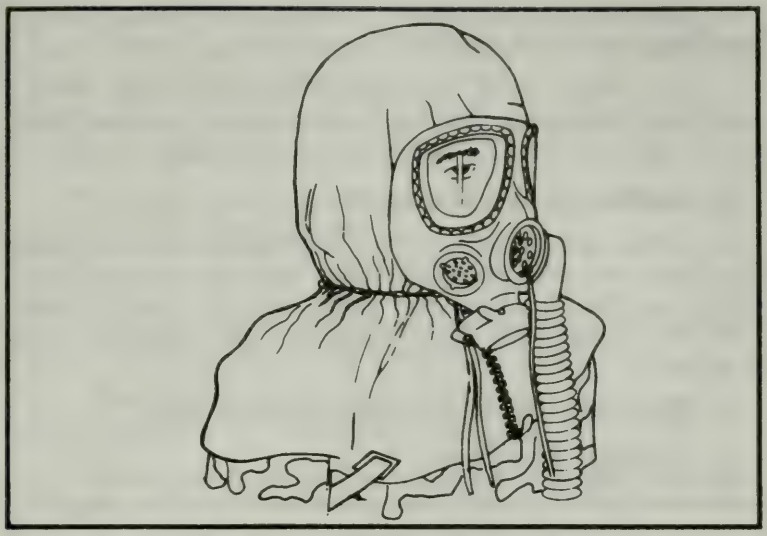


Figure 314. Hood completely fastened.

b. Grasp the helmet next to the earcups with your hand spread as far as possible. Place the helmet over your head and tilt the helmet forward slightly so the first contact when putting it on is with the forehead surface of the mask. Rotate the helmet back and down over your head until it is seated in position.

3. Remove and store the mask. This procedure is not timed and will begin after the "All clear" order is issued. To remove the mask, follow the following steps.

a. Disconnect the microphone plug from the helmet receptacle.

b. Remove the helmet.

c. Remove the hood.

(1) Unfasten the underarm straps.

(2) Loosen the neck cord.

(3) Unzip the zipper by holding the lower part of the zipper and pulling the slider upward.

(4) Place both hands on the back edge of the hood skirt and raise the hood above your head and pull it over the front of the facepiece (Figure 315).

d. Loosen the cheek straps.

e. Place one hand on the front voicemitter to hold the facepiece on your face and with the other hand, grasp the headharness tab and pull the headharness over the front of the facepiece and remove the facepiece.

f. Reconnect the microphone to the helmet.

g. Replace the helmet.

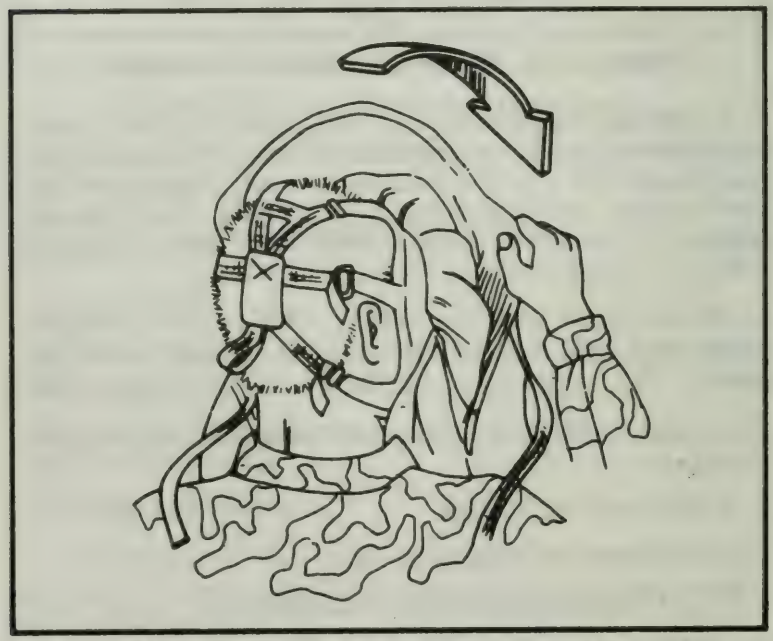


Figure 315. Pulling hood over front of facepiece.

h. Ensure the canister and the canister carrier are in the carrier pocket with quick disconnect coupling through the side opening in the carrier.

i. Ensure that the hose is pointing toward the opening (Figure 316).

j. Fold the canister carrier straps and place them in the pocket with the canister.

k. Close the canister carrier pocket.

l. Hold the front of the facepiece in a horizontal position and smooth the hood over it.

m. Fold the two edges of the hood over the outlet valve to create a "V" in front of the hood.

n. Store the ends of the underarm straps and the cord in the "V"

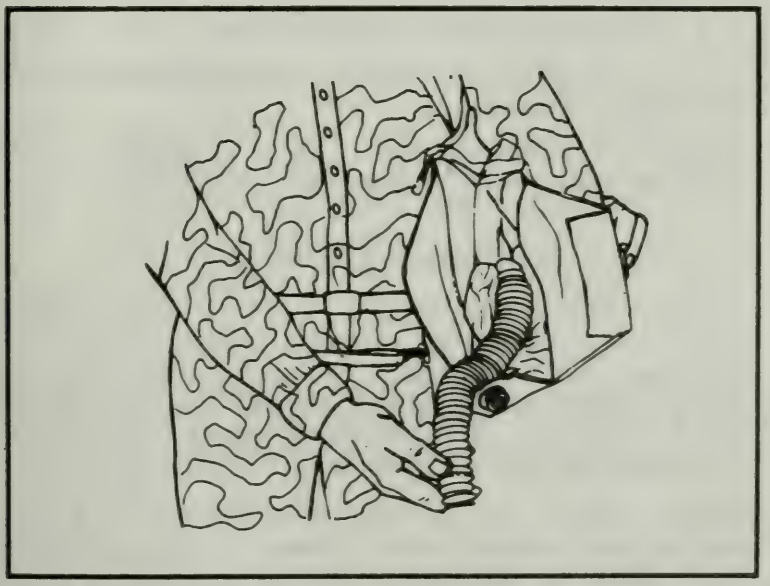


Figure 316. Stowing protective mask.

CAUTION
TO PREVENT CRUSHING THE MICROPHONE, DO NOT APPLY FORCE TO THE MICROPHONE CONNECTION WHEN STOWING THE FACEPIECE.

o. Grasp the bottom of the hood around the hose and tuck it into the space beneath the canister carrier pocket.

p. Continue to feed as much of the hood and the hose as possible into the carrier.

q. Place the facepiece over the canister carrier pocket with the eyelens facing toward the carrier opening. At this point, the facepiece will be upside down.

r. Close the carrier.

s. Close the outside canister pocket.

t. Store your facepiece in the closed carrier in a cool, dry, dark place.

u. It is preferable to hang the carrier by the shoulder strap or the hook on the short strap.

Evaluation Preparation

Setup: The soldier should report for training with their individual protective mask and combat vehicle crewman (CVC) helmet. For testing purposes the soldier should be standing, wearing the mask carrier which contains the protective mask (with hood attached) that has been previously fitted to the soldier.

Brief Soldier: Tell the soldier to remove the helmet and put on the mask within 15 seconds and put on the hood within an additional 6 seconds for a total of not more than 21 seconds. The soldier is to begin masking

when you say "Gas" and is to keep the mask on until the "All clear" order is issued.

***Evaluation Guide*:** 031-503-1028

PUT ON, WEAR, REMOVE, AND STORE YOUR M42 PROTECTIVE MASK WITH HOOD

	Performance Measures	*Results*	
1.	Stops breathing.	P	F
2.	Removes helmet; puts on, clears, and checks mask within 15 seconds, using appropriate steps for the M42 protective mask.	P	F
3.	Puts on hood in an additional 6 seconds.	P	F
4.	Adjusts neck cord.	P	F
5.	Adjusts underarm straps.	P	F
6.	Puts on helmet.	P	F
7.	Closes carrier.	P	F
8.	Removes mask after the "All clear" order is issued.	P	F
9.	Stores mask in carrier.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-300-10-2

★ ★ ★ ★ ★

MAINTAIN YOUR M42 PROTECTIVE MASK WITH HOOD

031-503-1029

CONDITIONS

Given an M42 protective mask (with authorized accessories and components) that requires cleaning; a container of warm, soapy water; a container of clear water; clean rags; a small, soft-bristle brush; optical lens cleaning compound (NSN 6850-00-592-3283); and TM 3-4240-300-10-2.

STANDARDS

1. Identify and correct all operator-level deficiencies or shortcomings in accordance with (IAW) TM 3-4240-300-10-2.

2. Clean and condition the mask IAW TM 3-4240-300-10-2.

3. Report deficiencies or shortcomings not corrected to the supervisor.

TRAINING AND EVALUATION

Training Information Outline

1. Remove the mask from the carrier and empty the contents of the carrier to ensure all issued items are present. For additional authorized items refer to TM 3-4240-300-10-2.

2. Check the hose.

a. Check for splits, cracks, breaks, or damage.

b. Ensure that the hose is properly installed on the facepiece and is not loose by gently pulling it.

c. Remove the canister carrier from the hose. Ensure that the gasket installed in the canister fitting at the end of the hose is present and serviceable.

d. Check the threads on the canister fitting for damage. Gently pull on the hose fitting to make sure it will not pull free from the hose.

3. Check the canister carrier.

a. Remove the rest of the canister carrier from the facepiece hose. Check the canister carrier cover and ensure that the gas particulate filter unit connection is firmly seated in the inlet post of the canister carrier cover. Check the rubber seal inside the canister carrier cover for signs of separation, cuts, or other damage.

b. Check the canister carrier cover and the canister carrier for signs of cracks; breaks; cut, frayed, or broken straps; or other damage.

4. Check the canister.

a. Check the canister against the replacement criteria in TM 3-4240-300-10-2, paragraph 2-6.

b. Check for cracks, dents, or holes, especially around the seams and threads. Ensure the air intake port is not clogged with dirt.

c. Check for damaged threads on the canister.

d. Shake the canister to check for sounds and signs of loose absorbent particles.

5. Check the eye lenses, the eyerings, and the eye lens outserts.

a. Remove the eye lens outserts from the facepiece. Check the eye lenses for cracks, cuts, scratches, or discoloration that affect vision.

b. Check the eyerings for distortion or corrosion.

c. Check both sets of eye lens outsert lenses for cracks, chips, or discoloration that affect your vision. Check the rubber rings for tears, looseness, brittle spots, soft or sticky spots, or cracked rims.

6. Remove the hood from the facepiece and examine the hood (See TM 3-4240-300-10-2).

a. Check for cuts, holes, or tears (needle holes at the seams are acceptable); sticky or gummy areas; and peeled or worn coating.

b. Check for missing, frayed, or torn straps, cord, or hardware; torn, broken, or inoperative zipper; and loose stitching on hook-and-pile fasteners or dirt in them.

7. Check the facepiece assembly.

WARNING

DO NOT ATTEMPT TO REMOVE THE HOSE FROM THE FACEPIECE. THIS MAY CAUSE LEAKAGE OF TOXIC AGENTS INTO THE FACEPIECE.

a. Visually inspect the inside surfaces for dirt, mud, and greasy or oily substances.

b. Check the facepiece for holes, tears, and splits by holding it in front of a light source. Look closely at the edges of the facepiece; check for soft or sticky spots. Check the rest of the facepiece for stiff areas that crumble when rubbed between the fingers and cracks that expand when the silicone rubber is stretched.

c. Check the silicone rubber around the eye lenses, the side and front voicemitters, the outlet valve assembly, and the hose connection to be sure it is not pulling away.

8. Check the buckles mounted in the facepiece.

a. Look for bends, cracks, or corrosion. Pull on the head harness straps and ensure the buckles hold the straps tightly.

b. Check for missing or broken buckles.

c. Make sure the finish on the buckles is not chipped or scratched, exposing bare metal.

9. Check the head harness.

a. Check for dirt, cuts, tears, missing parts, or deterioration such as mildewing or fraying.

b. Put on the facepiece and check the head harness for loss of elasticity.

10. Check the outlet valve and the outlet valve disk.

a. Grasp the tab at the bottom of the outlet valve cover and lift the bottom portion. Ensure that the outlet valve disk is present and not curled or distorted. Rotate the outlet valve disk to make sure it does not stick.

b. Look at the outlet valve disk for any nicks, cuts, tears, or rips. Wipe off any moisture from the outlet valve disk with a clean cloth. Smooth the outlet valve disk so that it lies flat on the outlet valve seat.

c. Check the outlet valve seat for dirt.

d. Check the outlet valve cover for cuts, tears, or holes. Look at the inside of the outlet valve cover for dirt or moisture. Wipe off any dirt or moisture with a soft, clean, dry cloth.

11. Check the internal and external drinking tubes.

a. Ensure that the tubes are present. Look for cracks or cuts in the tubes.

b. Check the internal drinking tube for proper alignment.

c. Check the external drinking tube for solid connections.

d. Ensure that neither tube is clogged by connecting the M1 canteen cap and blowing air through the system.

e. Ensure that the drinking system does not leak.

12. Check the airflow deflector.

a. Ensure that the deflector is securely mounted inside the facepiece and that both of the flanges on the deflector are in the mounting holes of the facepiece and are not broken.

b. Check the mounting holes for cuts or tears.

13. Check the inlet valve.

a. Ensure that the inlet valve disk and the inlet valve body are present and properly mounted on the post of the airflow deflector.

b. Blow into the free end of the hose and ensure that the inlet valve disk is not stuck to the inlet valve body.

c. Check the inlet valve disk for cuts, holes, tears, and dirt.

14. Check the microphone and microphone cable.

a. Ensure that the wires are not broken, cracked, or frayed.

b. Ensure that the microphone is not loose on the mount inside the facepiece.

c. Unplug the microphone cable from the front voicemitter socket and check for corrosion.

d. Ensure that the microphone cable plugs securely into the front voicemitter socket.

15. Check the nosecup assembly.

a. Check to see that the nosecup and the nosecup valve seats are free of dirt. Check the nosecup for cracks, cuts, or holes.

b. Ensure that the nosecup is not pulled away from the back of the front voicemitter housing.

c. Ensure that the nosecup valve disks are present, are not curled or torn, and are seated on the inside of the nosecup. Rotate the disks to ensure they do not stick.

16. Check the voicemitters.

a. Check the retaining rings on the front and side voicemitters for corrosion, cracks, or nicks. Ensure the retaining rings are hand-tight.

b. Check the front voicemitter and the side voicemitter for dents, cracks, or punctures. Ensure the four beads in the center of each voicemitter face outward

17. Check the carrier.

a. Check for dirt, sharp edges, torn straps, or missing hardware. Make sure there are no pencil or pen markings on the carrier with the exception of a change in the size or model number to reflect the true description of the mask inside.

b. Check for mildew, solvents, or abrasive materials that may harm the facepiece. Check the seams for broken stitches.

c. Check the hook-and-pile fasteners for dirt. Ensure the hook-and-pile fasteners are secure on the flap.

18. Clean your mask.

Note: *When you clean your mask, use only potable water. You will need to use a soft cloth; a soft-bristle brush; warm, soapy water; and warm, clear rinse water. Note: Unplug the microphone cable and wash the facepiece carefully so that the microphone does not get wet.*

a. Remove the canister, the outserts, and the hood. Set the canister aside, away from the cleaning operations.

b. Remove the outlet valve cover.

c. If necessary, remove greasy or oily substances from your facepiece with alcohol and a clean cloth.

CAUTION
DO NOT DUNK THE MASK OR THE CARRIER IN WATER. DO NOT ALLOW THE CANISTER TO BECOME WET. A WET CANISTER IS USELESS.

Note: *To clean and polish eye lenses and both sets of outserts, use optical lens cleaning compound (NSN 6850-00-592-3283), if available, or use warm, soapy water.*

d. Dip a clean, soft cloth into warm, soapy water and wring it out well. Wipe the facepiece, the hood, and the outserts inside and out. A soft brush may also be used.

e. Rinse the cloth in clean, warm water and wring it out. Wipe all washed parts.

f. Dry everything with a dry, clean, soft cloth or allow it to air dry.

CAUTION
ENSURE ALL COMPONENTS ARE ENTIRELY DRY BEFORE STORING.

g. Replace the hood, the canister, the outserts, and the outlet valve cover.

h. Remove the contents from the carrier.

i. Shake the carrier upside down to remove dirt and foreign matter.

j. Soak the brush in cold water, and shake the brush to remove excess water.

k. Clean the carrier with the brush.

CAUTION

DO NOT SOAK THE CARRIER, AND DO NOT USE HOT WATER, BLEACH, OR DETERGENT TO CLEAN IT. THESE WILL REDUCE RESISTANCE OF THE CARRIER TO WATER AND MILDEW. ENSURE THE CARRIER IS ENTIRELY DRY BEFORE STOWING THE COMPONENTS.

Evaluation Preparation

Setup: A good time to evaluate this task is during normal care and cleaning of the mask. Place all of the necessary equipment on a field table or another suitable surface. Simulate defects in the mask by removing components or using a defective mask not issued to a soldier.

Brief Soldier: Tell the soldier to perform operator preventive maintenance checks and services (PMCS), clean and condition the mask, and report any deficiencies and shortcomings not correctable at operator level to the supervisor.

Evaluation Guide: 031-503-1029

MAINTAIN YOUR M42 PROTECTIVE MASK WITH HOOD

	Performance Measures	*Results*	
1.	Performs operator's PMCS, correcting all deficiencies or shortcomings correctable at the operator level.	P	F
	a. Checks hose for splits, cracks, breaks, or damage. Ensures that hose is properly installed on the facepiece.		
	b. Checks canister carrier cover and ensures filter unit connection is firmly seated. Checks rubber seal inside carrier cover for signs of separation, cuts, or other damage. Checks cover and carrier for signs of cracks, breaks, or other damage.		
	c. Checks canister around seams and threads for cracks, dents, or holes. Ensures the air intake port is not clogged with dirt. Checks for damaged threads. Shakes canister to check for loose absorbent particles.		
	d. Removes the eye lens outserts from the facepiece. Checks eye lenses for cracks, cuts, scratches, and discoloration. Checks eyerings for distortion or corrosion.		

Checks both sets of eye lens outsert lenses for cracks, chips, or discoloration. Checks rubber rings for tears, looseness, brittle spots, soft or sticky spots, and cracked rims.

e. Removes hood from facepiece and examines it for cuts, holes, tears, and sticky or gummy areas; peeled or worn coating; missing, frayed, or torn straps, cord, or hard-ware; torn, broken, or inoperative zipper; loose stitching on hook-and-pile fasteners or dirt in them.

f. Checks inside surfaces of facepiece for dirt, mud, and greasy or oily substances. Holds in front of light source and checks for holes, tears, and splits. Looks closely at edges of facepiece for soft or sticky spots. Checks the rest of facepiece for stiff areas and cracks.Ensures that silicone rubber next to eye lenses will not pull away from facepiece. Ensures silicone rubber around side and front voicemitters, the outlet valve assembly, and hose connection is not pulling away.

g. Checks buckles for bends, cracks, or corrosion. Pulls on the head harness straps and ensures buckles hold straps tightly. Checks for

missing or broken buckles. Ensures finish on buckles is not chipped or scratched, exposing bare metal.

h. Checks head harness for dirt. Checks straps for cuts, tears, missing parts, or deterioration. Puts on face-piece and checks head harness for loss of elasticity.

i. Ensures outlet valve disk is present, is not curled or distorted, and rotates freely. Looks at outlet valve disk for nicks, cuts, tears, or rips. Wipes off any moisture found on valve or disk. Checks outlet valve seat for dirt. Checks outlet valve cover for cuts, tears, or holes. Ensures there is no dirt or moisture on inside of outlet valve cover.

j. Ensures that internal and external drinking tubes are present. Looks for cracks or cuts in tubes. Checks internal tube for proper alignment. Checks external tube for solid connection. Connects M1 canteen cap and blows air through system to ensure that tube is not clogged. Ensures that drinking system does not leak.

k. Ensures airflow deflector is securely mounted inside face-piece and that both flanges are in

mounting holes and are not broken. Checks mounting holes for cuts or tears.

l. Ensures inlet valve disk and inlet valve body are present and properly mounted on post of airflow deflector. Blows into free end of hose and checks to see that inlet valve disk is not stuck to inlet valve body. Checks inlet valve disk for cuts, holes, tears, and dirt.

m. Ensures wires of microphone and microphone cable are not broken, cracked, or frayed. Ensures microphone is not loose on mount inside the facepiece. Unplugs microphone cable from front voicemitter socket and checks for corrosion. Ensures that microphone cable plugs securely into front voicemitter socket.

n. Checks to ensure nosecup and nosecup valve seats are free of dirt. Checks nosecup for cracks, cuts, or holes. Ensures it is not pulled away from front voicemitter housing. Ensures nosecup valve disks are present, are not curled or torn, and are seated on inside of nosecup. Rotates disks to ensure they are not stuck.

o. Checks retaining rings on front and side voicemitters for cor-

rosion, cracks, or nicks. Hand-tightens retaining rings. Checks front and side voicemitters for dents, cracks, or punctures. Ensures the four beads in center of each voicemitter face outward.

p. Checks carrier for dirt, sharp edges, torn straps, or missing hardware. Ensures carrier is free of pencil and pen markings except for a change in size or model number. Checks for mildew, solvents, or abrasive materials that may harm the facepiece. Checks seams for broken stitches. Checks hook-and- pile fasteners for dirt; ensures they are secure on flap.

2. Cleans and conditions mask and carrier. P F

a. Removes canister, outserts, outlet valve cover, and hood. Removes any greasy or oily substances with alcohol and cloth.

b. Wrings out cloth to wash and rinse mask.

c. Washes facepiece, hood, and outserts with warm, soapy water.

d. Rinses with clean, warm water.

e. Dries everything with dry, clean, soft cloth, or allows it to air dry.

f. Replaces hood, canister, outserts, and outlet valve cover.

g. Removes contents from carrier. Shakes out dirt and foreign matter.

h. Soaks brush in cold water and shakes off excess water. Cleans carrier with brush.

3.	Reports any defects or shortcomings to supervisor if not corrected.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCE

TM 3-4240-300-10-2

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PREPARE THE CHEMICAL AGENT MONITOR FOR OPERATION

031-503-1030

CONDITIONS

Given a Mission-oriented Protective Posture (MOPP) level 4 protective overgarment ensemble, assigned protective mask with hood attached, M8 or M9 detector paper, an M258A1 decontamination kit, an M256 detector kit, a chemical agent monitor (CAM), TM 3-6665-327-13&P, a DA Form 2404, Equipment Inspection and Maintenance Worksheet, a pencil, and the directive to prepare the CAM for operation in a contaminated environment.

STANDARDS

Note: *Perform the following standards in accordance with (IAW) TM 3-6665-327-13&P.*

1. Identify the components, controls, and the indicators of the CAM IAW paragraph 1-9 and Chapter 2, Section I.

2. Perform Preventive Maintenance Checks and Services (PMCS)IAW paragraph 2-2.

3. Perform self-test and confidence test IAW paragraphs 2-4 and 2-5.

4. Perform troubleshooting procedures IAW Table 3-1.

TRAINING AND EVALUATION

Training Information Outline

WARNING

THE M258A1 DECONTAMINATION KIT (OLIVE DRAB CASE AND WIPE PACKETS) WILL ONLY BE USED FOR ACTUAL CHEMICAL DECONTAMINATION. FOR TRAINING AND EVALUATION PURPOSES, USE THE M58A1 TRAINING AID DECONTAMINATION KIT (BLACK CASE AND BLUE WIPE PACKETS). DO NOT USE WIPES ON EYES, MOUTH, OR OPEN WOUNDS. THESE AREAS SHOULD BE FLUSHED WITH WATER. FOR DECONTAMINATION OF BLISTERS, SEE THE TASK GIVE FIRST AID FOR BURNS, TASK NUMBER 081-831-1007.

1. Identification of components, controls, and indicators. Refer to TM 3-6665-327-13&P, paragraph 1-9, for identification of components. Refer to Chapter 2, Section I, for identification of controls and indicators.

2. Performance of start-up procedures.

a. PMCS is performed IAW TM 3-6665-327-13&P, paragraph 2-2. All equipment faults are cross-checked with the troubleshooting procedures listed in TM 3-6665-327-13&P, Table 3-1, and corrected if possible; those not correctable are recorded on DA Form 2404, and reported to your supervisor.

b Self-test (paragraph 2-4).

(1) Ensure the nozzle protective cap assembly is attached to the front of the CAM. Press in and release the pressure release button located on the top/center of the nozzle protective cap assembly.

(2) Switch the CAM on by depressing the ON/OFF push-button.

(3) Observe the CAM display. If it flashes on and off, make sure the filtered nozzle standoff is removed and the protective cap assembly is attached on the front of the CAM case.

(a) Push the ON/OFF push-button to switch the CAM off.

(b) Wait 2 seconds.

(c) Restart the self-test by depressing the ON/OFF push-button again. After the self-test is complete, look for the BL indication on the display. If this appears, replace the battery. Let the CAM run for 20 minutes. Then depress and release the ON/OFF push-button once to turn the CAM off. Wait 2 seconds and perform the self-test again. If the CAM still flashes on and off, report it to your immediate supervisor and unit maintenance.

(4) The H mode is the first mode to be checked; press the G/H mode push-button switch once to change the mode from G to H. Observe the display and verify that the letter H appears in the lower right corner.

(5) Markers A and B should show on the display. If markers are not shown, press the ON/OFF push-button switch.

(6) If you are in the correct mode of operation (H) and markers A and B appear on the display, observe further for all eight bars to appear. If all bars do not appear, perform the same procedures as for the markers. Press the ON/OFF push-button to turn the

CAM off, wait 2 seconds, and press the push-button again to restart the self-test. Notify maintenance if the CAM fails to respond.

(7) Check the display to see if three vertical dots, the symbol BL, and the word WAIT appear on the lower portion of the display. If any of these indicators do not appear, depress the ON/OFF push-button once again, wait 2 seconds, and press the push-button again to restart it.

(8) The display should clear after 30 seconds except for four indicators: the word WAIT, the letter H, and markers A and B while in the self-test mode. If the CAM fails to respond properly after 30 seconds, press the ON/OFF push-button to turn it off, wait 2 seconds, and press the ON/OFF push-button again to restart the self-test again.

Note: *In cold climates the symbol BL may remain on display up to 5 minutes because the battery has not reached its operating level.*

(9) The self-test is complete once these sequences are completed. The WAIT indicator should disappear from the display within 2 minutes; however, if it does not, turn it off, wait 2 seconds, turn it back on, and let it run for 30 minutes. This procedure is performed a second time if WAIT still remains on display. On the third attempt to clear WAIT from the display, replace the protective cap assembly, repeat the self-test, and allow it to run 30 minutes.

Note: *An extended warn up period may be necessary if the CAM has been in storage 30 days or longer. Allow the CAM to run until it will pass the confidence test (paragraph 2-5) or a total of 8 hours run time is reached.*

c. Confidence test (paragraph 2-5).

(1) Remove the nozzle protective cap and place it onto the environmental cap, which is the resting place for the protective cap while the CAM is being used. The protective cap is attached by twisting it clockwise onto the environmental cap.

(2) Pull one filtered nozzle package from the pocket of the carrying harness.

(a) Peel back the foil top of the filtered nozzle package until only one of the filtered nozzle standoffs is exposed. Press the CAM nozzle assembly into the exposed filtered nozzle standoff.

(b) Move the nozzle assembly away from the filtered nozzle package with the standoff attached. After removing the standoff replace the foil over the vacant slot in the nozzle package assembly.

(c) Slide the package assembly back into the pocket of the carrying harness.

(3) Remove the confidence sampler from the carrying harness.

CAUTION

THE CONFIDENCE SAMPLER IS A SIMULANT, A SOURCE TO MAKE THE CAM REACT. THE CAM CAN BE OVERSATURATED WITH A SIMULANT JUST AS IT CAN BE WITH A CHEMICAL AGENT. EXPOSE IT TO THE CAM FOR 1 SECOND. IF NECESSARY, COUNT ONE-THOUSAND-ONE, OR REMOVE IT SOONER IF THREE BARS OR MORE APPEAR ON THE DISPLAY. THERE IS NO NEED TO SEE ALL EIGHT BARS DISPLAYED.

(4) Locate the H end of the confidence sampler, and open the vapor shroud to expose the blister

simulant. Touch the filtered standoff to the exposed simulant for 1 second.

(a) Remove the confidence sampler and close the vapor shroud to protect the simulant from further exposure.

(b) Observe the display for at least three bars. If less than three bars appear after a few seconds, reopen the confidence sampler and expose it to theCAM for an additional 4 seconds. Remember to check which end of the confidence sampler is being used.

((1)) After removing the sampler once again observe the display; if three bars are not present, try using another sampler if one is readily available and resume confidence test.

((2)) If these procedures fail to produce three bars on the display, remove and discard the nozzle standoff from the nozzle assembly.

((a)) Remove the nozzle protective cap from the environmental cap and attach it over the nozzle assembly.

((b)) Turn the CAM off by pushing the ON/OFF push-button. Wait 2 seconds. Then restart and allow the CAM to complete its self-test and operate for 1 hour.

((c)) During this 1-hour period disregard the display. Once the time limit has expired, turn the CAM off, wait 2 seconds and then restart using the ON/OFF push-button. Perform the self-test and the confidence test.

((3)) If after this 1 hour the CAM still refuses to function properly, remove the filtered nozzle

standoff and reapply the nozzle protective cap to the nozzle assembly.

((a)) Turn the CAM on and allow it to run for 30 minutes. Use the push-button to turn it off again, wait 2 seconds, and repeat the self-test and the confidence test again.

((b)) If the CAM still fails to respond, turn it in to maintenance.

((4)) Once the three bars are displayed, within 2 minutes the display should clear down to 1 or 2 zero bars. If five or more bars were displayed, this time frame would be extended to 5 minutes for clear down.

((5)) If after the two-minute time frame the three-bar display does not clear down, replace the filtered nozzle standoff and wait 2 minutes for the CAM to clear down.

((a)) If this procedure fails to clear it down, remove the filtered nozzle standoff, install the nozzle protective cap assembly onto the front of the CAM, and let it run for 15 minutes.

((b)) As a last resort decontaminate the CAM and repeat the self-test and the confidence test. If it still fails, turn the CAM in to maintenance for repairs.

(5) Check the G mode. Press the mode push-button once and observe the display for the mode change of G in the lower left corner of the display. When the WAIT has disappeared, the G mode confidence test can continue. Conduct this test in the same manner described for the H mode. The following

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confidence test can continue. Conduct this test in the same manner described for the H mode. The following are troubleshooting operator-correctable faults and their actions (indicated by +). Some faults have multiple corrective actions that can be taken. You should proceed with the actions in the order given while trying to correct a given fault.

(1) Backlight not operating.

(a) Replace battery IAW paragraph 3-4a.

(b) Notify your supervisor.

(2) "BL" (low battery) shown on display during operation.

(a) Replace battery IAW paragraph 3-4a.

(b) Notify your supervisor.

(3) Display does not come on, or display disappears.

(a) Remove the battery cap assembly and check that a battery is present. If necessary, install a battery, and then press the ON/OFF push-button switch.

(b) Ensure the battery has been properly installed with the terminal end toward the display. Press the ON/OFF push-button switch.

(c) Replace the battery IAW paragraph 3-4a.

(d) Notify your supervisor.

(4) Display flashes on and off.

Note: *Ensure that there is no more than one bar appearing in modes before shutting the CAM off.*

(a) Remove and discard the filtered nozzle standoff and install the protective cap assembly over the nozzle assembly. Press the ON/OFF push-button switch to shut the CAM off. Wait 2 seconds and perform the self-test IAW paragraph 2-4. If the BL indicator appears after the self-test is completed, replace the battery IAW paragraph 3-4a.

(b) Remove and discard the filtered nozzle standoff and install the protective cap assembly over the nozzle assembly. Press the ON/OFF push-button switch to shut the CAM off. Wait 2 seconds and perform the self-test IAW paragraph 2-4 and the confidence test IAW paragraph 2-5.

(c) Notify your supervisor.

(5) Does not change from G (nerve agent), to H (blister agent) or from H to G. Notify your supervisor.

Note: *Ensure that there is no more than one bar appearing in a particular mode before changing modes. If more than one bar appears, discard the filtered nozzle standoff, install the protective cap assembly, and wait 2 minutes for the CAM to clear. Then replace the nozzle standoff and continue IAW paragraph 3-4e.*

(6) Does not clear down to one or zero bars in 2 minutes or 5 minutes for five or more bars.

(a) Replace the filtered nozzle standoff IAW paragraph 3-4e, and wait 2 minutes for the CAM to clear down.

(b) Remove and discard the filtered nozzle standoff and install the nozzle protective cap over the nozzle assembly. Let the CAM run for 15 minutes.

Note: *The following steps are a last resort measure to clear the CAM down to an acceptable level. Remember to pay attention to the list of decontaminants that are not to be used when decontaminating IAW paragraph 2-17b and the caution statement.*

(c) Decontaminate the CAM IAW paragraph 2-17, and repeat the self-test IAW paragraph 2-4 and the confidence test IAW paragraph 2-5.

(7) Does not respond to confidence sample (simulant).

(a) Increase confidence sample (simulant) exposure to 5 seconds IAW paragraph 2-5.

(b) Use another confidence sample (simulant) and repeat the confidence test IAW paragraph 2-5.

(c) Remove and discard the filtered nozzle standoff and install the protective cap assembly over the nozzle assembly. Push the ON/OFF push-button switch to shut the CAM off. Wait 2 seconds and perform the self-test IAW paragraph 2-4. Let the CAM operate for 1 hour (disregard the display during this time). Press the ON/OFF push-button switch to shut the CAM off, wait 2 seconds, and perform the confidence test IAW paragraph 2-5.

(d) Remove and discard the filtered nozzle standoff, replace the protective cap assembly IAW paragraph 3-4b. Press the ON/OFF push-button switch to turn the CAM on. Let the CAM run for 30 minutes. Push the ON/OFF push-button switch to shut the CAM off, wait 2 seconds, and repeat the self-test IAW paragraph 2-4 and the confidence test IAW paragraph 2-5.

(e) Notify your supervisor.

(8) One or more display indicators do not show during the self-test.

Note: *The mode indicators G and H will never appear on the display at the same time.*

(a) Press the ON/OFF push-button switch to shut the CAM off, wait 2 seconds, and press the ON/OFF push-button to begin the self-test IAW paragraph 2-4 again.

(b) Notify your supervisor.

(9) Remains in self-test for more than 30 seconds.

(a) Press the ON/OFF push-button switch to shut the CAM off, wait 2 seconds, and press the ON/OFF push-button to begin the self-test IAW paragraph 2-4 again.

(b) Notify your supervisor.

(10) Remains in WAIT for longer than 2 minutes. Press the ON/OFF push-button switch to shut the CAM off. Wait 2 seconds. Press the ON/OFF push-button to start the CAM in the self-test IAW paragraph 2-4. Let the CAM run for 30 seconds. Push the ON/OFF push-button switch to shut the CAM off, wait 2 seconds, and repeat the self-test IAW paragraph 2-4 and the confidence test IAW paragraph 2-5.

Evaluation Preparation

Setup: Give the soldier an operational CAM with TM 3-6665-327-13&P, accessories (carrying case and components) and training devices/equipment necessary

to perform the task. Use the M258A1 and M256 training devices for all training situations.

Brief Soldier: Tell the soldier to assume MOPP4 and perform the steps necessary to prepare the CAM for operation. Evaluation will be based on individual performance and adherence to safety precautions.

Evaluation Guide: 031-503-1030

PREPARE THE CHEMICAL AGENT MONITOR FOR OPERATION

	Performance Measures	*Results*	
1.	Identifies components, controls, and indicators.	P	F
	a. Identifies components (paragraph 1-9).		
	b. Identifies controls (Chapter 2, Section 1).		
	c. Identifies display indicators (Chapter 2, Section 1).		
2.	Performs operating procedures.	P	F
	a. Performs PMCS (paragraph 2-2).		
	b. Performs self-test(paragraph 2-4).		
	c. Conducts confidence tests (H and G) (paragraph 2-5)		
3.	Performs troubleshooting procedures (Table 3-1).	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed,

show the soldier what was done wrong and how to do it correctly.

REFERENCES

TM 3-4230-216-10
TM 3-4240-279-10
TM 3-6665-307-10
TM 3-6665-327-13&P

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PUT THE CHEMICAL AGENT MONITOR INTO OPERATION

031-503-1031

CONDITIONS

Given a Mission-Orientated Protective Posture (MOPP) protective overgarment ensemble, assigned protective mask with hood attached, M8 or M9 detector paper, an M258A1 decontamination kit, an M256 detector kit, a chemical agent monitor (CAM), TM 3-6665-327-13&P, and the directive to perform monitoring procedures for personnel and equipment in accordance with (IAW) the prescribed MOPP level for that area.

STANDARDS

Note: *The CAM must be prepared for operation by the operator before this task can be performed.*

1. Perform operating procedures IAW TM 3-6665-327-13&P, paragraph 2-6.

2. Perform monitoring procedures for personnel and equipment IAW TM 3-6665-327-13&P.

TRAINING AND EVALUATION

Training Information Outline

1. Prepare the CAM for operation as outlined in the task Prepare The Chemical Agent Monitor For Operation, task number 031-503-1030.

2. Perform operating procedures for changing modes (G to H or H to G).

a. To change from G mode to H mode, proceed with the following steps:

(1) Press the G/H mode push-button switch, and verify that the display indicates H mode. WAIT may be displayed for several seconds. When WAIT has disappeared, proceed. The three dots may also appear following the mode change; wait until the dots disappear (up to 30 minutes). If the display flashes on and off, go to the troubleshooting symptom "Display flashes on and off" in TM 3-6665-327-13&P, Table 3-1.

(2) Perform the confidence test for the H mode.

(3) The display should clear to one or zero bars within 2 minutes; if not, go to the troubleshooting symptom "Does not clear down to one or zero bars within 2 minutes (or 5 minutes for five or more bars)" in TM 3-6665-327-13&P, Table 3-1.

(4) Once cleared, the CAM is ready to operate in the H mode.

b. To change from H mode to G mode, proceed with the following steps:

(1) Press G/H mode push-button switch, and verify that the display indicates G mode. WAIT may be displayed for several seconds. When WAIT has disappeared, proceed. The three dots may also appear following the mode change; wait until the dots disappear (up to 30 minutes). If the display flashes on and off, go to the troubleshooting symptom "Display flashes on and off" in TM 3-6665-327-13&P, Table 3-1.

(2) Perform the confidence test for G mode.

(3) The display should clear to one or zero bars within 2 minutes; if not, go to the troubleshooting symptom "Does not clear down to one or zero bars within 2 minutes (or 5 minutes for five or more bars)" in TM 3-6665-327-13&P, Table 3-1.

(4) Once the display clears, the CAM is ready to operate in G mode.

3. Once the CAM is set for the proper mode (G or H), you are ready to perform monitoring procedures. Perform monitoring procedures as follows.

CAUTION

DO NOT CONTAMINATE THE FILTERED NOZZLE STANDOFF BY ALLOWING IT TO COME IN CONTACT WITH LIQUID AGENT.

Note: *Get to know your operating environment (know local interferences). Do not obstruct the filtered nozzle standoff.*

a. Approach the object to be monitored (land vehicle, terrain, personnel, or casualty) from an upwind position if possible. It is probable that any contamination will cause a relatively high reading quite quickly. This has the advantage of quickly defining the upwind boundary of the area of contamination. From a downwind position the response will be low initially and will rise as the source of contamination is approached.

b. Hold the CAM 1 inch from the object being monitored.

c. If the operation of the CAM is in doubt at any time, remove the filtered nozzle standoff and replace the nozzle protective cap assembly on the nozzle assembly. When the display has cleared down to one or zero bars, perform a confidence test. Then remove the nozzle protective cap assembly and install a new filtered nozzle standoff. Monitoring can then continue.

d. The CAM is a vapor monitor and can report only conditions at the front of the nozzle assembly. It is a point monitor only and cannot give a realistic assessment of the vapor hazard over an area from one position. It is necessary to move the CAM around the area and carry out a complete reconnaissance if a proper assessment is to be made of the vapor hazard in the area. (Any assessment will probably be made with other detection methods.)

Note: *If there is a source of vibration in the area, WAIT may display momentarily when searching for the agent.*

e. When investigating the contamination of a person, object, vehicle, aircraft, or piece of equipment, it is essential to first establish what general vapor hazard exists around the suspected contaminated person or

equipment. If a reading higher than the background level is obtained, then the person or equipment is contaminated. If the reading is the same as the background, then the person or equipment may be contaminated or the CAM may be merely recording the background vapor hazard. Take care when assessing the contamination of an object from the information indicated on the CAM display.

CAUTION
DO NOT SWITCH THE CAM OFF FOR THE END OF MISSION OR STORAGE IF ANY BARS ARE DISPLAYED.

Note: *Battery life will be extended if the CAM is switched off when it is not required.*

Note: *In cold weather, liquid contaminants may not release sufficient vapor to produce a reading on the CAM.*

f. A few vapors present in the atmosphere (interferences) can, in some cases, give a false response in CAM readings.

(1) The situations most likely to give a false reading are in enclosed spaces or when sampling near strong vapor sources, such as dense smoke. If it is possible, get to know your local environment during training periods. For example, determine if there are any responses in the galley, the sick bay, or the hangar. Some of the types of vapors that have been found to give false readings follow.

(a) Aromatic vapors. Included in this group of materials are perfumes and food flavorings. Some brands of after-shave and perfume can give responses in G mode when the CAM is held close to the skin, for example in casualty handling procedures. Some sweets, such as peppermints and cough lozenges, as well as menthol cigarettes can cause a response in G mode if the breath is exhaled directly into the CAM inlet.

(b) Cleaning compounds. Some cleaning compounds and disinfectants contain additives that give them a pleasant smell. Some of the additives, such as menthol and methyl salicylate (MS), can give false responses in the H mode. Cleaning materials are by their very nature spread over large surface areas and, therefore, provide a considerable vapor source, particularly in enclosed spaces.

(c) Smoke and fumes. The exhaust from some rocket motors and the fumes from some munitions can give responses. Since monitoring with the CAM in these situations is unrealistic, few problems should arise.

(2) If you suspect your CAM is giving a false reading, do the following.

(a) Stay masked.

(b) Check for obvious vapor sources, such as smoke and known interferents.

(c) Remove and discard the filtered nozzle standoff. Place the nozzle protective cap assembly on to the front of the CAM case, and reestablish a clear air background.

(d) Remove the nozzle protective cap assembly. If a false response occurs again, the CAM may not be operable in the immediate area. Remove the source of interferent if possible or replace the nozzle protective cap assembly and remove the CAM from the area.

g. If any malfunctions occur, refer to the operator troubleshooting symptom in TM 3-6665-327-13&P, Table 3-1.

4. Follow all the safety rules outlined in TM 3-6665-327-13&P.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or during a normal training session. Gather all necessary equipment and materials. Provide an area large enough to properly set up the CAM and perform monitoring of personnel and equipment. Develop several sets of conditions for testing purposes. Utilize approved simulants for the CAM to simulate contamination.

Brief Soldier: Tell the soldier to assume MOPP level 4 and perform the steps necessary to put the CAM into operation.

Evaluation Guide: 031-503-1031

PUT THE CHEMICAL AGENT MONITOR INTO OPERATION

Performance Measures	*Results*	
Note: *The CAM must be prepared for operation by the operator before this task can be performed.*		
1. Performs operating procedures IAW TM 3-6665-327-13&P, paragraph 2-6.	P	F
a. Changes mode from G to H IAW TM 3-6665-327-13&P, paragraph 2-6a.		
b. Changes mode from H to G IAW TM 3-6665-327-13&P, paragraph 2-6b.		
c. Recognizes malfunctions IAW TM 3-6665-327-13&P, paragraph 2-6e, and performs troubleshooting IAW 3-6665-327-13&P, Table 3-1.		
2. Monitors personnel and equipment IAW training guide and TM 3-6665-327-13&P, paragraph 2-6c.	P	F
3. Performs all procedures without damage to equipment or personnel.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCES

TC 3-3-5
TM 3-6665-327-13&P

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PREPARE THE CHEMICAL AGENT MONITOR FOR MOVEMENT

031-503-1032

CONDITIONS

Given a Mission-Oriented Protective Posture (MOPP) level 4 protective overgarment ensemble, assigned protective mask with hood attached, M8 or M9 detector paper, an M258A1 decontamination kit, an M256 detector kit, a chemical agent monitor (CAM), TM 3-6665-327-13&P, and the directive to perform monitoring procedures for movement.

STANDARDS

1. Perform the procedures to decontaminate the CAM in accordance with (IAW) TM 3-6665-327-13&P, paragraph 2-17, and FM 3-5, Chapter 8, page 8-5, electronics paragraph.

2. Perform the procedures for removing the CAM from operation IAW TM 3-6665-327-13&P, paragraph 2-7.

3. Perform shutdown procedures IAW TM 3-6665-327-13&P, paragraph 2-6g.

4. Perform after-operation Preventive Maintenance Checks and Services (PMCS) IAW TM 3-6665-327-13&P, paragraph 2-2.

TRAINING AND EVALUATION

Training Information Outline

1. Decontaminate a contaminated CAM before shutdown.

a. Nuclear. For radiological contamination, brush, wipe, or vacuum the contamination from the equipment. The contamination is not destroyed, it just moved from one place to another. Therefore, take care to control the runoff.

CAUTION
DO NOT USE THE M258A1, THE M280, THE SPECIAL NERVE AGENT IMMOBILIZED ENZYME ALARM AND DETECTOR (NAIAD), OR THE DECONTAMINATE MONOETHYLAMINE/ DIMETHYL-SULFOCXIDE (MEA/DMSO) TO DECONTAMINATE THE CAM AND ITS ACCESSORIES.

b. Biological or chemical. If the CAM or its accessories appear to be contaminated, decontaminate them. Wipe chemical contamination from the metal

electronics cases with DS2. After 30 minutes wipe thoroughly with a damp cloth, dry, and wipe with oil. If DS2 is not available or the case is of a material other than metal, wipe with a cloth and hot, soapy water or use a nonstandard decontaminate. For either biological or chemical contamination, use the following procedures.

(1) Remove the filtered nozzle standoff and discard it as contaminated waste.

(2) Press the ON/OFF push-button switch to turn the CAM off.

CAUTION
THE CAM NOZZLE ASSEMBLY MUST BE DECONTAMINATED USING WATER ONLY.

(3) Decontaminate the CAM nozzle assembly with water and a cotton wipe.

CAUTION
HANDLE THE NOZZLE PROTECTIVE CAP ASSEMBLY CAREFULLY TO AVOID CROSS-CONTAMINATION.

(4) Remove the nozzle protective cap assembly from the environmental cap. Twist and install the nozzle protective cap assembly over the nozzle assembly.

(5) Press the ON/OFF push-button switch to turn the CAM on.

(6) Check for contamination with another CAM known to be free from contamination.

(7) If this check confirms that the first CAM is contaminated, disconnect the carrying harness by unsnapping both ends. Remove the carrying harness and handle straps. If the carrying harness assembly is contaminated, proceed as follows:

(a) Open the carrying harness battery pocket and confidence sampler pocket.

(b) Decontaminate the nuclear, biological, chemical (NBC) gloves.

(c) Remove the confidence sampler, the spare battery, and the filtered nozzle package assemblies, and check for contamination using another CAM. If contaminated, discard all items except the confidence sampler as contaminated waste.

(d) Decontaminate the confidence sampler using soap and water.

(e) Decontaminate the NBC gloves.

(f) Attach the spare replacement carrying harness from the sealed plastic bag in the carrying case to the CAM.

(g) Place the decontaminated confidence sampler in the spare carrying harness assembly.

(h) Place the spare battery and the filtered nozzle package assemblies, if not contaminated, in the spare carrying harness assembly.

(8) Wait until the CAM display clears to one or zero bars in both modes. This may take 10 to 15 minutes. If the CAM does not clear, the nozzle

protective cap assembly may be contaminated and may require replacement with the spare from the carrying case assembly. Replace the nozzle protective cap assembly and repeat the previous procedures.

(9) Press the ON/OFF push-button switch to turn the CAM off. Decontaminate the CAM using the procedures and guidelines for electronic equipment in FM 3-5, Chapter 8. Decontaminate the NBC gloves, and check the completeness of decontamination with another CAM.

(10) If the carrying case assembly is contaminated, open the carrying case assembly, decontaminate the NBC gloves, remove and decontaminate the sealed accessories as required, discard the carrying case assembly as contaminated waste, and replace the nozzle protective cap assembly if the CAM failed to clear down in previous steps.

Note: *In conditions below 40F (4C) take the CAM to a warm area to carry out the shutdown procedures.*

2. Remove the CAM from operation.

a. Remove and discard the filtered nozzle standoff from the nozzle assembly.

b. When operating in wet conditions try to avoid trapping moisture on the nozzle assembly or inside the nozzle protective cap assembly. Trapping of water in this way may result in increased start-up time or reduced sensitivity. Inspect the nozzle assembly for indication of moisture. If droplets of water are present, attempt to shake the moisture off.

c. Twist and remove the nozzle protective cap assembly from the environmental cap.

d. Twist and install the nozzle protective cap assembly to the CAM case front end.

CAUTION

DO NOT SWITCH THE CAM OFF WHEN ONE OR MORE BARS ARE SHOWING BECAUSE THIS ACTION STOPS THE PURGING OF ANY CONTAMINANT REMAINING AND WOULD EXTEND THE WARM-UP TIME ON ANY FUTURE USE.

Note: *The CAM normally clears down to one or zero bars within 2 minutes. If the CAM is contaminated, it may take at least an hour to clear down to zero bars.*

e. Observe the display. If the display shows zero bars, press the G/H push-button switch to change modes of operation and observe the display again. If the display shows zero bars in both modes, the CAM is ready for shutdown procedures. In conditions are below 40F (4C) allow the CAM to run an additional 5 minutes after the display has cleared to zero bars. If one or more bars show, let the CAM run until the display shows zero bars.

f. If the CAM fails to clear down in either mode within an hour, refer to the troubleshooting symptom "Does not clear down to one or zero bars in 2 minutes or 5 minutes for five or more bars."

g. Perform the shutdown procedure. Make sure you have successfully completed the previous procedures to remove the CAM from operation. When the display

shows zero bars in both modes, press the ON/OFF push-button switch to shut the CAM off.

3. Prepare the CAM for movement.

a. Do the following to prepare the CAM for movement to a new location and to return the CAM to operation at the new location.

(1) Remove the CAM from operation.

(2) Shut down the CAM.

b. If the carrying case is available, proceed with the following steps.

(1) Inspect the filtered nozzle package assembly in the carrying harness. If this package is empty, replace it with a new one from the pocket of the carrying case assembly.

(2) Inspect the nozzle protective cap assembly. If cap is damaged, replace it with the spare nozzle protective cap assembly stored in the carrying case assembly.

(3) Place the CAM into the carrying case assembly.

(4) Slip the packet with the replacement carrying harness into the carrying case.

(5) Close the lid on the carrying case. Slide one hand along the hook-and-loop fastener to secure the carrying case.

(6) Place the CAM back into operation by performing the self-test and the confidence test explained in the task Prepare The Chemical Agent Monitor For Operation, task number 031-503-1030.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or during a normal training session. Gather all necessary equipment and materials. Provide an area large enough to properly set up the CAM and perform monitoring of personnel and equipment. Develop several sets of conditions for testing of personnel and equipment. Use approved simulants for the CAM to simulate contamination.

Brief Soldier: Tell the soldier to assume MOPP level 4 and perform the steps necessary to put the CAM into operation.

Evaluation Guide: 031-503-1032

PREPARE THE CHEMICAL AGENT MONITOR FOR MOVEMENT OR STORAGE

	Performance Measures	*Results*
1.	Performs the procedures to decontaminate the CAM IAW training outline, TM 3-6665-327-13&P, paragraph 2-17, and FM 3-5, Chapter 8, page 8-5, electronics paragraph.	P F
2.	Performs the procedures to remove the CAM from operation IAW training outline and TM 3-6665-327-13&P, paragraph 2-7.	P F

3.	Performs shutdown procedures IAW training outline and TM 3-6665-327-13&P, paragraph 2-6g.	P	F
4.	Performs after operation PMCS IAW TM 3-6665-327-13&P, paragraph 2-2.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If any step is failed, show the soldier what was done wrong and how to do it correctly.

REFERENCES

FM 3-5
TC 3-3-5
TM 3-6665-327-13&P

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DRINK FROM CANTEEN WHILE WEARING YOUR PROTECTIVE MASK

031-503-1006

CONDITIONS

Given your assigned protective mask, with the M1 drinking cap, an M258A1 decontamination kit, and M8/M9 detector paper. You are in Mission-Oriented Protective Posture (MOPP) level 4, and have been given a requirement to drink from your canteen while wearing your protective mask.

STANDARDS

1. Check all mating surfaces of the drinking system for contamination using M8 or M9 detector paper.

2. Decontaminate the external parts of the drinking system and canteen if contaminated.

3. Drink from the canteen without becoming a casualty.

TRAINING AND EVALUATION

Training Information Outline

1. Drink water while wearing the M40-series protective mask (Figure 317A) or the M42 protective mask (Figure 317B).

Note: *Care should be taken not to break the facepiece seal while pressing in on the outlet valve.*

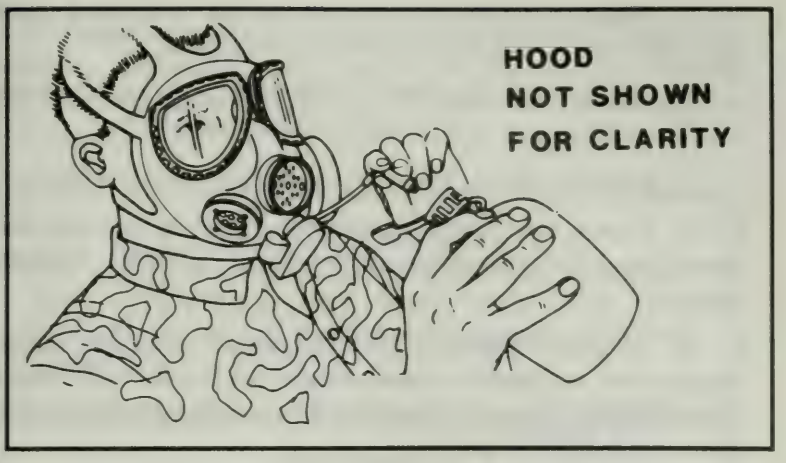


Figure 317A. The M40-Series mask.



Figure 317B. The M42 mask.

a. Push in on the top of the outlet valve and grasp the internal drink tube between your teeth.

b. Steady the facepiece and pull the quick disconnect coupling out of the outlet valve cover.

c. Remove the canteen from the canteen carrier.

d. Check the quick disconnect coupling and the canteen cap for contamination using M8/M9 detector paper.

e. If the canteen is contaminated, seek an uncontaminated canteen or decontaminate the exterior using the M258A1 decontamination kit, and recheck the canteen with M8/M9 paper.

f. Flip open the cover on the M1 canteen cap.

g. Push the quick disconnect coupling into the M1 canteen cap so that the pin enters the quick disconnect coupling.

h. Blow to create a positive pressure. You should feel some resistance.

WARNING

IF RESISTANCE IS NOT FELT, YOUR DRINKING SYSTEM IS LEAKING. DO NOT TRY TO DRINK. REPORT TO THE NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) NONCOMMISSIONED OFFICER (NCO) FOR ASSISTANCE.

i. If the system does not leak, raise and invert the canteen and drink water from the canteen.

j. After several swallows, stop sucking and lower the canteen. Blow into the internal drink tube to prevent the canteen from collapsing. Repeat the drinking procedure as required.

WARNING

TO PREVENT POSSIBLE LEAKAGE AROUND THE FACEPIECE, DO NOT PULL ON THE EXTERNAL DRINK TUBE WHEN REMOVING THE CANTEEN

WARNING

USE M8 OR M9 DETECTOR PAPER (SEE THE TASK USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT, TASK NUMBER 031-503-1014, OR THE TASK USE M9 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT, TASK NUMBER 031-503-1020) TO CHECK FOR LIQUID CONTAMINATION BEFORE USING THE MASK DRINKING SYSTEM. DO NOT CONNECT THE QUICK DISCONNECT COUPLING HALF TO YOUR CANTEEN UNTIL ALL SURFACES HAVE BEEN CHECKED. CHEMICAL CONTAMINATION COULD ENTER YOUR MOUTH RESULTING IN YOUR BECOMING A CASUALTY. IF THE CANTEEN IS CONTAMINATED, SEEK AN UNCONTAMINATED CANTEEN IF POSSIBLE, OR USE THE M258A1 DECONTAMINATION KIT TO DECONTAMINATE THE EXTERIOR PARTS OF THE DRINKING SYSTEM.

k. Turn the canteen upright.

i. Blow into the internal drink tube and pull the quick disconnect coupling out of the canteen.

m. Firmly grasp the quick disconnect coupling and pull the canteen down and away to disconnect the coupling.

n. Check your facepiece for leak.

o. Remove the internal drink tube from your mouth.

p. Push the quick disconnect coupling back into the pocket on the facepiece.

q. Flip down the cover on the M1 canteen cap before storing.

2. Drink water while wearing the M17A1/A2 protective mask (Figure 318).

a. Grasp the mask at your chin and hold it steady with one hand to avoid breaking the seal of the mask.

b. With the other hand, pull the coupling-half from its cover and let it hang free.

c. Take out your canteen, by pushing up on the bottom of the canteen cover until you can grasp the canteen by its body, and lift it up to the mask.

(1) Check the quick disconnect coupling and the canteen cap for contamination with M8/M9 detector paper.

(2) If the canteen is contaminated, seek an uncontaminated canteen or decontaminate the exterior using the M258A1 decontamination kit and recheck with M8/M9 detector paper..

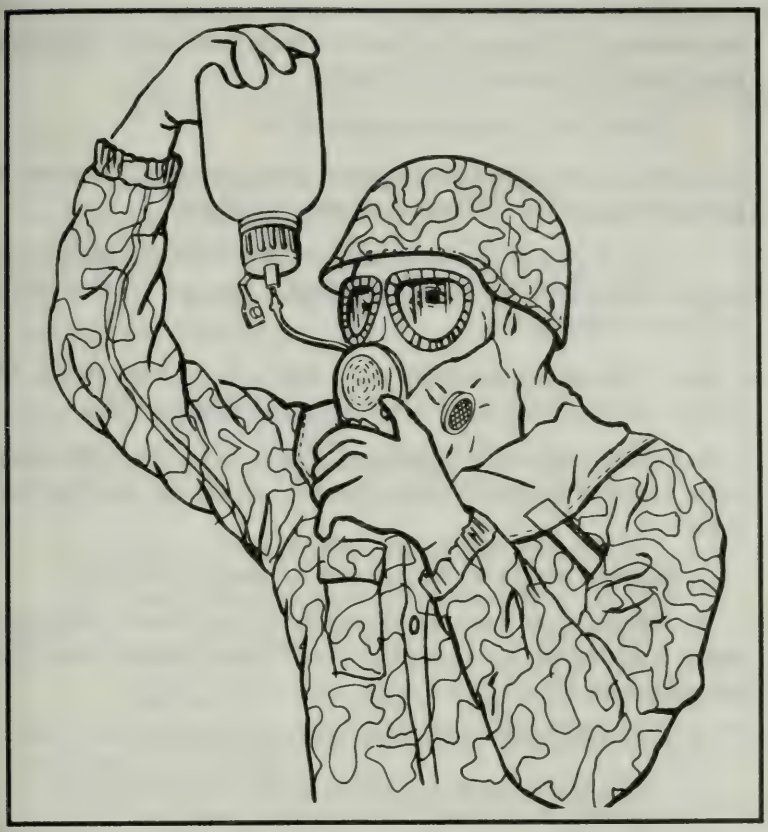


Figure 318. Drink water while wearing the M17A1 or M17A2 mask.

d. With the canteen visible, lift up the protective cover of the M1 canteen cap.

e. Push the coupling-half in and turn it to connect it to the cap. Check to insure that the connection is tight.

f. Turn and hold the lever all the way toward the voicemitter Open your mouth and hold the drinking mouthpiece between your teeth.

g. Blow into the mouthpiece tube.

(1) If you find resistance, your drinking system is in working order. Proceed to step h below.

(2) If you feel no resistance, your drinking system leaks. DO NOT TRY TO DRINK. Report to the NBC NCO for assistance.

h. Lift your canteen and turn it upside down to drink. Do not tilt your head back while drinking.

i. After several swallows, blow into the drinking tube mouthpiece to create positive pressure in the canteen.

j. Repeat step i until you are no longer thirsty.

k. When you have finished drinking, lower the canteen and turn it upright, and then blow into the mouthpiece.

l. Return the lever to the vertical position.

m. Pull the coupling-half from the canteen cap.

n. Close the protective cover on the canteen cap and put the canteen away.

o. Put the coupling-half back in its cover pocket.

Note: *Soldiers wearing the M17A1 or M17A2 protective mask should be able to drink water from their canteens. If the drinking tubes are not working, following the procedures for drinking using the M24 or M25-series protective mask.*

3. Drink water while wearing the M24 or M25-series mask.

a. Unfasten your hood straps and loosen the draw cord.

b. Take out the canteen by pushing up on the bottom of the canteen cover until you can grasp the canteen by its body.

(1) Check the canteen for liquid contamination with M8/M9 detector paper.

(2) If the canteen is contaminated, seek an uncontaminated canteen.

c. Loosen the canteen cap, but do not remove it. Move the canteen up under your hood.

d. Take a few breaths. Hold the last one.

e. Grasp the chin part of the mask.

f. Close your eyes.

g. Pull your mask down, out, and up away from your face, so that you can get the canteen to your mouth (Figure 319).

h. Push the cap off the threads and put the canteen to your lips, being careful to touch as little of the lips as possible.

i. Tilt your head back and pour the water into your mouth, while holding your breath.

Note: *If using the buddy system, hand the canteen to your buddy to hold. If you are alone, you must set the canteen down.*

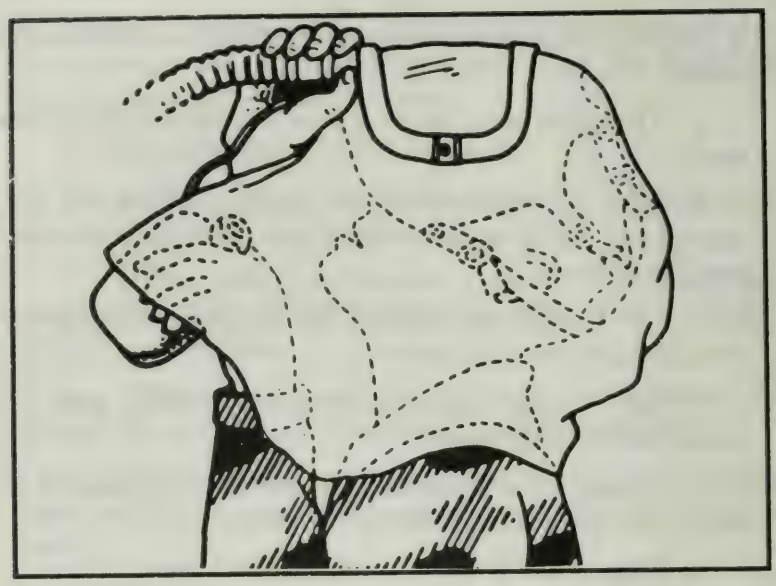


Figure 319. Drink water while wearing the M24 or the M25-Series mask.

j. Reseat the mask on your face, then swallow the water.

k. Clear and check your mask.

l. Repeat steps d through k until you are no longer thirsty.

m. Reseal the canteen.

Note: *There is no procedure for drinking when wearing the M7 hood over the flight helmet.*

n. Tighten the draw cord and fasten the hood straps.

o. Secure your equipment and continue the mission.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or during a normal training session. The soldier should be in MOPP level 4. Do not use a new M285A1 decontamination kit for every soldier. Use the kit as long as possible. Ensure that the soldier has M8/M9 detector paper in the protective mask carrier prior to testing. If the soldier has not made adequate progress towards drinking from the canteen after 2 minutes, stop him and give him a NO-GO. This time standard is administrative.

Brief Soldier: Tell the soldier to demonstrate how to drink water while wearing his or her assigned mask. Tell the soldier there are no time standards for this task on the job, but for testing purposes, he or she must be able to drink within 2 minutes.

Evaluation Guide: 031-503-1006

DRINK FROM CANTEEN WHILE WEARING YOUR PROTECTIVE MASK

	Performance Measures	*Results*	
1.	Drinks water while wearing the M40-series protective mask.	P	F
	a. Pushes in on the outlet valve and grasps the internal drink tube between the teeth.		

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b. Steadies the facepiece and pulls the quick disconnect coupling out of the outlet valve cover.

c. Removes the canteen from the canteen cover.

d. Checks the quick disconnect coupling and the canteen cap for contamination using M8/M9 detector paper.

e. If the canteen is contaminated, seeks an uncontaminated canteen, or decontaminates the exterior using the M258A1 decontamination kit, and rechecks the canteen with M8/M9 detector paper.

f. Flips open the cover on the M1 canteen cap.

g. Pushes the quick disconnect coupling into the M1 canteen cap so that the pin enters the quick disconnect coupling.

h. Blows to create positive pressure. Reports the lack of resistance, if it occurs, to the NBC NCO.

i. If the system does not leak, raises and inverts the canteen and drinks water from the canteen.

j. blows into the internal drink tube to prevent canteen from collapsing and repeats the drinking procedure as required.

k. Turns the canteen upright.

l. Blows into the internal drink tube and pulls the quick disconnect coupling out of canteen.

m. Firmly grasps the quick disconnect coupling and pulls the canteen down and away to disconnect coupling.

n. Checks the facepiece for leaks.

o. Removes the internal drink tube from the mouth.

p. Pushes the quick disconnect coupling back intothe pocket on the facepiece.

q. Flips down the cover on the M1 canteen cap

2. Drinks using the M17A1/M17A2 or M40-series protective mask. P F

a. Grasps the mask at chin, and holds it steady with one hand to avoid breaking the seal of the mask.

b. With the other hand, pulls coupling-half from its cover and lets it hang free.

c. Removes canteen by pushing upon bottom of canteen cover and grasps canteen by the body and lifts it up to the mask.

(1) Checks canteen for liquid contamination with M8/M9 detector paper.

(2) If canteen is contaminated, stops and obtains an uncontaminated canteen or decontaminates by using the M258A1 Decontamination Kit.

d. With canteen visible, lifts up the protective cover of the M1 canteen cap.

e. Pushes coupling-half in and turns it to connect it to the cap. Checks that the connection is tight.

f. Turns and holds the lever all the way toward the voicemitter. Opens mouth and holds the drinking mouthpiece between teeth.

g. Blows into the mouthpiece tube. Reports lack of resistance, if occurs, to NBC NCO.

h. Lifts canteen and turns it upside down to drink. Keeps head in upright position while drinking.

i. After several swallows, turns canteen to upright position to allow air in the mask to enter canteen.

j. Repeats step i until no longer thirsty.

k. Lowers the canteen, turns it upright, and then blows into the mouthpiece.

l. Returns the lever to the vertical position.

m. Pulls the coupling-half from the cap.

n. Closes the protective cover on the canteen cap and puts the canteen away.

o. Puts the coupling-half back into its cover pocket.

3.	Drinks water while wearing the M24/M25-series protective mask.	P	F
	a. Unfastens hood straps and loosens neck cord.		
	b. Removes canteen from its cover.		

(1) Checks canteen for liquid contamination with M8/ M9 detector paper.

(2) If canteen is contaminated, stops and obtains an uncontaminated canteen.

c. Loosens the canteen cap, but does not remove it. Moves it up under the hood.

d. Takes a few breaths. Holds the last one.

e. Grasps the chin part of the mask.

f. Closes eyes.

g. Pulls the mask down, out, and up away from the face, so the canteen can be placed in the mouth.

h. Pushes the cap off of the threads. Puts the lips, being careful to touch as little of the lips as possible.

i. Reseats the mask on the face, then swallows water.

j. Clears, and checks the mask. Breathes.

kl. Repeats steps d thru k until no longer thirsty.

l. Reseals the canteen.

m. Tightens the draw cord and fastens the hood straps.

n. Secures equipment and continues the mission.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

REFERENCES

TM 3-4240-279-10
TM 3-4240-280-10
TM 3-4240-300-10-1

★ ★ ★ ★ ★

USE THE LATRINE WHILE WEARING MOPP4

031-503-1008

CONDITIONS

Given your assigned protective mask, M258A1 decontamination kit, and M8/M9 detector paper. You are in Mission-Oriented Protective Posture (MOPP) level 4, and need to use the latrine.

STANDARDS

1. Use the latrine without becoming a casualty.
2. Properly decontaminate any contaminated skin.

TRAINING AND EVALUATION

Training Information Outline

1. Use the latrine.

a. Select an area for a cat hole. Avoid low areas and areas with heavy brush.

b. Provide security. If possible, use the buddy system.

c. Scrape away a minimum of 2 inches of surface area with your entrenching tool.

d. The area should be large enough to hold your weapon and your load carrying equipment (LCE).

e. Dig a cat hole approximately 1 foot deep. The cat hole should be within arm's reach of the area for your weapon and your LCE.

f. Place your weapon and your LCE in the appropriately prepared area. Your armored vest and helmet may be retained.

g. Remove packets from the M258A1 skin decontamination kit.

h. Decontaminate your gloves.

i. Pull up the overgarment jacket by grasping the bottom of the jacket and fold it once, back on itself, enough to open the overgarment trousers.

j. Decontaminate your gloves again, if necessary.

k. Unsnap and unzip the overgarment trousers, and carefully peel them down and away from your body as required to perform the specific function.

l. Carefully remove your protective gloves and set them close by.

WARNING

DO NOT TOUCH A CONTAMINATED AREA ON THE OUTERGARMENT BECAUSE CONTAMINATION MAY TRANSFER TO THE CLEAN UNDERGARMENTS.

m. Unbutton and open battle dress uniform (BDU) trousers. (Disregard this step if BDUs are not worn.)

n. Lower your underwear and eliminate waste.

o. Use the M258A1 skin decontamination kit to decontaminate skin that may have become contaminated.

p. Pull up your underwear and BDUs.

q. Put your gloves back on, making sure not to touch the outside of your gloves, which might be contaminated.

r. Pull up the overgarment trousers and refasten.

s. Pull the overgarment jacket back into place.

t. Resecure your LCE and weapon.

u. Ensure all toilet paper and decontaminating wipes are in the cat hole.

v. Fill in and pack down the cat hole and camouflage the area.

w. Continue the mission.

Evaluation Preparation

Setup: Evaluate this task during a field exercise or during a normal training session. The soldier should be in MOPP level 4.

Note: *The M58A1 training kit will be used in all training and evaluation situations. The M258A1 decontamination kit will only be used for actual decontamination. Do not use the M258A1 kit on protective overgarments.*

Brief Soldier: Tell the soldier to demonstrate or explain how to use the latrine while wearing MOPP 4.

Evaluation Guide: 031-503-1008

USE THE LATRINE WHILE WEARING MOPP4

	Performance Measures	*Results*	
1.	Demonstrates or explains how to use the latrine.	P	F
	a. Selects area for cat hole. Avoids low areas with heavy brush.		
	b. Provides security. If possible, use the buddy system.		
	c. Scrapes away a minimum of two inches of surface area with entrenching tool.		
	d. Ensures area is large enough to hold weapon and LCE.		
	e. Digs cat hole approximately 1 foot deep. Cat hole should be within arm's reach of area for weapon and LCE.		
	f. Places weapon and LCE in appropriately prepared area. Armored vest and helmet may be retained.		
	g. Removes packets from M258A1 skin decontamination kit.		
	h. Decontaminates the gloves.		
	i. Pulls up the overgarment jacket by grasping the bottom of jacket and folding it once,		

back on itself, enough to open the overgarment trousers.

j. Decontaminates gloves again, if necessary.

k. Unsnaps and unzips the overgarment trousers, and carefully peels them down and away from the body as required to perform the specific function.

l. Carefully removes the protective gloves and set them close by.

WARNING

DO NOT TOUCH A CONTAMINATED AREA ON THE OUTERGARMENT, BECAUSE CONTAMINATION MAY TRANSFER TO THE CLEAN UNDERGARMENTS.

Note: *Use of latrine is not scored.*

m. Puts the gloves back on, making sure not to touch outside of the gloves, which might be contaminated.

n. Pulls up the overgarment trousers and refasten.

o. Pulls the overgarment jacket back into place.

p. Resecures LCE and weapon.

q. Ensures all toilet paper and decontamination wipes are in cat hole.

r. Fills in and packs down cat hole and camouflages the area.

s. Continues the mission.

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

REFERENCES

FM 3-4
FM 21-11

★ ★ ★ ★ ★

EVALUATE A CASUALTY

081-831-1000

CONDITIONS

Given a soldier who has signs and/or symptoms of an injury.

STANDARDS

Evaluate a casualty following the sequence of major steps and identify all injuries and/or conditions.

TRAINING AND EVALUATION

Training Information Outline

Note: *When evaluating and/or treating a casualty, you should seek medical aid as soon as possible. Do not stop treatment, but if the situation allows, send another person to find medical aid.*

Note: *If there are any signs of chemical or biological agent poisoning, immediately mask the casualty. If it is nerve agent poisoning, administer the antidote. (See the task Administer First Aid to a Nerve Agent Casualty [Buddy-Aid], task number 081-831-1031.)*

1. Check for responsiveness.

   a. Ask in a loud, but calm, voice, "Are you okay?"

   b. Gently shake or tap the casualty on the shoulder.

   c. Watch for response. If the casualty does not respond, go to step 2.

   d. If the casualty is conscious, ask where he or she feels different than usual or where it hurts. Go to step 3.

Note: If the casualty is conscious but is choking and cannot talk, stop the evaluation and begin treatment. (See the task Clear an Object from the Throat of a Conscious Casualty, task number 081-831-1003.)

WARNING

IF A BROKEN NECK OR BACK IS SUSPECTED, DO NOT MOVE THE CASUALTY UNLESS TO SAVE HIS OR HER LIFE.

2. Check for breathing.

a. Breathing is checked using the following methods.

(1) Look for rise and fall of the casualty's chest.

(2) Listen for breathing by placing your ear about 1 inch above the casualty's mouth and nose.

(3) Feel for breathing by placing your hand or cheek about 1 inch above the casualty's mouth and nose.

b. If the casualty is not breathing, stop the evaluation and begin treatment. (See the task Perform Mouth-to-Mouth Resuscitation, task number 081-831-1042.)

Note: *Pulse will be checked, if necessary, during performance of mouth-to-mouth resuscitation.*

3. Check for bleeding.

a. Look for spurts of blood or blood-soaked clothes.

b. Look for entry and exit wounds.

c. If bleeding is present, stop the evaluation and begin treatment in accordance with the following tasks, as appropriate.

(1) Arm or leg wound: Put on a Field or Pressure Dressing.

(2) Partial or complete amputation: Put on a Tourniquet.

(3) Open head wound: Apply a Dressing to an Open Head Wound.

(4) Open abdominal wound: Apply a Dressing to an Open Abdominal Wound.

(5) Open chest wound: Apply a Dressing to an Open Chest Wound.

WARNING
IN A CHEMICALLY CONTAMINATED AREA, DO NOT EXPOSE THE WOUND(S).

4. Check for shock.

a. Look for any of the following signs and/or symptoms.

(1) Sweaty but cool skin (clammy skin).

(2) Paleness of skin.

(3) Restlessness or nervousness.

(4) Thirst.

(5) Loss of blood (bleeding).

(6) Confusion.

(7) Faster than normal breathing rate.

(8) Blotchy or bluish skin, especially around the mouth.

(9) Nausea and/or vomiting.

b. If signs or symptoms of shock are present, stop the evaluation and begin treatment. (See the task Prevent Shock, task number 081-831-1005.)

WARNING

LEG FRACTURES MUST BE SPLINTED BEFORE ELEVATING THE LEGS AS A TREATMENT FOR SHOCK.

5. Check for fractures.

a. Look for the following signs and symptoms of a back or neck injury.

(1) Pain or tenderness of the neck or back area.

(2) Cuts or bruises in the neck or back area.

(3) Inability of a casualty to move (paralysis or numbness).

(a) Ask about ability to move (paralysis).

(b) Touch the casualty's arms and legs and ask whether he or she can feel your hand (numbness).

(4) Unusual body or limb position.

WARNING

UNLESS THERE IS IMMEDIATE LIFE-THREATENING DANGER, DO NOT MOVE A CASUALTY WHO HAS A SUSPECTED BACK OR NECK INJURY.

b. Immobilize any casualty suspected of having a neck or back injury by doing the following.

(1) Tell the casualty not to move.

(2) If a back injury is suspected, place padding under the natural arch of the casualty's back.

(3) If a neck injury is suspected, place a roll of cloth under the casualty's neck and put boots (filled with dirt, sand, etc.) or rocks on both sides of the head.

c. Check the casualty's arms and legs for open or closed fractures.

(1) Check for open fractures.

(a) Look for bleeding.

(b) Look for bone sticking through the skin.

(2) Check for closed fractures.

(a) Look for swelling.

(b) Look for discoloration.

(c) Look for deformity.

(d) Look for unusual body position.

d. If a fracture to an arm or leg is suspected, stop the evaluation and begin treatment. (See the task Splint a Suspected Fracture, task number 081-831-1034.)

6. Check for burns.

a. Look carefully for reddened, blistered, or charred skin. Also check for singed clothes.

b. If burns are found, stop the evaluation and begin treatment. (See the task Give First Aid for Burns, task number 081-831-1007.)

7. Check for head injury.

a. Look for the following signs and symptoms.

(1) Unequal pupils.

(2) Fluid from the ear(s), nose, mouth, or injury site.

(3) Slurred speech.

(4) Confusion.

(5) Sleepiness.

(6) Loss of memory or consciousness.

(7) Staggering in walking.

(8) Headache.

(9) Dizziness.

(10) Vomiting.

(11) Paralysis.

(12) Convulsions or twitches.

b. If a head injury is suspected, continue to watch for signs which would require performance of mouth-to-mouth resuscitation, treatment for shock, or control of bleeding and seek medical aid.

Evaluation Preparation

Setup: Prepare a "casualty" for the soldier to evaluate by simulating one or more wounds or conditions. Wounds may be simulated using a war wounds moulage set, casualty simulation kit, or other available materials. A "conscious casualty" can be coached to show signs of such conditions as shock or head injury and to respond to the soldier's questions about location of pain or other symptoms of injury. However, the evaluator will cue the soldier during evaluation of an

"unconscious casualty" as to whether the casualty is breathing and describe the signs or conditions, such as shock, as the soldier is making the checks.

Brief Soldier: Tell the soldier to do, in order, all necessary steps to evaluate the casualty and identify all wounds and/or conditions. Tell the soldier to tell you what first aid action (give mouth-to-mouth resuscitation, bandage the wound, etc.) he or she would take but that no first aid is to be performed unless a neck or back injury is found.

Note: *It is not necessary for the soldier to check for pulse during this evaluation. Checking for pulse will be trained and evaluated as a part of task, Perform Mouth-to-Mouth Resuscitation, task number 081-831-1042.*

Evaluation Guide: 081-831-1000

EVALUATE A CASUALTY

	Performance Measures	*Results*	
1.	Checks for responsiveness.	P	F
2.	Checks for breathing, if necessary.	P	F
3.	Checks for bleeding.	P	F
4.	Checks for shock.	P	F
5.	Checks for fractures and immobilizes neck or back injuries, if found.	P	F
6.	Checks for burns.	P	F
7.	Checks for head injury.	P	F

8.	Performs all necessary steps in sequence.	P	F
9.	Seeks medical aid as soon as possible.	P	F
10.	Identifies all wounds and/or conditions.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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ADMINISTER NERVE AGENT ANTIDOTE TO SELF (SELF-AID)

081-831-1030

CONDITIONS

Given protective garments, mask with hood in its carrier, and nerve agent antidote autoinjectors. Your unit comes under a chemical attack.

STANDARDS

Treat yourself for nerve agent poisoning following sequence.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Nerve agent antidote injection training aids must be used to train and evaluate this task. Actual autoinjectors will not be used. The soldier will be dressed in Mission-Oriented Protective Posture (MOPP) level 2. The soldier will be wearing a mask carrier containing a mask and the training nerve agent autoinjectors.

Brief Soldier: Tell the soldier to state, in any order, the mild symptoms of nerve agent poisoning. Then, tell the soldier that he or she has mild symptoms and to take appropriate action. After the soldier completes step 7, ask what should be done next. Then, ask what he or she should do after putting on all protective clothing.

Evaluation Guide: 081-831-1030

ADMINISTER NERVE AGENT ANTIDOTE TO SELF (SELF-AID)

	Performance Measures	*Results*	
1.	States mild symptoms of nerve agent poisoning.	P	F
	(Soldier must state seven of the eight symptoms to be scored PASS.)		
	a. Unexplained runny nose.		
	b. Unexplained sudden headache.		
	c. Excessive flow of saliva (drooling).		

d. Tightness of chest causing breathing difficulties.

e. Difficulty seeing.

f. Muscular twitching of exposed/contaminated skin.

g. Stomach cramps.

h. Nausea.

2. Reacts to the chemical hazard. P F

a. Puts on the protective mask.

Note: *Additional protective clothing will not be put on at this time.*

b. Gives the alarm.

3. Prepares to administer one atropine injection. P F

a. Removes one set of autoinjectors from the mask carrier.

b. With one hand, holds the set of injectors by the plastic clip with the big injector on top.

c. With the other hand, checks the injection site to avoid buttons and objects in pockets.

d. Grasps the small injector and pulls it out of the clip with a smooth motion.

e. Forms a fist around the injector without covering or holding the needle (green) end.

Note: *If the injection is accidently given in the hand, another small injector must be obtained and the injection given in the proper site.*

f. Places the needle end of the injector against the outer thigh muscle.

Note: *The injection can be given in any part of the lateral thigh muscle from about a hand's width above the knee to a hand's width below the hip joint.*

Note: *Very thin soldiers should give the injection in the upper outer part of the buttocks.*

4.	Administers the atropine injection.	P	F
	a. Pushes the injector into the muscle with firm, even pressure until it functions.		
	b. Holds the injector in place for at least 10 seconds.		
	c. Carefully places the used injector between two fingers of the hand holding the clip.		
5.	Prepares to administer one 2 PAM Cl injection.	P	F
	a. Pulls out the large injector and forms a fist around it as before.		
	b. Places the needle (black) end of the injector against the injection site.		
6.	Administers the 2 PAM Cl injection.	P	F
	a. Pushes the injector into the muscle with firm, even pressure until it functions.		

b. Holds the injector in place for at least 10 seconds.

7. Secures the used injectors. P F
   a. Drops the clip without dropping the injectors.
   b. Pushes the needle of each used injector (one at a time) through one of the pocket flaps of the protective overgarment.
   c. Bends each needle to form a hook without tearing protective gloves or clothing.
8. States that he or she would decontaminate the skin, if necessary, and put on any remaining protective clothing. P F
9. States that he or she would seek buddy or medical aid. P F

WARNING

IF WITHIN 5 TO 10 MINUTES AFTER ADMINISTERING THE FIRST SET OF INJECTIONS, THE HEART BEGINS BEATING RAPIDLY AND THE MOUTH BECOMES VERY DRY, ANOTHER SET OF INJECTIONS WILL NOT BE ADMINISTERED.

Note: *If administration of the second and third sets of antidote is necessary, they will most likely have to be*

given by a buddy or medical personnel. A second set will probably not be needed if the casualty can walk and knows who and where he or she is.

10. Performs all steps in sequence. P F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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ADMINISTER FIRST AID TO A NERVE AGENT CASUALTY (BUDDY-AID)

081-831-1031

CONDITIONS

Given an area where chemical agents have been used, you are wearing protective overgarments and mask, or they are immediately available. You encounter a casualty who is breathing and lying on the ground. The casualty is partially dressed in protective clothing and is wearing the protective mask carrier.

STANDARDS

Treat the casualty for nerve agent poisoning following sequence.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Nerve agent antidote injection training aids must be used to train and evaluate this task. Actual autoinjectors will not be used. The soldier being tested and the simulated casualty will be dressed in Mission-Oriented Protective Posture (MOPP) level 2. The casualty will be lying on the ground wearing the mask carrier containing a mask and the training nerve agent autoinjectors.

Brief Soldier: Tell the soldier to state, in any order, the severe symptoms of nerve agent poisoning. Ask what he or she would do before treating another soldier. Tell the soldier to treat the casualty for nerve agent poisoning. After the soldier completes step 10, ask what else he or she should do.

Evaluation Guide: 081-831-1031

ADMINISTER FIRST AID TO A NERVE AGENT CASUALTY (BUDDY-AID)

	Performance Measures	*Results*	
1.	States severe symptoms of nerve agent poisoning.	P	F
	(Soldier must state eight of the nine symptoms to be scored PASS.)		
	a. Strange and confused behavior.		
	b. Gurgling sounds made when breathing.		
	c. Severely pinpointed pupils.		

d. Red eyes with tearing.

e. Vomiting.

f. Severe muscular twitching.

g. Loss of bladder/bowel control.

h. Convulsions.

i. Unconsciousness or stoppage of breathing.

2. States that he or she would take immediate steps to protect self and to warn others. P F

   a. Puts on the mask.

   b. Gives the alarm.

   c. Gives antidote to self, if necessary.

   d. Decontaminates skin, if necessary.

   e. Puts on remaining protective clothing.

3. Leaves the casualty in the position found unless he or she must be repositioned to put on the protective mask or to administer the antidote in the buttocks. P F

4. Masks the casualty, if necessary. P F

   a. Rolls the casualty onto his or her back, if not already in that position.

   b. Places the mask on the casualty.

   c. If the casualty can follow directions, tells him or her to clear the mask.

d. Checks for a complete mask seal by covering the mask's inlet valves.

e. Pulls the protective hood over the head, neck, and shoulders of the casualty.

5. Prepares to administer one atropine injection. P F

a. Removes all three sets of autoinjectors from the casualty's mask carrier.

b. With one hand, holds one set of injectors by the plastic clip with the big injector on top.

c. With the other hand, checks the injection site to avoid buttons and objects in pockets.

d. Grasps the small injector and pulls it out of the clip with a smooth motion.

e. Forms a fist around the injector without covering or holding the needle (green) end.

Note: *If the injection is accidently given in the hand, another small injector must be obtained and the injection given in the proper site.*

f. Places the needle end of the injector against the casualty's outer thigh muscle.

Note: *The injection can be given in any part of the lateral thigh muscle from about a hand's width above the knee to a hand's width below the hip joint.*

Note: *Very thin soldiers should be given the injections in the upper outer part of the buttocks.*

6.	Administers the atropine injection.	P	F
	a. Pushes the injector into the muscle with firm, even pressure until it functions.		
	b. Holds the injector in place for at least 10 seconds.		
	c. Carefully places the used injector between two fingers of the hand holding the clip.		
7.	Prepares to administer one 2 PAM Cl injection.	P	F
	a. Pulls out the large injector and forms a fist around it as before.		
	b. Places the needle (black) end of the injector against the injection site.		
8.	Administers the 2 PAM Cl injection.	P	F
	a. Pushes the injector into the muscle with firm, even pressure until it functions.		
	b. Holds the injector in place for at least 10 seconds.		

c. Drops the clip without dropping the injectors.

d. Lays the used injectors on the casualty's chest (if lying on the back) or on the casualty's back (if lying on the stomach), pointing the needles toward his or her head.

9. Repeats steps 5 through 8 until the casualty has received a total of three sets of antidote injections. P F

10. Secures the used injectors P F

a. Pushes the needle of each used injector (one at a time) through one of the pocket flaps of the casualty's protective overgarment.

b. Bends each needle to form a hook without tearing the protective gloves or clothing.

11. States what he or she would do after administering the antidote. P F

a. Decontaminates the casualty's skin, if necessary.

b. Seeks medical aid.

12. Performs steps 1 through 11 in sequence. P F

13. Does not kneel at any time. P F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

★ ★ ★ ★ ★

CLEAR AN OBJECT FROM THE THROAT OF A CONSCIOUS CASUALTY

081-831-1003

CONDITIONS

Given a conscious casualty who is having a hard time breathing because something is stuck in his or her throat.

STANDARDS

Attempt to clear the object from the casualty's throat. Continue giving abdominal or chest thrusts until the casualty can talk and breathe normally, you are relieved by a qualified person, or the casualty becomes unconscious requiring mouth-to-mouth resuscitation.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: You will need another soldier to play the part of the casualty.

Brief Soldier: Describe the symptoms of a casualty with good air exchange, poor air exchange, or a complete airway obstruction. Ask the soldier what should be done. Score step 1 based upon the answer. Then tell the soldier to do all of the first aid steps required to clear the object from the casualty's throat. Tell the soldier to demonstrate where to stand, how to position his or her hands, and how to position the casualty for the thrusts. The soldier must tell you how many thrusts should be done and tell you how they should be done. Ensure that the soldier understands that he or she must not actually do the thrusts.

Evaluation Guide: 081-831-1003

CLEAR AN OBJECT FROM THE THROAT OF A CONSCIOUS CASUALTY

Performance Measures	*Results*	
1. Determines if the casualty needs help.	P	F
a. If the casualty has good air exchange (able to speak, coughs forcefully, may be wheezing between coughs), does not interfere except to encourage the casualty.		

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b. If the casualty has poor air exchange (weak coughing with high pitched noise between coughs, signs of shock), continues with step 2.

c. If the casualty has a complete airway obstruction (cannot speak, breathe, or cough at all; may be clutching neck and moving erratically), continues with step 2.

2. Shows the correct positioning for giving abdominal or chest thrusts and tells how he or she would give them. P F

Note: *Abdominal thrusts should be used unless the casualty is in the advanced stages of pregnancy, is very obese, or has a significant abdominal wound.*

a. Abdominal thrusts.

(1) Stands behind the casualty and wraps his or her arms around the casualty's waist.

(2) Makes a fist with one hand and places the thumb side of the fist against the abdomen slightly above the navel and well below the tip of the breastbone.

(3) Grasps the fist with the other hand and gives quick backward and upward thrusts.

Note: *Each thrust should be a separate, distinct movement. It may be necessary to repeat the thrust 6 to 10 times to clear the airway.*

b. Chest thrusts.

(1) Stands behind the casualty and wraps his or her arms under the casualty's armpits and around the chest.

(2) Makes a fist with one hand and places the thumb side of the fist on the middle of the breastbone.

(3) Grasps the fist with the other hand and gives backward thrusts.

Note: *Each thrust should be given slowly, distinctly, and with the intent of relieving the obstruction.*

3. Continues giving abdominal or chest thrusts, as required. P F

Note: *Although not evaluated, the soldier would continue giving thrusts as stated in the task standard. If the casualty becomes unconscious, the soldier would perform a finger sweep and then start mouth-to-mouth resuscitation procedures. If the obstruction is cleared, the soldier would watch the casualty closely and check for other injuries, if necessary. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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PERFORM MOUTH-TO-MOUTH RESUSCITATION

081-831-1042

CONDITIONS

Given an adult casualty who is unconscious and does not appear to be breathing. You are not in a chemical environment.

STANDARDS

Perform mouth-to-mouth resuscitation following the correct sequence. Continue giving breaths at the rate of about one every 5 seconds until the casualty starts to breathe on his or her own, you are relieved by a qualified person, or you are too tired to go on.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: For training and testing, a mannequin (DVC 0815) must be used. A bottle of alcohol and swabs or cotton balls must be available. Place the mannequin on the floor and alcohol and cotton balls on the table. The mannequin's nose and mouth must be cleaned before each soldier is evaluated.

Brief Soldier: Tell the soldier to do, in order, all necessary steps to restore breathing. After step 3, tell the soldier that the casualty is not breathing. When testing steps 4 and 5, see the notes below them for available options. If step 7 is tested, tell the soldier that the airway is open. The evaluation can be stopped when the soldier rechecks for the pulse in step 9.

Note: *Reference made to the mouth-to-nose method within the task is for information purposes only. This method will not be evaluated as a part of this task.*

Evaluation Guide: 081-831-1042

PERFORM MOUTH-TO-MOUTH RESUSCITATION

	Performance Measures	*Results*	
1.	Rolls the casualty onto his or her back, if necessary.	P	F

WARNING

THE CASUALTY SHOULD BE CAREFULLY ROLLED AS A UNIT SO THAT THE BODY DOES NOT TWIST.

2. Opens the airway using the head-tilt/chin-lift method. P F

Note: *If foreign material or vomitus is seen in the mouth, it should be removed as quickly as possible.*

   a. Kneels at the level of the casualty's shoulders.

   b. Places one hand on the casualty's forehead and applies firm, backward pressure with the palm to tilt the head back.

   c. Places the fingertips of the other hand under the bony part of the lower jaw and lifts, bringing the chin forward.

Note: *Does not use the thumb to lift and does not press deeply into the soft tissue under the chin with the fingers.*

3. Checks for breathing within 3 to 5 seconds by placing an ear over the casualty's mouth and looking toward his or her chest. P F

   a. Looks for the chest to rise and fall.

   b. Listens for sounds of breathing.

   c. Feels for breath on the cheek.

Note: *If the casualty resumes breathing at any time during this procedure, the airway should be maintained open and the casualty should be monitored. If the casualty continues to breathe, he or she should be transported to medical aid. Otherwise, the procedure should be continued.*

4. Gives breaths to ensure an open airway. P F

Note: *When mouth-to-mouth rescue breathing cannot be performed because the casualty has jaw injuries or spasms, the mouth-to-nose method may be more effective. The mouth-to-nose method is similar to mouth-to-mouth except that the rescuer blows into the nose while holding the lips closed with the hand at the chin. The rescuer then removes his or her mouth to allow air to escape. In some cases, it may be necessary to separate the casualty's lips to allow the air to escape.*

a. Maintains the airway and gently pinches the nose closed using the hand on the casualty's forehead.

b. Takes a deep breath and places his or her mouth, in an airtight seal, around the casualty's mouth.

c. Gives two full breaths (1 to 1 1/2 seconds each), taking a breath between them, while watching for the chest to rise and fall and listening and/or feeling for air to escape during exhalation.

Note: *Evaluator will indicate:*

a. That chest rises; if so, soldier will continue with step 8.

b. That chest does not rise; if so, soldier will proceed to next step.

5. Repositions the casualty's head slightly farther backward and repeats the breaths. P F

Note: *Evaluator will indicate:*

a. That chest rises; if so, the soldier will continue with step 8.

b. That chest does not rise; if so, soldier will proceed to next step.

6. Performs abdominal or chest thrusts. P F

Note: *Abdominal thrusts should be used unless the casualty is in the advanced stages of pregnancy, is very obese, or has a significant abdominal wound.*

a. Abdominal thrusts.

(1) Kneels astride the casualty's thighs.

(2) Places the heel of one hand against the casualty's abdomen, slightly above the navel but well below the tip of the breastbone, with the fingers pointing toward the casualty's head.

(3) Places the other hand on top of the first.

(4) Presses into the abdomen with a quick forward and upward thrust.

Note: *Each thrust should be a separate, distinct movement.*

(5) Gives 6 to 10 thrusts.

b. Chest thrusts.

(1) Kneels close to the side of the casualty's body.

(2) Locates the lower edge of the casualty's ribs and runs the fingers up along the rib cage to the notch where the ribs meet the breastbone.

(3) Places the middle finger on the notch with the index finger just above it on the lower end of the breastbone. Places the heel of the other hand on the lower half of the breastbone next to the two fingers.

(4) Removes the fingers from the notch and places that hand on top of the other hand extending or interlacing the fingers.

(5) Straightens and locks the elbows with the shoulders directly above the hands.

(6) Without bending the elbows, rocking, or allowing

the shoulders to sag, applies enough pressure to depress the breastbone 1 1/2 to 2 inches. Note: Each thrust should be given slowly, distinctly, and with the intent of relieving the obstruction.

(7) Gives 6 to 10 thrusts.

7. Performs a finger sweep and repeats the breaths. P F

a. Opens the mouth by grasping the tongue and lower jaw to lift the jaw open or crossing the fingers and thumb to push the teeth apart.

b. Inserts the index finger of the other hand down along the cheek to the base of the tongue.

c. Uses a hooking motion from the side of the mouth toward the center to dislodge the object.

WARNING
TAKES CARE NOT TO FORCE THE OBJECT DEEPER INTO THE AIRWAY.

d. Reopens the airway and repeats the breaths.

Note: *Evaluator will indicate:*

a. That chest rises; if so, soldier will proceed to the next step.

b. That chest does not rise; if so, soldier will repeat steps 6 and 7 until the airway is clear.

8. Checks for a pulse, using the first two fingers, in the groove in the casualty's throat beside the Adam's apple. P F

Note: *The thumb will not be used. Pulse should be checked for 5 to 10 seconds.*

a. If a pulse is found but the casualty is not breathing, continues with step 9.

b. If no pulse is found, CPR must be performed by qualified personnel.

9. Continues mouth-to-mouth resuscitation, at the rate of about one breath every 5 seconds (12 breaths per minute), and rechecks for pulse and breathing after every 12 breaths. P F

Note: *This check should take about 3 to 5 seconds.*

10. Performs all necessary steps in the correct sequence. P F

Note: *Although not evaluated, the soldier would continue mouth-to-mouth resuscitation as stated in the task standard. When breathing is restored, the soldier would watch the casualty closely, maintain an open airway, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

★ ★ ★ ★ ★

PUT ON A FIELD OR PRESSURE DRESSING

081-831-1016

CONDITIONS

Given a casualty who has a bleeding wound of the arm or leg. The casualty is breathing. The casualty's first aid packet and materials to improvise a pressure dressing and to elevate the extremity are available.

STANDARDS

Put a field dressing and, if necessary, a pressure dressing on the wound following the correct sequence.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Use the same field dressing repeatedly. Have materials available for a pressure dressing (wadding and cravat or a strip of cloth). Have one soldier play the part of the casualty and another apply the field and pressure dressing. Use a moulage or mark a place on the casualty's arm or leg to simulate a wound.

Brief Soldier: Tell the soldier to do, in order, the first aid steps required to put a field dressing and, if necessary, a pressure dressing on the casualty's wound. When testing step 1, see note below it for available options. After step 2 and step 3, tell the soldier that the bleeding has not stopped. After step 4, tell the soldier that the bleeding has stopped and ask what should have been done if bleeding had continued.

Evaluation Guide: 081-831-1016

PUT ON A FIELD OR PRESSURE DRESSING

	Performance Measures	*Results*	
1.	Uncovers the wound unless clothing is stuck to the wound or a chemical environment exists.	P	F

Note: *Evaluator will indicate:*

a. Whether clothing is stuck; if so, soldier should not attempt to remove it.

b. If chemical environment exists; if so, soldier should not uncover the wound.

2. Applies the casualty's field dressing. P F

   a. Applies the dressing, white side down, directly over the wound.

   b. Wraps the tails so that the dressing is covered and both sides are sealed.

   c. Ties the tails into a nonslip knot over the outer edge of the dressing; not over the wound.

   d. Checks to make sure that it is tied firmly enough to prevent slipping without causing a tourniquet- like effect.

WARNING

FIELD AND PRESSURE DRESSINGS SHOULD NOT HAVE A TOURNIQUET-LIKE EFFECT. THE DRESSING MUST BE LOOSENED IF THE SKIN BEYOND THE INJURY BECOMES COOL, BLUE, OR NUMB.

3. Applies manual pressure and elevates the arm or leg, if necessary. P F

   a. Applies firm manual pressure over the dressing for 5 to 10 minutes.

b. Elevates the injured part above the level of the heart, unless a fracture is suspected and has not been splinted.

4. Applies a pressure dressing, if necessary. P F
   a. Keeps the arm or leg elevated.
   b. Places a wad of padding directly over the wound.
   c. Places an improvised dressing over the wad of padding and wraps it tightly around the wound.
   d. Ties a nonslip knot directly over the wound.
   e. Checks to make sure that the dressing does not have a tourniquet-like effect.

Note: *If the bleeding stops, the soldier would watch the casualty closely and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.) If the bleeding continues, he or she might have to apply a tourniquet. (See the task Put on a Tourniquet, task number 081-831-1017.)*

5. Performs all necessary steps in sequence. P F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

★ ★ ★ ★ ★

PUT ON A TOURNIQUET

081-831-1017

CONDITIONS

Given a casualty who has a bleeding wound of the arm or leg. The bleeding cannot be stopped using a field and pressure dressing. The casualty is breathing. A stick or similar object is available.

STANDARDS

Apply a tourniquet which stops bright red bleeding. The tourniquet stick does not unwind.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: This task will be evaluated using a mannequin or a simulated arm or leg (padded length of 2 x 4 inch wood with a glove or boot on one end). Under no

circumstances will this task be evaluated using a live simulated casualty. Place a real or simulated field dressing on the arm or leg. Place the tourniquet materials (stick and one or two pieces of cloth) nearby.

Brief Soldier: Tell the soldier that field and pressure dressings have failed to stop the bleeding from the wound and that he or she must put on a tourniquet.

Evaluation Guide: 081-831-1017

PUT ON A TOURNIQUET

Performance Measures	*Results*	

WARNING

THE ONLY TIME THAT A TOURNIQUET SHOULD BE APPLIED IS WHEN AN ARM OR LEG HAS BEEN CUT OFF OR WHEN HEAVY BLEEDING CANNOT BE STOPPED BY A PRESSURE DRESSING. IF ONLY A PART OF A HAND OR FOOT HAS BEEN CUT OFF, THE BLEEDING SHOULD BE STOPPED USING A PRESSURE DRESSING.

1.	Makes a tourniquet at least 2 inches wide.	P	F
2.	Positions the tourniquet.	P	F
	a. Places the tourniquet over the smoothed sleeve or trouser leg, if possible.		

b. Places the tourniquet around the limb 2 to 4 inches above the edge of the wound but not on a joint.

3. Applies the tourniquet. P F
   a. Ties a half knot.
   b. Places a stick (or similar object) on top of the knot.
   c. Ties a full knot over the stick.
   d. Twists the stick until the tourniquet is tight around the limb and bright red bleeding has stopped.
4. Secures the tourniquet. P F

Note: *The tourniquet can be secured using the ends of the tourniquet band or with another piece of cloth as long as the stick does not unwind.*

5. Marks the casualty's forehead with a "T" using a pen, mud, the casualty's blood, or whatever is available. P F
6. Does not cover the tourniquet. P F
7. Does not loosen the tourniquet. P F

Note: *If possible, severed limbs or body parts should be saved and transported with, but out of sight of, the casualty.*

Note: *If a limb is completely amputated, the stump should be padded and bandaged.*

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions,*

seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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APPLY A DRESSING TO AN OPEN ABDOMINAL WOUND

081-831-1025

CONDITIONS

Given a casualty who has an open abdominal wound. The casualty is breathing. A first aid packet is available.

STANDARDS

Apply a dressing to the wound following the correct sequence without causing further injury to the casualty.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Use the same field dressing repeatedly. Have another soldier act as the casualty. Use a moulage or otherwise simulate the abdominal wound. You can have a canteen of water available and have the casualty say that he or she is thirsty to test step 6d.

Brief Soldier: Tell the soldier to do, in order, all necessary first aid steps to treat the casualty's wound. When testing step 2, see note below it for available options.

Evaluation Guide: 081-831-1025

APPLY A DRESSING TO AN OPEN ABDOMINAL WOUND

	Performance Measures	*Results*	
1.	Positions the casualty on his or her back with the legs in a knees up position (flexed).	P	F
2.	Uncovers the wound unless clothing is stuck to the wound or a chemical environment exists.	P	F

Note: *Evaluator will indicate:*

a. Whether clothing is stuck; if so, soldier should not attempt to remove it.

b. If chemical environment exists; if so, soldier should not uncover the wound.

3.	Picks up any organs which are on the ground.	P	F
	a. Uses a clean, dry dressing or the cleanest material available.		
	b. Places the organs on top of the casualty's abdomen.		
4.	Applies the casualty's field dressing.	P	F

Note: If the field dressing is not large enough to cover the entire wound, the inner surface of the plastic wrapper from the dressing may be used to cover the bowel before the dressing is applied. Other improvised dressings can be made from clothing, blankets, or the cleanest material available.

a. Applies the dressing, white side down, directly over the wound.

WARNING
DOES NOT APPLY PRESSURE TO THE WOUND OR OTHER EXPOSED INTERNAL PARTS.

b. Wraps the tails around the casualty's body back to the starting point, completely covering the dressing, if possible.

c. Loosely ties the tails into a nonslip knot at the casualty's side.

d. Checks to make sure that the dressing tails are tied firmly enough to prevent slipping

without applying pressure to the bowel.

Note: *Field dressings can be covered with improvised reinforcement materials (cravats, strips of torn cloth) for additional support and protection. The improvised bandages should be tied on the casualty's opposite side.*

5.	Performs steps 1 through 4 in sequence.	P	F
6.	Does not cause further injury.	P	F
	a. Does not touch exposed organs with bare hands.		
	b. Does not try to push organs back inside the body.		
	c. Does not probe, clean, or remove any foreign object from the wound.		
	d. Does not give food or water to the casualty. (Moistening the lips is allowed.)		

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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APPLY A DRESSING TO AN OPEN CHEST WOUND

081-831-1026

CONDITIONS

Given a casualty who has an open chest wound. The casualty is breathing. A first aid packet is available.

STANDARDS

Apply a dressing to the wound following the correct sequence without causing further injury to the casualty.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Use the same field dressing repeatedly. Prepare the field dressing outer wrapper or provide a piece of airtight material (plastic, cellophane, foil). Have another soldier act as the casualty. Use a moulage or otherwise simulate the chest wound.

Brief Soldier: Tell the soldier to do, in order, all necessary first aid steps to treat the casualty's wound. Tell the soldier that there is no exit wound. When testing step 1, see note below it for available options.

Evaluation Guide: 081-831-1026

APPLY A DRESSING TO AN OPEN CHEST WOUND

Performance Measures	*Results*

Note: *If there are two wounds, the same procedure should be followed for both wounds starting with the one which is most serious (heaviest bleeding, largest).*

1. Uncovers the wound unless clothing is stuck to the wound or a chemical environment exists. P F

Note: *Evaluator will indicate:*

   a. Whether clothing is stuck; if so, soldier should not attempt to remove it.

   b. If chemical environment exists; if so, soldier should not uncover the wound.

WARNING
DOES NOT ATTEMPT TO CLEAN THE WOUND.

2. Applies airtight material over the wound without touching the inner surface, if possible. P F

   a. Uses the fully opened outer wrapper of the casualty's field dressing or other airtight material.

b. Applies the inner surface of the airtight material directly over the wound after the casualty breathes out completely.

c. Holds it in place.

3. Applies the casualty's field dressing. P F

a. Applies the dressing, white side down, directly over the airtight material.

b. Has the casualty breathe normally.

c. Maintains pressure on the dressing while wrapping the tails, in opposite directions, around the body and back to the starting point.

d. Ties the tails into a nonslip knot over the center of the dressing after the casualty has breathed out completely.

e. Checks to make sure that the dressing tails are tied firmly enough to secure the dressing without interfering with breathing.

Note: *When practical, direct manual pressure should be applied over the dressing for 5 to 10 minutes.*

4. Positions the casualty on the injured side or in a sitting position, whichever makes breathing easier. P F

WARNING

IF THE CASUALTY'S CONDITION (DIFFICULTY IN BREATHING, SHORTNESS OF BREATH, RESTLESSNESS, OR BLUENESS OF SKIN) WORSENS AFTER PLACING THE DRESSING, QUICKLY LIFTS OR REMOVES AND THEN REPLACES THE AIRTIGHT DRESSING.

5. Performs steps 1 through 4 in sequence. P F

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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APPLY A DRESSING TO AN OPEN HEAD WOUND

081-831-1033

CONDITIONS

Given a casualty who has an open head wound. The casualty is breathing. A first aid packet is available.

STANDARDS

Apply a dressing to the wound following the correct sequence without causing further injury to the casualty.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Use the same field dressing repeatedly. Have another soldier act as the casualty. Use a moulage or otherwise simulate a wound to the forehead, back of the head, side of the head, cheek, or top of the head. Brief the casualty on how to answer the soldier's questions during step 1. You can have a canteen of water available and have the casualty say that he or she is thirsty to test step 7d.

Brief Soldier: Tell the soldier to do, in order, all necessary first aid steps to treat the casualty's wound. Tell the soldier that a chemical environment does not exist. After the soldier completes step 4, ask him or her how often the casualty's level of consciousness should

be checked and what should be done if the casualty falls asleep.

Evaluation Guide: 081-831-1033

APPLY A DRESSING TO AN OPEN HEAD WOUND

	Performance Measures	*Results*	
1.	Checks the casualty's level of consciousness.	P	F
	a. Asks the casualty questions such as:		
	(1) "What is your name?"		
	(2) "Where are you?"		
	(3) "What is today's date (day, month, year)?"		
	b. Reports incorrect answers, inability to answer, or changes in answers to medical personnel when they arrive.		
2.	Positions the casualty.	P	F

WARNING

THE CASUALTY WILL NOT BE MOVED IF IT IS SUSPECTED THAT HE OR SHE HAS SUSTAINED A NECK, SPINE, OR SEVERE HEAD INJURY WHICH PRODUCES ANY SIGNS OR STMPTOMS OTHER THAN MINOR BLEEDING. (SEE THE TASK EVALUATE A CASUALTY, TASK NUMBER 081-831-1000.)

a. Casualty is conscious or has a minor scalp wound.

   (1) Has him or her sit up unless unable or other injuries prohibit it.

   (2) If the casualty is lying down and is not accumulating fluids in the throat, raises his or her head slightly.

   (3) If the casualty is bleeding into the mouth or throat, turns his or her head to the side or positions the casualty on his or her side (the side opposite the site of the injury, if applicable).

b. Casualty is unconscious or has a severe head injury.

   (1) Treats as having a potential neck or spinal injury. Immobilizes and does not move the casualty unless absolutely necessary.

   (2) If the casualty is choking and/or vomiting, or is bleeding into the mouth or throat, positions the casualty on his or her side (the side opposite the site of the injury, if applicable).

WARNING

IF IT IS NECESSARY TO TURN A CASUALTY WITH A SUSPECTED NECK OR SPINAL INJURY, ASSISTANCE WILL BE REQUIRED TO ROLL THE CASUALTY GENTLY ONTO HIS OR HER SIDE, KEEPING THE HEAD, NECK, AND BODY ALIGNED WHILE PROVIDING SUPPORT FOR THE HEAD AND NECK.

3. Exposes the wound by removing the helmet, if necessary. P F

Note: *In a chemical environment:*

a. If the mask and hood are not breached, no dressing is applied. If the "all clear" has not been given, the casualty's mask will not be removed to treat the wound.

b. If the mask or hood has been breached and the "all clear" has not been given, an attempt will be made to repair the breach with tape or wet cloth stuffings. No dressing will be applied.

c. If the mask or hood has been breached and the "all clear" has been given, the mask can be removed to apply a dressing.

4. Applies the casualty's field dressing to the wound. P F

a. Forehead or back of head.

(1) Applies the dressing, white side down, directly over the wound with the tails extending toward the sides of the head.

(2) Wraps the tails, one at a time, around the head in opposite directions making sure that the tails cover the dressing but not the eyes or ears.

(3) Ties the tails at the side of the head using a nonslip knot.

b. Top of the head.

(1) Applies the dressing, white side down, directly over the wound.

(2) Wraps one tail down under the chin, up in front of the ear, and over the dressing to a point just above and in front of the opposite ear.

(3) Wraps the other tail down under the chin in the opposite direction and up the side of the head to meet the first tail.

(4) Crosses the tails.

(5) Wraps one tail across the forehead above the eyebrows to a point just above and in front of the opposite ear.

(6) Wraps the other tail above the ear, low over the back of the head, and above the opposite ear to meet the other tail.

(7) Ties the tails using a non-slip knot.

c. Side of the head or cheek.

(1) Applies the dressing, white side down, directly over the wound with the tails extending up and down.

(2) Wraps the top tail over the top of the head, down in front of the ear, under the chin, and up over the dressing to a point just above the ear.

(3) Wraps the other tail in the opposite direction to meet the first tail.

(4) Crosses the tails and completes the procedure as in steps 4b(5) through 4b(7).

5. Monitors the casualty. P F

a. Checks the casualty's level of consciousness every 15 minutes.

b. If the casualty falls asleep, awakens him or her every 15 minutes.

c. Notes any changes from earlier checks.

6. Performs steps 1 through 5 in sequence. P F

7. Does not cause further injury. P F

a. Does not try to clean the wound.

b. Does not put unnecessary pressure on the wound.

c. Does not try to push brain matter back into the head.

d. Does not give the casualty any food or drink.

e. Does not move the casualty if a broken neck or back is suspected.

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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PREVENT SHOCK

081-831-1005

CONDITIONS

Given a casualty who is breathing. There is no uncontrolled bleeding. You find symptoms of shock.

STANDARDS

Attempt to prevent shock without causing further injury to the casualty.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: You will need another soldier to play the part of the casualty. Have the casualty lie down. You can have a canteen of water available and have the casualty say that he or she is thirsty to test step 5b.

Brief Soldier: Tell the soldier to do all necessary first aid steps to prevent shock. You can vary the test by telling the soldier whether it is hot or cold or that the casualty has a broken leg or abdominal wound to see if the soldier knows what to do.

Evaluation Guide: 081-831-1005

PREVENT SHOCK

Performance Measures	*Results*	
1. Positions the casualty.	P	F
a. Moves the casualty to cover, if it is available and the situation permits.		
b. Lays the casualty on his or her back unless a sitting position will allow the casualty to breathe easier.		
c. Elevates the casualty's feet higher than the heart using a stable object, unless the casualty has an abdominal wound unsplinted fracture of the leg, or head wound.		
2. Loosens tight clothing which may bind around the neck, waist, or other areas unless in a chemical environment.	P	F
3. Keeps the casualty from chilling or overheating.	P	F
a. In cold weather, places cover under and over the casualty.		
b. In hot weather, places the casualty in the shade or improvises shelter, if possible.		

		P	F
4.	Reassures the casualty.		
	a. Tries to calm the casualty.		
	b. Takes charge and shows self-confidence.		
	c. Assures the casualty that he or she is being taken care of.		
5.	Does not cause further injury.	P	F
	a. Does not elevate the legs if the casualty has an unsplinted broken leg, an abdominal injury, or a head wound.		
	b. Does not give the casualty anything to eat or drink.		
	c. Turns the casualty's head to the side if it is necessary to leave the casualty.		

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

★ ★ ★ ★ ★

SPLINT A SUSPECTED FRACTURE

081-831-1034

CONDITIONS

Given a casualty who has an arm or leg which you think is broken. The casualty has no more serious wounds or conditions that have not been treated. Materials to make a splint and to pad and tie the splint are available.

STANDARDS

Splint the suspected broken arm or leg so that the arm or leg does not move and circulation is not impaired.

TRAINING AND EVALUATION

Training Information Outline

1. Prepare the casualty for splinting the suspected fracture.

   a. Reassure the casualty if he or she is conscious and able to understand. Tell the casualty that you will be taking care of him or her.

   b. Loosen any tight or binding clothing.

WARNINGS

DO NOT REMOVE ANY PROTECTIVE CLOTHING OR BOOTS IN A CHEMICAL ENVIRONMENT. APPLY THE SPLINT OVER THE CLOTHING.

DO NOT REMOVE BOOTS FROM THE CASUALTY UNLESS THEY ARE NEEDED TO STABILIZE A NECK INJURY OR THERE IS ACTUAL BLEEDING FROM THE FOOT.

c. Remove all jewelry from the affected limb and place it in the casualty's pocket. Tell the casualty that you are doing this to prevent further injury if swelling occurs later.

2. Get splinting materials.

a. Get splints (boards, tree branches, poles, an unloaded rifle) long enough to reach beyond the joints above and below the broken part.

b. Get materials to pad the splints, such as a jacket, blanket, poncho, shelter half, or leafy vegetation.

c. Get things to tie the splints, such as strips of cloth or belts.

Note: *If splinting materials are not available, the chest wall can be used to immobilize a suspected fracture of the arm and an uninjured leg can be used to immobilize the fractured leg. Continue with steps 7 and 8.*

3. Pad the splints where they will touch any bony part of the body, such as the wrist, elbow, ankle, or knee.

Also pad splints where they will touch the crotch or armpit.

4. Check for signs of blood circulation problems below the injury.

a. In light-skinned persons, the skin may be pale, white, or a bluish gray color.

b. Dark-skinned persons can be checked by depressing the toenail or fingernail beds and seeing how fast the color returns. A slower return of color to the injured side indicates a circulation problem.

c. Check to see if the injured arm or leg feels colder than the uninjured one.

d. Ask the casualty about the presence of numbness, tightness, or a cold sensation.

WARNING

IF BLOOD CIRCULATION PROBLEMS ARE FOUND, EVACUATE THE CASUALTY AS SOON AS POSSIBLE.

5. Put on the splint.

WARNING

IF THE FRACTURE IS OPEN, DO NOT ATTEMPT TO PUSH BONES BACK UNDER THE SKIN. APPLY A FIELD DRESSING TO PROTECT THE AREA. (SEE THE TASK PUT ON A FIELD OR PRESSURE DRESSING, TASK NUMBER 081-831-1016.)

a. Splint the broken arm or leg in the position you find it. Do not try to reposition or straighten the fracture.

b. Place one splint on each side of the arm or leg. Make sure the splints reach beyond the joints above and below the fracture.

c. Tie the splints with improvised (or actual) cravats.

(1) Gently place the cravats at a minimum of two points above and two points below the fracture, if possible.

WARNING
DO NOT TIE ANY CRAVATS DIRECTLY OVER THE FRACTURE.

(2) Tie nonslip knots on the splint away from the injury.

6. Check the splint for tightness.

a. Make sure that the cravats are tight enough to securely hold the splinting materials in place.

b. Recheck circulation below the injury to make sure that circulation is not impaired.

c. Make any adjustments without allowing the splint to become ineffective.

7. Apply a sling, if applicable. A sling can be made from any nonstretching material, such as a strip of clothing or blanket, poncho, shelter half, belt, or shirttail.

Note: *Apply the sling so that the supporting pressure is on the casualty's uninjured side.*

Note: *The supported arm should have the hand slightly higher than the elbow.*

8. Apply swathes, if applicable. Swathes should be applied when the casualty has a splinted suspected fracture of the elbow or leg or when a suspected fracture cannot be splinted. Swathes can be improvised from large pieces of cloth or belts.

WARNING
PLACE SWATHES ABOVE AND/OR BELOW THE FRACTURE, NOT OVER IT.

a. Apply swathes to an injured arm by wrapping the swathes over the injured arm, around the casualty's back, and under the arm on the uninjured side. Tie the ends on the uninjured side.

b. Apply swathes to an injured leg by wrapping the swathes around both legs and tying the swathes on the uninjured side.

9. Watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)

Evaluation Preparation

Setup: You will need another soldier to play the part of the casualty. Have the casualty lie down or sit and place splinting materials nearby. Have splints,

padding, and materials for ties, slings, and swathes available which are appropriate to the fracture location on the arm or leg. If available, have two or more pairs of splints of varying lengths to help in scoring step 1.

Brief Soldier: Tell the soldier that the casualty has a suspected closed fracture and where it is located (lower arm, elbow, upper leg, lower leg). Tell the soldier to splint the suspected fracture.

Evaluation Guide: 081-831-1034

SPLINT A SUSPECTED FRACTURE

	Performance Measures	*Results*	
1.	Uses splints that reach beyond the joints above and below the fracture.	P	F
2.	Checks circulation below the fracture both before and after applying the splints.	P	F
3.	Applies padding between the splints and all bony areas.	P	F
4.	Uses at least four ties (two above and two below the fracture) to secure the splints, if possible.	P	F
5.	Ties nonslip knots on the splint which is away from the injury.	P	F
6.	Immobilizes the splinted arm or leg using a sling and/or swathes, as required, so that it does not move easily.	P	F

		P	F
7.	Does not cause further injury.		
	a. Does not try to reposition or straighten the fracture.		
	b. Does not place ties or swathes directly over the fracture.		
	c. Does not impair circulation.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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GIVE FIRST AID FOR BURNS

081-831-1007

CONDITIONS

Given a casualty who is suffering from a burn. The casualty has no more serious wounds or conditions that have not been treated. A canteen and first aid packet are available.

STANDARDS

Give first aid for a burn without causing further injury to the casualty.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: You will need another soldier to play the part of the casualty. Simulate the burn(s) by marking the casualty's body with a suitable material. Provide materials appropriate for the burn being simulated (piece of rope, blanket, water, field dressing, or clean cloth). If a field dressing is used, use the same one repeatedly. If an electrical burn is being simulated, have the casualty lie on a piece of wire or rope and have enough materials available to treat two simulated burns.

Brief Soldier: Tell the soldier what is burning the casualty and have the soldier take appropriate action. After the soldier completes step 1, tell the soldier that

the casualty is conscious and has no injuries other than burns. When testing step 2, see note below it for available options.

Evaluation Guide: 081-831-1007

GIVE FIRST AID FOR BURNS

	Performance Measures	*Results*	
1.	Eliminates the source of the burn.	P	F

a. Thermal burns. If the casualty's clothing is on fire, covers the casualty with a field jacket or any large piece of nonsynthetic material and rolls him or her on the ground to put out the flames.

b. Electrical burns. If the casualty is in contact with an electrical source, turns off the electricity if the switch is nearby. If the electricity cannot be turned off, drags the casualty away from the source using any nonconductive material (rope, clothing, dry wood).

WARNING
DOES NOT TOUCH THE CASUALTY'S BODY OR THE ELECTRICAL SOURCE.

WARNING

HIGH VOLTAGE ELECTRICAL BURNS FROM AN ELECTRICAL SOURCE OR LIGHTNING MAY CAUSE TEMPORARY UNCOUNCIOUSNESS, DIFFICULTIES IN BREATHING, OR DIFFICULTIES WITH THE HEART (IRREGULAR HEART BEAT).

c. Chemical bums.

(1) Removes liquid chemicals by flushing with as much water or other nonflammable fluid as possible.

(2) Removes dry chemicals by carefully brushing them off with a clean, dry cloth. If large amounts of water are available, flushes the area. Otherwise, applies no water.

(3) Smothers burning white phosphorus with water, a wet cloth, or wet mud and keeps the area covered.

d. Laser burns. Moves the casualty away from the source while avoiding eye contact with the beam source.

WARNING

BLISTERS CAUSED BY A BLISTER AGENT ARE ACTUALLY BURNS. DOES NOT TRY TO DECONTAMINATE SKIN WHERE BLISTERS HAVE ALREADY FORMED. IF BLISTERS HAVE NOT FORMED, DECONTAMINATES THE SKIN. (SEE THE TASK DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT, TASK NUMBER 031-503-1007.)

Note: *After the casualty is removed from the source of the burn, he or she should be continually monitored for the development of conditions which may require the performance of basic life saving measures.*

2.	Cuts and gently lifts away any clothing covering the burned area unless it is stuck to the burn or a chemical environment exists. Does not pull clothing over the burns.	P	F

Note: *Evaluator will indicate:*

a. Whether clothing is stuck; if so, soldier should not attempt to remove it.

b. If chemical environment exists; if so, soldier should not uncover the wound.

Note: *If the casualty's hand(s) or wrist(s) have been burned, jewelry (rings, watches) should be removed and placed in the casualty's pocket.*

3.	Applies the casualty's field dressing or other clean material.	P	F

Note: *If the burn is caused by white phosphorus, the dressing must be wet.*

Note: *Electricity often leaves both entry and exit burns. Both burns should be treated the same.*

4.	Does not cause further injury.	P	F
	a. Does not break blisters.		
	b. Does not apply grease or ointments to the burns.		
	c. Does not place dressings over the face or genital area.		

Note: If the casualty is not nauseated, he or she may be given small amounts of water to drink.

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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GIVE FIRST AID FOR HEAT INJURIES

081-831-1008

CONDITIONS

Given a soldier who has signs and symptoms of a heat injury and a full canteen of cool water.

STANDARDS

Recognize the type of heat injury. Give first aid for the heat injury.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: Not required.

Brief Soldier: Describe to the soldier the signs and symptoms of heat cramps, heat exhaustion, or heat stroke, and ask the soldier what type of heat injury is indicated. Then ask the soldier what should be done to treat the heat injury described.

Evaluation Guide: 081-831-1008

GIVE FIRST AID FOR HEAT INJURIES

	Performance Measures	*Results*	
1.	Identifies the type of heat injury.	P	F
	a. Heat cramps.		
	(1) Muscle cramps of the arms, legs, or abdomen.		
	(2) Excessive sweating.		
	(3) Thirst.		
	b. Heat exhaustion. (The first five occur often. The others occur sometimes.)		
	(1) Profuse sweating with pale, moist, cool skin.		
	(2) Headache.		
	(3) Weakness.		
	(4) Dizziness.		
	(5) Loss of appetite.		
	(6) Heat cramps.		
	(7) Nausea, with or without vomiting.		
	(8) Urge to defecate.		
	(9) Chills ("gooseflesh").		

(10) Rapid breathing.

(11) Tingling of the hands and/or feet.

(12) Confusion.

c. Heat stroke.

(1) Red (flushed), hot, dry skin.

(2) Headache.

(3) Dizziness.

(4) Nausea (stomach pains).

(5) Confusion.

(6) Weakness.

(7) Loss of consciousness.

(8) Seizures.

(9) Weak and rapid pulse and breathing.

2. States the proper first aid for the heat injury. P F

a. Heat cramps.

(1) Moves the casualty to a cool or shady area or improvises shade.

(2) Loosens the casualty's clothing unless in a chemical environment.

(3) Has the casualty slowly drink at least one canteen of cool water.

(4) Seeks medical aid if the cramps continue.

b. Heat exhaustion.

(1) Moves the casualty to a cool or shady area or improvises shade.

(2) Loosens or removes the casualty's clothing and boots unless in a chemical environment.

(3) Pours water on the casualty and fans him or her unless in a chemical environment.

(4) Has the casualty slowly drink at least one canteen of cool water.

(5) Elevates the casualty's legs.

(6) Monitors the casualty until the symptoms are gone or medical aid arrives.

c. Heat stroke.

WARNING

HEAT STROKE MUST BE CONSIDERED A MEDICAL EMERGENCY WHICH MAY RESULT IN DEATH IF TREATMENT IS DELAYED. COOLING MEASURES WILL BE STARTED IMMEDIATELY AND WILL BE CONTINUED DURING EVACUATION.

(1) Moves the casualty to a cool or shady area or improvises shade.

(2) Loosens the casualty's clothing unless in a chemical environment.

(3) Immerses the casualty in cool water or pours water on him or her. Fans the casualty. Massages his or her arms and legs unless in a chemical environment.

(4) Elevates the casualty's legs.

(5) If the casualty is conscious, has him or her slowly drink at least one canteen of cool water.

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions, seek medical aid, and check for other injuries, if necessary. (See the task Evaluate a Casualty, task number 081-831-1000.)*

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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GIVE FIRST AID FOR FROSTBITE

081-831-1009

CONDITIONS

Given a soldier who has signs and symptoms of frostbite and a blanket or dry clothing. You are not in a chemical environment.

STANDARDS

Give first aid for frostbite without causing further injury to the casualty.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: You will need another soldier to play the part of the casualty.

Brief Soldier: Ask the soldier, "What are the signs of frostbite?" After the soldier answers, tell him or her to treat the face, hands, and/or feet of the casualty.

Evaluation Guide: 081-831-1009

GIVE FIRST AID FOR FROSTBITE

Performance Measures	*Results*	
1. Describes the signs and symptoms of frostbite.	P	F

Note: *Signs/symptoms are listed in the order in which they would appear with increased exposure and time.*

a. Loss of sensation or numb feeling in any part of the body.

b. Sudden whitening of the skin in the affected area, followed by a momentary tingling feeling.

c. Redness of skin in light-skinned soldiers; grayish coloring in dark-skinned soldiers.

d. Blisters.

e. Swelling or tender areas.

f. Loss of previous feeling of pain in the affected area.

g. Pale, yellowish, waxy-looking skin.

h. Frozen area that feels solid or wooden to the touch.

2. Treats the frostbite.	P	F

a. Warms the area at the first sign of frostbite using firm, steady pressure of the hand, underarm, or abdomen.

(1) Face, ears, nose. Covers the area with the casualty's or a buddy's hands.

(2) Hands. Places the casualty's hands inside his or her clothing against the body and closes the clothing.

(3) Feet. Places the casualty's bare feet under the clothing and against the body of another soldier.

b. Loosens or removes tight clothing and removes any jewelry.

c. Covers the casualty with a blanket or other dry material.

3. Does not cause further injury. P F

a. Does not soak the frostbitten part.

b. Does not rub it with snow.

c. Does not expose it to any extreme heat source.

d. Does not rub or move the part in any way to increase circulation.

e. Does not allow the casualty to smoke or drink alcohol.

f. Does not treat seriously frostbitten parts if the casualty must walk or travel to receive further treatment.

Note: *Although not evaluated, the soldier would watch the casualty closely for life-threatening conditions,*

seek medical aid, and check for other injuries, if necessary. (See the task Evaluate a Casualty, task number 081-831-1000.)

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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TRANSPORT A CASUALTY USING A ONE-MAN CARRY

081-831-1040

CONDITIONS

You have evaluated and given first aid to a casualty. You need to move the casualty to get further medical aid. No help is available.

STANDARDS

Select a carry which is appropriate to the situation and transport the casualty without causing further unnecessary injury.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: You will need another soldier to play the part of the casualty. Tell the casualty what the injuries are and whether he or she is conscious or unconscious. Materials (strip of cloth, pistol belts, etc.) will be necessary to test some of the carries.

Brief Soldier: Tell the soldier that the casualty has been given first aid. Describe a situation in terms of the casualty's injuries, whether the casualty is conscious or unconscious, whether enemy fire can be expected or not, and what distance (short, moderate, or long) the casualty must be moved. Tell the soldier to transport the casualty using an appropriate carry.

Note: *Do not make the situation too complex and remember, when scoring the soldier, that two or more of the carries might be appropriate for the situation. The most important thing is that the selected carry should not cause further injury to the casualty and should not endanger the lives of the two soldiers.*

Evaluation Guide: 081-831-1040

TRANSPORT A CASUALTY USING A ONE-MAN CARRY

	Performance Measures	*Results*	
1.	Selects an appropriate carry.	P	F

WARNING

MANUAL CARRIES SHOULD NOT BE USED TO MOVE A CASUALTY WITH A NECK OR SPINE INJURY UNLESS A LIFE-THREATENING HAZARD IS IN THE IMMEDIATE AREA.

a. Fireman's carry is usually used with an unconscious or severely injured casualty.

b. Arms carry may be used for a casualty who is not able to walk. It is used for short distances only.

c. Support carry is used for casualties who are able to walk or at least hop on one leg.

d. Saddleback carry may be used for a conscious casualty only.

e. Pack strap carry is useful for carrying a casualty moderate distances.

f. Pistol belt carry is the best one-man carry for long distances. The hands of the casualty and bearer are free.

g. Pistol belt drag is useful in combat. It is usually used for short distances.

h. Neck drag is useful in combat. It cannot be used if the casualty has a broken arm. It is usually used for short distances.

	i. Cradle drop drag is useful for moving a casualty who cannot walk when he or she must be moved up or down stairs.		
2.	Performs the carry. (Each carry is fully described and illustrated in FM 21-11.)	P	F
3.	Does not cause further unnecessary injury.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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TRANSPORT A CASUALTY USING A TWO-MAN CARRY OR AN IMPROVISED LITTER

081-831-1041

CONDITIONS

You have evaluated and given first aid to a casualty. You need to move the casualty to get further medical aid. You have the help of another soldier. Materials to make a litter may be available.

STANDARDS

Transport the casualty, without dropping him or her, or causing further unnecessary injury, using an appropriate two-man carry or a properly improvised litter.

TRAINING AND EVALUATION

Evaluation Preparation

Setup: You will need two other soldiers to test this task; one to play the part of the casualty and one to help the soldier who is being tested. Brief the casualty on the injuries and whether he or she is conscious or unconscious. Tell the other soldier that he or she is to act under the directions of the tested soldier and not to help select a carry or tell how to do it. Have materials available to improvise a litter, if applicable.

Brief Soldier: Tell the soldier that the casualty has been given first aid. Describe a situation in terms of

the casualty's injuries, whether the casualty is conscious or unconscious, and what distance (short, moderate, or long) the casualty must be moved. Tell the soldier to transport the casualty with the help of the other soldier.

Note: *Do not make the situation too complex and remember, when scoring the soldier, that two or more of the carries might be appropriate for the situation. The most important thing is that the selected carry should not cause further injury to the casualty.*

Evaluation Guide: 081-831-1041

TRANSPORT A CASUALTY USING A TWO-MAN CARRY OR AN IMPROVISED LITTER

Performance Measures	*Results*
1. Selects an appropriate method of transporting the casualty.	P F

WARNING
MANUAL CARRIES SHOULD NOT BE USED TO MOVE A CASUALTY WITH A NECK OR SPINE INJURY UNLESS A LIFE-THREATENING HAZARD IS IN THE IMMEDIATE AREA.

a. Two-man support carry can be used for both conscious and unconscious casualties.

b. Two-man arms carry is useful for moderate distances and for placing a casualty on a litter.

Note: *In extreme emergencies, the two-man arms carry is the safest one for transporting a casualty with a back or neck injury. If possible, two more bearers should be used to keep the casualty's head and legs in alignment with his or her body.*

c. Four-hand seat carry is good for a casualty who can stand but cannot walk. It is good for moderate distances. It can be used to place a casualty on a litter.

d. Two-man fore-and-aft carry is useful for long distances and for placing a casualty on a litter.

e. Two-hand seat carry is useful for carrying a casualty short distances and for placing him or her on a litter.

f. Litters should be used if materials are available and the casualty must be moved a long distance or manual carries will cause further injury.

2.	Performs the carry. (The carries and improvised litters are fully described and illustrated in FM 21-11.)	P	F
3.	Does not cause further unnecessary injury.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 21-11

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CONDUCT COMBAT OPERATIONS ACCORDING TO THE LAW OF WAR

181-906-1505

CONDITIONS

Given a combat situation and you are faced with the following.

1. Enemy troops, equipment, material, and supplies.
2. Inhabited towns and cities.
3. Protected property (hospitals, museums, schools, churches, etc.).
4. Civilians and private property.
5. Sick and wounded captives and detainees.
6. Surrendering enemy troops.
7. Observing a member of your force about to perform an illegal action.

8. Receiving an order to perform an illegal action.

9. Being captured by the enemy and being held as a prisoner of war (PW).

STANDARDS

1. Perform combat operations using lawful weapons and tactics, and engaging only lawful targets.

2. Treat all captives, civilians, and their property according to the law of the war.

3. Take appropriate action when faced with violations of the law of war or illegal orders.

4. Identify your rights and duties as a PW.

TRAINING AND EVALUATION

Training Information Outline

1. Perform your combat mission using lawful weapons and tactics, and attack only lawful targets.

a. All United States/North Atlantic Treaty Organization (US/NATO) issued weapons and ammunition are lawful. Do not alter your weapons or ammunition to increase enemy suffering (for example, dumdum bullets, poisoned ammunition, and altered bayonets).

b. Unlawful tactics include faking surrender, using enemy marked vehicles and uniforms during combat, and booby trapping dead or wounded personnel. Also, medical service symbols (Red Cross, Red Crescent, the Red Lion and Sun, and the Red Star of David) cannot be used except for medical activities.

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c. Attack only combat targets. Use the firepower necessary to accomplish your mission but avoid needless destruction.

(1) Civilians and soldiers who have surrendered, or who are captured, sick or wounded are not combat targets. Medical personnel, vehicles, and facilities are also not combat targets.

(2) Undefended civilian buildings including those used for religious, art, science, or charitable purposes; historic monuments, and hospitals are not combat targets. A red cross or red crescent on a white background, or, in Europe, a blue and white shield often mark protected property.

2. Treat captives, civilians, and property on the battlefield according to the law of war.

a. Allow enemy soldiers to surrender. Treat all captives as enemy prisoners of war (EPW's).

(1) Protect them from acts of violence, intimidation, and sexual abuse. Provide them food, water, shelter, and medical treatment.

(2) Safeguard captives from the dangers of combat. Captives may not be used as shields or screens, to clear or plant mines and booby traps, or as hostages. Evacuate them as soon as possible.

b. Treat all civilians humanely. Treat them as you would want to be treated.

(1) Do not use physical force or mental coercion on civilians. Protect them from acts of violence, intimidation, and sexual abuse.

(2) Collective punishment, reprisals, and the taking of hostages is prohibited.

c. Treat property found on the battlefield in the proper manner.

(1) Turn enemy military property such as weapons, maps, vehicles, and items of intelligence value in to the chain of command.

(2) Civilian property and captives' personal property and military equipment necessary for personnel protection and welfare (helmets, protective masks, and clothing) may not be seized, stolen, or looted. In certain limited situations, civilian property may be requisitioned due to military necessity; but this decision must be made by the commanding officer.

3. Identify violations of the law of war or illegal orders and try to stop them. Report all violations by friendly or enemy troops.

a. Violations of the law of war are criminal acts. They are punishable under the Uniform Code of Military Justice (UCMJ).

b. If you believe the law of war is being violated, do your best to stop it.

(1) Clarify unclear orders by repeating what you believe to be your correct orders.

(2) State that you disagree with the act.

(3) Use moral arguments.

(4) Threaten to report the act.

(5) Ask the senior soldier to stop the act.

(6) Refuse to obey an order to commit a criminal act.

c. If the act is done or the criminal order is not withdrawn, immediately report the act or order through your chain of command. If the chain of command is not appropriate (such as when a member of the chain of command is suspected of committing a criminal act), report it to the Inspector General (IG), provost marshal, chaplain, or a Judge Advocate General's Corps (JAG) officer. You must report all war crimes no matter who commits them. Crimes committed by the enemy must also be reported.

4. Recognize the correct treatment for PW's. This applies to both your captives and to you (if you become a PW).

a. PW's have the following rights:

(1) Receive housing and clothing.

(2) Receive enough food to stay in good health.

(3) Receive adequate medical care.

(4) Receive necessary facilities for proper hygiene.

(5) Practice their religious faith of choice.

(6) Send and receive mail.

(7) Keep personal property except weapons and military equipment and documents not needed for personal safety.

(8) Receive packages containing food, clothing, educational, religious, or recreational materials.

(9) Be represented by a fellow PW.

(10) Receive humane treatment from their captors.

(11) Have a copy of the Geneva Convention on Prisoners of War and its annexes, including any special agreements posted in a location where they can be read by PW's. They must be written in the PW's language. If they are posted where they cannot be read, PW's are entitled to a copy if requested.

(12) Have a copy of all camp regulations, notices, orders, and publications about their conduct as a prisoner of war posted where they can be read. They must be written in the PW's language.

b. As a PW, you must:

(1) Tell your captors only your name, rank, service number, and date of birth.

(2) Obey all lawful rules established by your captors.

(3) If required by your captors, you must perform labor which is nonmilitary and is not humiliating, dangerous, or unhealthy. Captors can require Noncommissioned Officers (NCOs) only to supervise such labor.

Evaluation Preparation

Setup: Soldiers should be individually tested for this task. The evaluator briefs the soldier of the simulated combat situation. The soldier is then questioned as to his recognition and actions regarding the performance measures. The most realistic training of this task is to include law of war problems in Army Training and Evaluation Programs (ARTEP) and field training

exercises (FTX). The problems should require skill level 1 soldier recognition and action.

Brief Soldier: Tell the soldier that he or she is in a simulated combat environment. The US is at war and the soldier may engage various targets using a variety of weapons and ammunition. Enemy soldiers may surrender, be sick or wounded, or capture the soldier. Civilians, buildings, and many types of property may be on the battlefield. The soldier will be asked to describe types of targets, weapons, tactics, personnel, and what actions he or she should take.

Evaluation Guide: 181-906-1505

CONDUCT COMBAT OPERATIONS ACCORDING TO THE LAW OF WAR

	Performance Measures	*Results*	
1.	Identify lawful weapons and ammunition.	P	F
	a. Lawful weapons and ammunition are any US or NATO weapon or ammunition which has not been altered; or		
	b. Unlawful weapons and ammunition are any weapon or ammunition which is poisoned or causes unnecessary suffering to the enemy casualty.		
2.	Identify five illegal tactics on the battlefield.	P	F
	a. Using enemy marked vehicles or uniforms during combat.		

b. Booby trapping dead or wounded personnel.

c. Faking surrender and then continuing to fight.

d. Using medical service symbols to protect combat soldiers and other legitimate military targets.

e. Using captives or civilians as shields or screens from enemy fire.

f. Using captives or civilians to plant or remove, mines or booby traps.

g. Taking hostages; using hostages to stop hostile acts.

3. Identify what are protected buildings. P F

a. Undefended buildings used for religion, art, science, or charity.

b. Buildings of historical value, or hospitals.

c. Undefended civilian buildings.

4. Identify five items the soldier would provide for would provide for a captured enemy PW. P F

a. Adequate food.

b. Adequate clothing.

c. Shelter.

d. Medical care.

e. Protection from violence or abuse.

f. Protection from dangers of combat.

g. Protection from intimidation and sexual abuse.

5. Identify how the soldier would treat an enemy civilian. P F

   a. Treat the civilian humanely.

   b. Protect the the civilian from acts of violence, intimidation, and sexual abuse.

   c. Does not steal, loot, or seize the civilian's personal property.

6. Identify what enemy military property is and what should be done with it. P F

   a. Enemy military property is equipment such as weapons, maps, vehicles, and items of intelligence value.

   b. Enemy military property is turned over to the chain of command.

7. Identify what actions the soldier would take if he or she received an illegal order or saw a violation of the law or war about to happen. P F

   a. Ask to have the order clarified.

   b. State that the soldier disagrees with the act.

   c. Use moral arguments.

   d. Threaten to report the act.

e. Ask the senior soldier to stop the act.

f. Refuse to obey an order to commit a criminal act.

8. Identify what the soldier would do if a violation of the law of war was committed by friendly or enemy troops. P F

a. Report the incident to the soldier's chain of command.

b. Report the incident to the IG, chaplain, provost marshal, or a JAG officer if the chain of command was not appropriate.

9. Identify the rights of a PW under the law of war. P F

a. Receive adequate food, clothing, shelter, and medical treatment.

b. Send and receive mail and receive packages containing food, clothing, educational, religious, or recreational materials.

c. Practice one's religious faith.

d. Keep personal property.

e. Have copies of the Geneva Convention on Prisoners of War and camp regulations posted in the PW's language where the PW can read them.

f. Have a PW represent the soldier.

g. Receive humane treatment.

10. Identify the four items of information a PW must give to his or her captors. a. Name. b. Rank. c. Service number. d. Date of birth.	P	F
11. Identify what a PW may be required to do by his or her captors. a. Obey all lawful rules. b. Perform labor which is nonmilitary and is not humiliating, dangerous, or unhealthy.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 27-2
FM 27-10
TC 27-10-1
TC 27-10-2

★ ★ ★ ★ ★

PERFORM SEARCH, RECOVERY, EVACUATION AND/OR BURIAL OF REMAINS

101-515-1900

CONDITIONS

Given a tactical situation, you must recover remains.

STANDARDS

After a battle, conduct search, recovery, and evacuation of deceased personnel and their effects. When evacuation is not possible, bury remains according to FM 10-63.

TRAINING AND EVALUATION

Training Information Outline

1. Search assigned area for deceased personnel.

Note: *Locating deceased personnel may at times be difficult, but, in most cases, the soldiers in the company will know where their comrades fell or were last seen. When you search for the remains, pay special attention to places that offer cover and concealment from the enemy. It is very important to know that training and instinct will prompt individuals to use all available means of shelter and concealment. Such places would include mounds, hedges, hedge rows, rocks, trees, fallen logs, stream banks, trenches, fighting positions, bunkers, ruined structures, and in or around wrecked vehicles.*

2. Recover remains.

Note: *Look for booby-traps or anti-personnel mines which may have been placed on, near or under the remains by the enemy. If assistance is required, request Explosive Ordnance Disposal (EOD) support.*

a. Summon medical personnel to prepare Field Medical Card (DD Form 1380) and securely fasten it to the remains.

b. Establish identity (check identification tags, wallet, clothing, and equipment markings, or visually identify).

Note: *Visual identification can be done by a person in the unit who knew the deceased well. Unit personnel recovering the remains may recognize the deceased or may be able to establish a name association through visual recognition. At times, this may not be possible due to the condition of the remains. When visual identification of the remains can be made, record and describe the means of identification used, such as scars, tattoos, or particular anatomical features. On a Statement of Recognition of Deceased Personnel (DD Form 565). Obtain at least 2 statements if possible.*

c. Leave identification tags, clothing, or personal effects on the remains.

d. Search the immediate area surrounding the remains for personal effects, identification media and pieces of remains, and place them with the remains.

3. Record the following data on a blank piece of paper.

Note: *Ensure that this information is evacuated with the remains or given to your immediate supervisor.*

a. Name of deceased.

b. Unit of deceased.

c. Weapon serial number.

d. Grid coordinates. (Determine the exact recovery site location for the remains using 8 digit grid coordinates to pinpoint the location.)

4. Shroud the remains (place the remains in a remains pouch). If a remains pouch is not available, use a blanket, shelter half, poncho or poncho liner. Place the remains on litter (or improvised litter).

5. Evacuate the remains to a graves registration (GRREG) collection point.

a. Move remains to a central location or marshalling area while waiting for transportation.

b. Load and secure the remains in a vehicle or an aircraft for evacuation to a GRREG collection point.

c. Appoint an escort to accompany the remains to the GRREG collection point. Ensure that you provide all available information to complete the recording and documentation for identification purposes.

6. Prepare the remains and personal effects for emergency burial.

a. Request permission from the area commander to prepare the remains and personnel effects for emergency burial, when evacuation of the remains is not possible due to tactical situations.

b. Select a burial site large enough to accommodate the remains on dry ground.

c. Dig a grave. As a minimum, dig grave approximately 3 1/2 feet deep.

d. Wrap the remains and associated personal effects in a poncho, poncho liner, blanket or shelter half.

e. Place the remains face up in grave.

f. Refill grave.

7. Notify your immediate superior or higher headquarters as to the identity and location of the personnel killed in action.

a. Record burial location on a map overlay of the area.

b. Report the burial location to higher headquarters as soon as possible.

Note: *Radio transmission or fragmented written reports will suffice to initiate an interim casulaty report.*

Evaluation Preparation

Setup: Use a predetermined site, and provide the soldier with all required materials and equipment. You will need at least one soldier to play the part of the remains to help the soldier being tested. Have the materials available to improvise a litter.

Brief Soldier: Tell the soldier acting as the remains that he will be used in the place of a deceased soldier for training purposes. Treat the soldier as if he is an actual casualty.

	Performance Measures	*Results*	
1.	Search assigned area for deceased personnel.	P	F

2.	Recover the remains. Upon discovery of remains, establish identity and search the immediate area for additional items that may have been overlooked.	P	F
3.	Record the name of the deceased, the unit, the weapon serial number, and the grid coordinates of the recovery site.	P	F
4.	Shroud the remains.	P	F
5.	Evacuate the remains.	P	F
6.	Prepare the remains and personal effects for burial.	P	F
7.	Notify immediate superior or higher headquarters as to the identity and location of the deceased personnel killed in action.		

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCE

FM 10-63

APPENDIX A

REFERENCES

ALLIED COMMUNICATION PUBLICATION (ACP)

125(e)	Communications Instruction Radiotelephone Procedures

DEPARTMENT OF THE ARMY PAMPHLET (DA PAM)

738-750	The Army Maintenance Management System (TAMMS)

FIELD MANUALS (FM)

1-402	Aviator's Recognition Manual
3-3	NBC Contamination Avoidance
3-4	NBC Protection
3-5	NBC Decontamination
3-100	NBC Operations
5-20	Camouflage
5-103	Survivability
7-7	The Mechanized Infantry Platoon and Squad (APC)
7-8 (HTF)	The Infantry Platoon and Squad (Infantry, Airborne, Air Assualt, Ranger)(How to Fight)
10-63	Handling of Deceased Personnel in Theatres of Operations
17-12 (HTF)	Tank Gunnery (How to Fight)

20-32	Mine/Countermine Operations
21-10	Field Hygiene and Sanitation
21-11	First Aid for Soldiers
21-26	Map Reading and Land Navigation
21-31	Topographic Symbols
21-60	Visual Signals
21-75	Combat Skills of the Soldier
22-6	Guard Duty
23-9	M16A1 Rifle and Rifle Markmanship
23-23	Anti-Personnel Mine M18A1 and M18 (Claymore)
23-30	Grenades and Pyrotechnic Signals
23-31	40mm Grenade Launchers M203 and M79
23-33	66-MM Heat Rocket, M72A1, M72A2 (Light Antitank Weapon) (Reprinted w/Basic Incl C1)
23-67	Machine Gun, 7.62-mm M60
24-18	Tactical Single-Channel Radio Communications Techniques
25-100	Training the Force
25-101	Battle Focused Training Management at Battalion Level and Lower
27-2	Your Conduct in Combat Under the Law of War
27-10	The Law of Land Warfare

44-8	Small Unit Self-Defense Against Air Attack
44-30	Visual Aircraft Recognition
100-2-3	The Soviet Army: Troops, Organization and Equipment

GRAPHIC TRAINING AIDS (GTA)

5-2-12	Coordinate Scale and Protractor
5-10-24	Minefield Breaching and Clearing Operation
17-2-9	Combat Vehicle Identification
17-2-11	Combat Vehicle Identification Training Cards
17-2-13	Armored Vehicle Recognition
21-1-3	M16 Rifle Maintenance Card
21-1-4	Rifle Shot Group Analysis Card
44-2-10	Play Cards, Aircraft Recognition

SUPPLY BULLETINS

SB 3-30-2	Chemical-Biological Canister And Filter Elements: Subassembly Lists

TECHNICAL MANUALS (TM)

3-4230-216-10	Operator's Manual for Decontaminating Kit, Skin: M285A1 (NSN 4230-01-101-3984) and Training Aid, Skin Decontaminating: M58A1 (6910-01-101-1768)

3-4230-224-10	Operator's Manual Decontaminating Kit, Individual Equipment: M280
3-4240-279-10	Operator's Manual: Mask, Chemical-Biological: Field ABC-M17, M17A1, and M17A2
3-4240-280-10	Operator's Manual: Mask, Chemical-Biological: Aircraft, ABC-M24 and Tank, M25/M25A1
3-4240-300-10-1	Operator's Manual: Mask, Chemical-Biological: Field, M40
3-4240-300-10-2	Operator's Manual: Mask, Chemical-Biological: Combat Vehicle; M42, Small, Medium, Large
3-6665-307-10	Operator's Manual: Detector Kit, Chemical Agent: M256/M256A1
3-6665-311-10	Operator's Manual for Paper, Chemical Agent Detector
3-6665-327-13&P	Operator's, Unit and Intermediate Direct Support Maintenance Manual Including Repair Parts and Special Tools List, Chemical Agent Monitor System
9-1005-224-10	Operator's Manual for Machine Gun, 7.62-mm, M60 w/E (NSN 1005-00-605-7710); Mount Tripod, MG, 7.62-mm, M122 (1005-00-710-5599) and M60D w/E (1005-00-909-3002)
9-1005-249-10	Operator's Manual for Rifle, 5.56-mm, M16 (NSN 1005-00-856-6885

9-1005-319-10	Operator's Manual Rifle, 5.56-mm M16A2 with Equipment
9-1010-221-10	Operator's Manual for 40-mm Grenade Launcher, M203 (NSN 1010-00-179-6447)
9-1330-200-12	Operator's and Organizational Maintenance Manual for Grenades
9-1340-214-10	Operator's Manual for 66-mm Light Antitank Weapon (LAW) System M72A1, M72A2 with Coupler, M72A3 and Practice Rocket Launcher, M190 with M73 Practice Rocket

TRAINING CIRCULARS (TC)

5-200	Camouflage Pattern Painting
27-10-1	Selected Problems in the LAW of War
27-10-2	Prisoners of War

TRAINING EXTENSION COURSES (TEC)

010-071-1041-F	Individual Movement for Direct, Indirect Fire, Part 1
010-071-1047-F	Negotiating Obstacles
010-071-1048-F	Reacting to Flares
030-051-6386-F	Breach and Clear a Mine Field
937-061-0032-F	Cover, Camouflage and Concealment, Part 3
947-071-0071-F	Breaching Artificial Obstacles
947-071-0188-F	Locate and Mark Mines
950-441-0045-F	Small Unit Self-Defense Against Air Attack

APPENDIX B

PROPONENT SCHOOL OR AGENCY CODES

The first three digits of the task number identify the proponent school or agency responsible for the task. Record any comments or questions regarding the task summaries contained in this manual on a DA Form 2028 (Recommended Changes to Publications and Blank Forms) and send to the proponent with an information copy to: Commander, U.S. Army Training Support Center, ATTN: ATIC-ITT, Fort Eustis, VA 23604-5206.

031 - Commandant
U.S. Army Chemical School
ATTN: ATZN-CM-FI
Fort McClellan, AL 36205-5020

051 - Commandant
U.S. Army Engineer School
ATTN: ATSE-TDM-P
Fort Leonard Wood, MO 65473

071 - Commandant
U.S. Army Infantry School
ATTN: ATSH-I-V-T-M
Fort Benning, GA 31905-5007

081 - Commandant
U.S. Army Academy of Health Sciences
ATTN: HSHA-TIP
Fort Sam Houston, TX 78234-6100

101 - Commandant
U.S. Army Quartermaster School
ATTN: ATSM-DTT-E
Fort Lee, VA 23801-5036

131 - Commandant
U.S. Army Signal School
ATTN: ATZH-DTD
Fort Gordon, GA 30905-5000

181 - Commandant
The Judge Advocate General's School, USA
University of Virginia
ATTN: JAGS-ADN
Charlottesville, VA 22903-1781

441 - Commandant
U.S. Army Air Defense Artillery School
ATTN: ATSA-DTI
Fort Bliss, TX 79916-0002

878 - Commandant
Combined Arms Training Center
ATTN: ATZL-TAI-A
Fort Leavenworth, KS 66027-7000

GLOSSARY

ACCP
Army Correspondence Course Program

ACP
Allied Communication Publication

ACRV
Artillery Command and Reconnaissance Vehicle

ADA
Air Defense Artillery

APC
armored personnel carrier

ARTEP
Army Training and Evaluation Program

ASP
ammunition supply point

ATGM
Anittank Guided Missile

AUTO
automatic

BL
low battery

BDU
battle dress uniform

CAM
chemical agent monitor

CB
chemical, biological

CLP
cleaner lubricant preservative

CS
O-chlorobenzyl-malononitrile

CTT
Common Task Test

CVC
combat vehicle crewman

DA Pam
Department of the Army Pamphlet

EOD
Explosive Ordnance Disposal

ETM
extension training materials

FM
Field Manual

G
nerve gas

GI
government issue

GRREG
graves registration

GTA
Graphic Training Aid

H
blister agent

HC
hexachorlaine

IAW
in accordance with

ID
identification

IEDK
individual equipment decontaminating kit

IG
Inspector General

ITEP
Individual Training Evaluation Program

JAG
Judge Advocate General's Corps

JB
Job Book

LAW
Light Antitank Weapon

LCE
load carrying equipment

MED/DMSO
monothylamine/dimethylsulfocride

METL
Mission Essential Task List

MG
machine gun

MOPP
Mission Oriented Protective Posture

MOS
Military Occupational Speciality

MS
methyl salicylate

NAIAD
nerve agent immobilized enzyme alarm and detector

NBC
nuclear, biological, chemical

NCO
Noncommissioned Officer

PASGT
personnel armor system ground troops

PCS
Permanent Change of Station

PMCS
Preventive Maintenance Checks and Services

PTL
primary target line

RBC
rifle bore cleaner

SALUTE
size, activity, location, unit, time, equipment

SAM
Surface-To-Air Missile

SCAITS
simulant chemical agent identification training set

Semi
Semiautomatic

SL
skill level

SM
Soldier's Manual

SMCT
Soldier's Manual of Common Tasks

S-P-O-R-T-S
stop, pull, observe, release, tap, shoot

SOP
Standard Operating Procedure

SQT
Skill Qualification Test

STB
super tropical bleach

TC
Training Circular

TEC
Training Extension Course

TM
Technical Manual

TOW
tube-launched, optically tracked, wire-guided

UCMJ
Uniform Code of Military Justice

USAAGPDC
U.S. Army Adjutant General Publications Center

US/NATO
United States/North Atlantic Treaty Organization

WP
White Phosphorus

By Order of The Secretary of The Army:

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General, United States Army
Chief of Staff

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