

U.S. ARMY SERGEANTS MAJOR ACADEMY (BNCOC)

W325 / SQUAD TACTICAL OPERATIONS

OCT 04



**Stand Alone Common Core**

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**TRAINING SUPPORT PACKAGE (TSP)**

<b>TSP Number / Title</b>	W325 / SQUAD TACTICAL OPERATIONS
<b>Effective Date</b>	01 Oct 2004
<b>Supersedes TSP(s) / Lesson(s)</b>	W325, Squad Tactical Operations, dated OCT 03
<b>TSP Users</b>	600-BNCOC-TATS Basic Noncommissioned Officer Course
<b>Proponent</b>	The proponent for this document is the Sergeants Major Academy.
<b>Improvement Comments</b>	<p>Users are invited to send comments and suggested improvements on DA Form 2028, <i>Recommended Changes to Publications and Blank Forms</i>. Completed forms, or equivalent response, will be mailed or attached to electronic e-mail and transmitted to:</p> <p align="center">COMDT USASMA ATTN ATSS DC BLDG 11291 BIGGS FIELD FORT BLISS TX 79918-8002</p> <p align="center">Telephone (Comm): (915) 568-8875 Telephone (DSN): 978-8875</p> <p align="center">E-mail: atss-dcd@bliss.army.mil</p>
<b>Security Clearance / Access</b>	Unclassified
<b>Foreign Disclosure Restrictions</b>	FD5. This product/publication has been reviewed by the product developers in coordination with the USASMA foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

## PREFACE

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**Purpose**

This Training Support Package provides the instructor with a standardized lesson plan for presenting instruction for:

<u>Task Number</u>	<u>Task Title</u>
071-326-3013	Conduct a Tactical Road March
071-410-0012	Conduct Occupation of an Assembly Area
071-430-0002	Conduct a Defense by a Squad
071-430-0028	Consolidate a Unit
071-430-0029	Reorganize a Unit
191-379-4407	Plan Convoy Security Operations
441-091-3000	Supervise the Implementation of Air Defense Measures
551-88M-0001	Lead a Convoy Serial/March Unit

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This TSP  
contains

**TABLE OF CONTENTS**

	<u>PAGE</u>
Preface.....	2
Lesson Section I Administrative Data .....	5
Section II Introduction.....	8
Terminal Learning Objective - Develop a base of knowledge of squad tactical operations .....	8
Section III Presentation .....	11
Enabling Learning Objective A - Identify convoy control measures. ....	11
Enabling Learning Objective B - Identify convoy organizational considerations. ....	16
Enabling Learning Objective C - Identify convoy planning considerations. ....	20
Enabling Learning Objective D - Identify convoy defense measures .....	28
Enabling Learning Objective E - Identify assembly area activities. ....	43
Enabling Learning Objective F - Identify the priority of work for an assembly area.....	45
Enabling Learning Objective G - Identify sleep/rest planning considerations. ....	48
Enabling Learning Objective H - Identify movement techniques .....	55
Enabling Learning Objective I - Identify movement to contact techniques.....	59
Enabling Learning Objective J - Identify deliberate attack procedures .....	63
Enabling Learning Objective K - Identify limited-visibility attack procedures. ....	69
Enabling Learning Objective L - Identify individual and fire team movement techniques in urban terrain .....	78
Enabling Learning Objective M - Identify building entry techniques.....	84
Enabling Learning Objective N - Identify room clearing techniques.....	89
Enabling Learning Objective O - Identify techniques for seizing and maintaining the initiative in the defense.....	98
Enabling Learning Objective P - Identify techniques for organizing a defense.....	101
Enabling Learning Objective Q - Identify control measures for a defense .....	116
Enabling Learning Objective R - Identify planning considerations for obstacles in a defense.....	118

Enabling Learning Objective S - Identify security measures for a defense ..... 121

Enabling Learning Objective T - Identify procedures for conducting a defense..... 123

Enabling Learning Objective U - Identify procedures for consolidating and reorganizing ..... 135

Enabling Learning Objective V - Identify the planning considerations for a defense in urban terrain. .... 138

Section IV Summary ..... 151

Section V Student Evaluation ..... 152

Appendix A Viewgraph Masters A - ..... 1

Appendix B Test(s) and Test Solution(s) (N/A) B - ..... 1

Appendix C Practical Exercises and Solutions C - ..... 1

Appendix D Student Handouts D - ..... 1

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**SQUAD TACTICAL OPERATIONS  
W325 / Version 2  
01 Oct 2004**

**SECTION I. ADMINISTRATIVE DATA**

<b>All Courses Including This Lesson</b>	<u>Course Number</u>	<u>Version</u>	<u>Course Title</u>
	600-BNCOC-TATS	1	Basic Noncommissioned Officer Course

<b>Task(s) Taught(*) or Supported</b>	<u>Task Number</u>	<u>Task Title</u>
	071-326-3013	Conduct a Tactical Road March
	071-410-0012	Conduct Occupation of an Assembly Area
	071-430-0002	Conduct a Defense by a Squad
	071-430-0028	Consolidate a Unit
	071-430-0029	Reorganize a Unit
	191-379-4407	Plan Convoy Security Operations
	441-091-3000	Supervise the Implementation of Air Defense Measures
	551-88M-0001	Lead a Convoy Serial/March Unit

<u>Task Number</u>	<u>Task Title</u>
None	

**Academic Hours** The academic hours required to teach this lesson are as follows:

<u>Resident Hours/Methods</u>	
8 hrs	30 mins / Conference / Discussion
1 hrs	20 mins / Practical Exercise
Test	
Test Review	
Total Hours:	10 hrs 0 mins

<b>Test Lesson Number</b>	<u>Hours</u>	<u>Lesson No.</u>
Testing (to include test review)	3	E303

<b>Prerequisite Lesson(s)</b>	<u>Lesson Number</u>	<u>Lesson Title</u>
	None	

**Clearance Access** Security Level: Unclassified.  
Requirements: There are no clearance or access requirements for the lesson.

**Foreign Disclosure Restrictions** FD5. This product/publication has been reviewed by the product developers in coordination with the USASMA foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

**References**

<u>Number</u>	<u>Title</u>	<u>Date</u>	<u>Additional Information</u>
FM 3-06.11	COMBINED ARMS OPERATIONS IN URBAN TERRAIN	28 Feb 2002	
FM 6-22.5	COMBAT STRESS	23 Jun 2000	
FM 7-7	THE MECHANIZED INFANTRY PLATOON AND SQUAD (APC)	15 Mar 1985	
FM 7-8	INFANTRY RIFLE PLATOON AND SQUAD	22 Apr 1992	C1 01 Mar 2001
FM 7-10	THE INFANTRY RIFLE COMPANY	14 Dec 1990	C1 31 Oct 2000
FM 55-30	ARMY MOTOR TRANSPORT UNITS AND OPERATIONS	27 Jun 1997	C1 15 Sep 1999

**Student Study Assignments**

Before class--

- Study FM 3-06.11, pp 3-1 thru 3-27, para 3-1 thru 3-21; and pp 5-43 thru 5-48, para 5-29 thru 5-30.
- Study FM 6-22.5, pp 57 thru 75, para 4001 thru 4004.
- Study FM 7-7, pp Q-1 thru Q-8, para Q-1 thru Q-3.
- Study FM 7-8, pp 1-10 thru 1-20, para 1-8 thru 1-9; p 2-38 thru 2-60, para 2-10 thru 2-15; and pp 2-84 and 2-85, para 2-25.
- Study FM 7-10, pp 5-35 thru 5-46, para 5-20 thru 5-23.
- Study FM 55-30, pp 5-1 thru 5-14, para 5-1 thru 5-5; and pp 6-1 thru 6-11, para 6-1 thru 6-5.

During class--

- Participate in classroom discussion.

After Class--

- Turn in all recoverable materials.
- Supervise squad tactical operations during FTX.

**Instructor Requirements**

1:16, SSG, BNCOC Graduate, ITC and SGITC qualified.

**Additional Support Personnel Requirements**

<u>Name</u>	<u>Stu Ratio</u>	<u>Qty</u>	<u>Man Hours</u>
None			

**Equipment Required for Instruction**

<u>ID Name</u>	<u>Stu Ratio</u>	<u>Instr Ratio</u>	<u>Spt</u>	<u>Qty</u>	<u>Exp</u>
441-06 LCD Projection System	1:16	1:1	Yes	1	No
559359	1:16	1:1	Yes	1	No

SCREEN PROJECTION					
5820-00-T81-6161 VCR	1:16	1:1	Yes	1	No
673000T101700 PROJECTOR, OVERHEAD, 3M	1:16	1:1	Yes	1	No
702101T134520 DELL CPU, MONITOR, MOUSE, KEYBOARD	1:16	1:1	Yes	1	No
7110-00-T81-1805 DRY ERASE BOARD	1:16	1:1	Yes	1	No
7510-01-424-4867 EASEL, (STAND ALONE) WITH PAPER	1:16	1:1	Yes	1	No
SNV1240262544393 36 - INCH COLOR MONITOR W/REMOTE CONTROL AND LUXOR STAND	1:16	1:1	Yes	1	No
SOFTWARE-1 MS-DOS, LATEST GOVERNMENT APPROVED VERSION	1:16	1:1	Yes	1	No
SOFTWARE-2 WINDOWS XP, LATEST GOVERNMENT APPROVED VERSION	1:16	1:1	Yes	1	No

**Materials Required**

**Instructor Materials:**  
Viewgraphs: VGT-1 thru VGT-73.

**Student Materials:**  
Pencils and writing paper.  
FM 7-8 and student handouts 1 thru 7.

**Classroom, Training Area, and Range Requirements**

CLASSROOM INSTRUCTION 900 SF, 16 PN or Classroom Conducive to Small Group Instruction of 16 Students.

**Ammunition Requirements**

<u>Id</u>	<u>Name</u>	<u>Exp</u>	<u>Stu Ratio</u>	<u>Instr Ratio</u>	<u>Spt Qty</u>
None					

**Instructional Guidance**

**NOTE:** Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material.

This TSP contains enough material to support an in-depth discussion of defensive operations. However, due to time constraints, you must take special care to keep the discussion focused.

**Proponent Lesson Plan Approvals**

<b>Name</b>	<b>Rank</b>	<b>Position</b>	<b>Date</b>
Clements, Charles W Jr.	CIV	Contractor	
King, Phillip W.	GS11	Course Manager, B/ANCOC	
Bennett-Green, Agnes	SGM	Course Chief, B/ANCOC	
Lemon, Marion	SGM	Chief, CDDD	

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**SECTION II. INTRODUCTION**

Method of Instruction: Conference /Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio is: 1:16  
 Time of Instruction: 5 mins  
 Media: None

**Motivator**

As a leader, you must be able to fight, survive, and win on the battlefield. In order to do this, you will have to shoot, move, communicate, and sustain, and do it very quickly. You will also have to know your responsibilities and those of your leader and subordinates. Your knowledge of squad tactical operations may determine whether you and your soldiers survive.

**Terminal Learning Objective**

**NOTE:** Inform the students of the following Terminal Learning Objective requirements. At the completion of this lesson, you [the student] will:

<b>Action:</b>	Develop a base of knowledge of squad tactical operations.
<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FMs 3-06.11, 6-22.5, 7-7, 7-8, 7-10 and 55-30.
<b>Standards:</b>	<p><b>Standards:</b> Developed a base of knowledge of squad tactical operations by:</p> <ul style="list-style-type: none"> <li>• Identifying convoy control measures IAW FM 55-30.</li> <li>• Identifying convoy organizational considerations IAW FM 55-30 and FM 7-7.</li> <li>• Identifying convoy planning considerations IAW FM 55-30.</li> <li>• Identifying convoy defense measures IAW FM 55-30.</li> <li>• Identifying assembly area activities IAW FM 7-7.</li> <li>• Identifying the priority of work for an assembly area IAW FM 7-7.</li> <li>• Identifying sleep/rest planning considerations IAW FM 6-22.5.</li> <li>• Identifying movement techniques IAW FM 7-8.</li> <li>• Identifying movement to contact techniques IAW FM 7-8.</li> <li>• Identifying deliberate attack procedures IAW FM 7-8.</li> <li>• Identifying limited-visibility attack procedures IAW FM 7-8.</li> <li>• Identifying individual and fire team movement techniques in urban terrain IAW FM 3-06.11.</li> </ul>

	<ul style="list-style-type: none"> <li>• Identifying building entry techniques IAW FM 3-06.11.</li> <li>• Identifying room clearing techniques IAW FM 3-06.11.</li> <li>• Identifying techniques for seizing and maintaining initiative in the defense IAW FM 7-8.</li> <li>• Identifying techniques for organizing a defense IAW FM 7-8 and 7-10.</li> <li>• Identifying control measures for a defense IAW FM 7-8.</li> <li>• Identifying planning considerations for obstacles in a defense IAW FM 7-8.</li> <li>• Identifying security measures for a defense IAW FM 7-8.</li> <li>• Identifying procedures for conducting a defense IAW FM 7-8.</li> <li>• Identifying procedures for consolidating and reorganizing IAW FM 7-8.</li> <li>• Identifying the planning considerations for a defense in urban terrain IAW FM 3-06.11.</li> </ul>
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**Safety Requirements**

None

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**Risk Assessment Level**

Low

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**Environmental Considerations**

**NOTE:** It is the responsibility of all soldiers and DA civilians to protect the environment from damage.

None

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**Evaluation**

During this course you will take a 50 question examination. The examination will include questions on the ELOs and TLO from this lesson. You must correctly answer 35 questions or more to receive a GO. A GO is a graduation requirement.

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**Instructional  
Lead-In**

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This lesson reinforces and builds upon instruction concerning troop-leading procedures you received earlier. This lesson will provide you with an understanding of tactical operations skills. During this lesson we will discuss those critical combat tasks that relate to controlling a tactical road march, performing the duties as a serial/march unit commander, directing unit air defense operations, occupation of an assembly area, squad movement, squad offensive operations, squad defensive operations, and consolidation and reorganization. During the FTX, (phase II) the cadre will evaluate how well each student leader supervises his squad while conducting these tactical operations tasks.

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**SECTION III. PRESENTATION**

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**A. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify convoy control measures.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 55-30.
<b>STANDARDS:</b>	Identified convoy control measures by correctly answering questions pertaining to the subject matter IAW FM 55-30, p 5-2, para 5-2.

## 1. Learning Step / Activity 1. Convoy Control Measures

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 15 mins  
 Media: VGT-1 thru VGT-5

Units plan convoys to organize and control all types of motor movements including the tactical movement of combat forces; the non-tactical movement of logistical units; and the transport movements of personnel, supplies and equipment. The first part of this lesson covers convoy control, organization and planning.

Although many of the details of a unit road movement vary by the type of unit conducting the move, this lesson covers the terminology and planning considerations of road movement planners at all levels and in all type of units.

Ref: FM 55-30, p 5-1

QUESTION: What is a convoy?

ANSWER: A convoy is a column of vehicles that moves from the same origin to the same destination under the control of a single commander. A convoy may be as small as a 6-vehicle march unit or as large as a 300-vehicle column.

Ref: FM 55-30, p 5-2, para 5-3

QUESTION: What are the two types of convoy control?

ANSWER: Convoys are subject to two types of control: organizational control and area control.

Ref: FM 55-30, p 5-2, para 5-2

**SHOW VGT-1, CONVOY CONTROL**

**TYPES OF CONVOY CONTROL**

- Area
- Organizational

W325/OCT 04/VGT-1
Basic Noncommissioned Officer Course

**NOTE:** Inform the students that the following discussion of area and organizational control measures does not follow the sequence of presentation in FM 55-30.

The first type of convoy control is area control. To maintain order and prevent congestion, the commander of an area of operations will control convoys moving within or through his area. Area commanders normally exercise control through highway regulation.

One method highway regulation planners use to establish area control is classifying Main Supply Routes (MSR) and Alternate Supply Routes (ASR). Planners base these classifications mainly on the ability of a route to support the expected traffic volume and types of vehicles that will use the route. The classifications specify the degree of control required and whether moving units must request to use a particular route.

Ref: FM 55-30, p 5-1, para 5-2

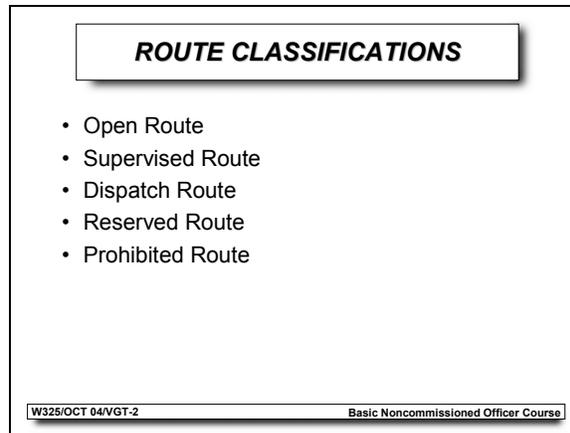
#### **REMOVE VGT-1**

QUESTION: What are the five route classifications?

ANSWER: The five route classifications are open, supervised, dispatch, reserved, and prohibited.

Ref: FM 55-30, page 5-2, para 5-2b

#### **SHOW VGT 2, ROUTE CLASSIFICATIONS**



Ref: FM 55-30, p 5-2, para 5-2b

**Open route:** An open route is open to all types of traffic and a moving unit does not need to submit a request to use the route.

**Supervised route:** A supervised route is open to most types of traffic. However, convoys of certain size, vehicles of certain characteristics, and certain slow-moving vehicles may require a permission to use the route.

**Dispatch route:** Highway regulation planners exercise full control over a dispatch route. They set priorities for use of this type route and any vehicle or group of vehicles must submit a request to use the route.

**Reserved route:** This type route is set aside for the sole use of a certain unit, specified operation, or type of traffic. If highway regulation planners reserve a route for a unit, then the commander of that unit determines the necessary movement controls.

**Prohibited route:** Highway regulation planners do not allow any traffic over a prohibited route.

Ref: FM 55-30, p 5-1, para 5-2

### REMOVE VGT-2

The second type of convoy control is organizational control. Organizational control is the responsibility of the moving unit. Effective organizational control is also known as march discipline.

Ref: FM 55-30, page 5-1, para 5-2a

QUESTION: How does a unit attain march discipline?

ANSWER: Units attain march discipline only through training, supervision of operations by technically competent leaders, and attention to detail.

Ref: FM 55-30, page 5-1, para 5-2a

QUESTION: What are the elements of march discipline?

ANSWER: See VGT-3

### SHOW VGT-3, ELEMENTS OF MARCH DISCIPLINE

<b>ELEMENTS OF MARCH DISCIPLINE</b>	
<ul style="list-style-type: none"> <li>• Using qualified drivers</li> <li>• Following traffic regulations</li> <li>• Meeting SP, en route CP, and RP times without failure</li> <li>• Following the prescribed route at the prescribed march rate</li> <li>• Halting at rest stops for the required amount of time</li> <li>• Effectively using protective measures</li> <li>• Maintaining proper care of equipment</li> <li>• Observing safety policies and regulations</li> <li>• Ensuring that drivers obey the rules of the road, traffic laws or regulations, speed limits, and time and distance gaps</li> <li>• Adhering to unit SOPs</li> </ul>	<small>Basic Noncommissioned Officer Course</small>
<small>W325/OCT 04/VGT-3</small>	

Ref: FM 55-30, p 5-1, para 5-2a

**Qualified drivers:** Qualified drivers are able to operate their equipment safely under a variety of driving conditions.

**Meeting SP, enroute CP, and RP times:** Meeting SP, enroute CP, and RP times is essential to prevent conflict with other movements in the area.

**Unit SOPs:** Unit SOPs specify tactics and techniques for movement, immediate action drills, and communications techniques. A complete SOP facilitates planning and control.

Ref: FM 55-30, page 5-1, para 5-2a

### REMOVE VGT-3

QUESTION: What are the subject areas that a company-level march SOP should cover?

ANSWER: SEE VGT-4 AND VGT-5

Ref: FM 55-30, page 5-13, para 5-5

**NOTE:** Present VGT-4 and VGT-5 as an example of the amount of detail necessary for an effective unit SOP. Emphasize that there are training requirements associated with each topic.

### SHOW VGT-4, UNIT MARCH SOP

At a minimum, the SOP should cover the following subjects:

<b>UNIT MARCH SOP</b>	
<ul style="list-style-type: none"> <li>• Duties of the convoy commander and other convoy control personnel</li> <li>• Convoy organization</li> <li>• Weapons and ammunition</li> <li>• Hardening of vehicles</li> <li>• Individual protective equipment</li> <li>• Preparation of convoy vehicles</li> <li>• Counter-ambush actions</li> <li>• Operations security measures</li> </ul>	
<small>W325/OCT 04/VGT-4</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: FM 55-30, p 5-13, para 5-5

**REMOVE VGT-4**

**SHOW VGT-5, UNIT MARCH SOP (CONT)**

<b>UNIT MARCH SOP (cont)</b>	
<ul style="list-style-type: none"> <li>• Immediate action drills</li> <li>• Actions during scheduled halts</li> <li>• Maintenance and recovery of disabled vehicles</li> <li>• Refueling and rest halts</li> <li>• Communications</li> <li>• Actions at the release point</li> <li>• Reporting</li> </ul>	
<small>W325/OCT 04/VGT-5</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: FM 55-30, p 5-14, para 5-5

**NOTE:** FM 55-30 briefly discusses **casualty evacuation** as part of **medical support en route** on page 5-13, para 5-4j(6) but does not include casualty evacuation in the list of SOP topics.

**REMOVE VGT-5**

**NOTE:** Set VGT-4 and VGT-5 aside to use during the discussion of the solution to Practical Exercise 1.

**CHECK ON LEARNING:**

QUESTION: What are the two types of convoy control?

ANSWER: The two types of convoy control are organizational control and area control.

Ref: FM 55-30, pp 5-1 thru 5-2, para 5-2a and 5-2b

QUESTION: What type of control does the commander of a moving unit exercise?

ANSWER: Organizational control.

Ref: FM 55-30, page 5-1, para 5-2a

QUESTION: What are the five route classifications?

ANSWER: The five route classifications are open route, supervised route, dispatch route, reserved route, and prohibited route.

Ref: FM 55-30, page 5-2, para 5-2b

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**B. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify convoy organizational considerations.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 55-30 and FM 7-7.
<b>STANDARDS:</b>	Identified convoy organizational considerations by correctly answering questions pertaining to the subject matter IAW FM 55-30, p 5-3, para 5-3 and FM 7-7, p Q-1, para Q-1.

1. Learning Step / Activity 1. Convoy Organizational Considerations

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-6 and VGT-7

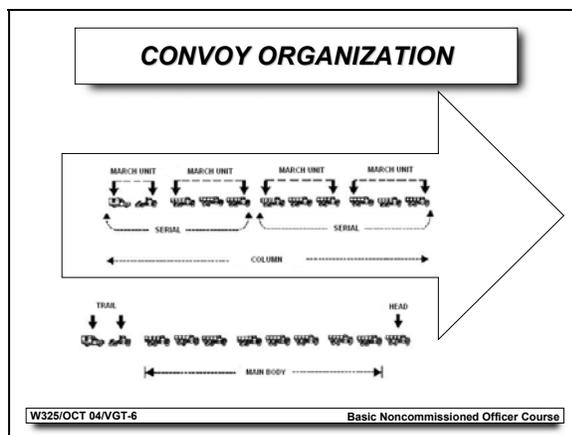
The convoy commander organizes vehicles into groups to facilitate command and control. Whenever possible, convoys are set up along organizational lines, such as squad, platoon, company, battalion, and brigade.

QUESTION: What are the three organizational elements of a convoy?

ANSWER: The three organizational elements of a convoy are march units, serials, and columns.

Ref: FM 55-30, page 5-3, para 5-3a

**SHOW VGT-6, CONVOY ORGANIZATION**



Ref: FM 55-30, p 5-1, Figure 5-1 and p 5-2, Figure 5-2

**March unit:** A march unit is the smallest element of a convoy and may have up to 25 vehicles. A march unit usually represents a squad- to platoon-size element. Each march unit has a march unit commander.

**Serial:** A serial is a group of two to five march units. It represents approximately a company- to battalion-size element. Each serial has a serial commander.

**Column:** A column is a group of two to five serials. It represents approximately a battalion- to brigade-size element. Each column has a column commander.

All columns, serials, and march units, regardless of size, have three functional elements.

QUESTION: What are the three functional elements of each column, serial, or march unit?

ANSWER: The three functional elements of each column, serial, or march unit are: head, main body and trail.

Ref: FM 55-30, page 5-4, para 5-3b

**Head:** The head is the first vehicle of each column, serial, and march unit. Each head should have its own pacesetter. The pacesetter sets the pace needed to meet the schedule along the route. The officer or noncommissioned officer at the head ensures that the column follows the proper route and may also report arrival at certain checkpoints along the route. With the head performing these duties, the convoy commander has the flexibility to move up and down the column to enforce march discipline.

**Main body:** The main body follows immediately after the head and consists of the majority of vehicles moving as part of the convoy.

**Trail:** The trail is the last section of each march column, serial, and march unit. The trail officer or noncommissioned officer is responsible for recovery, maintenance, and medical support. The recovery vehicle, maintenance vehicles, and medical support vehicles or teams are found in the trail. The trail officer or noncommissioned officer assists the convoy commander in maintaining march discipline and may also be required to report clear time at checkpoints along the route.

In convoys consisting of multiple march units and serials, the convoy commander may direct minimum support in the trail of each serial or march unit and form a larger trail party at the rear of the column. As the trail party may be left behind to conduct repairs or recovery, the convoy commander will also provide trail security and communications.

#### **REMOVE VGT-6**

The commander must also organize the column to meet mission requirements and ensure organizational control by specifying a column formation.

QUESTION: What are the three basic column formations?

ANSWER: The three basic column formations are close column, open column, and infiltration.

Ref: FM 55-30, page 5-5, para 5-3d

#### **SHOW VGT 7, COLUMN FORMATIONS**

**COLUMN FORMATIONS**

- Close Column
- Open Column
- Infiltration

W325/OCT 04/VGT-7
Basic Noncommissioned Officer Course

Ref: FM 55-30, p 5-5, para 5-3d

QUESTION: What is the difference between the three formations?

ANSWER: The difference between the formations is the amount of space or gap between vehicles.

Ref: FM 55-30, page 5-5, para 5-3d

To select the proper gap for a movement, the convoy commander must weigh factors such as the threat, type of route, and ability to communicate. The rule of thumb for vehicle gap is to allow a 4-second gap between trucks. If the convoy includes vehicles with trailers, allow an 8-second gap. Normally, the gap will be 25 to 50 meters in urban areas (close column) and 100 meters in rural areas or highways (open column).

**NOTE:** FM 55-30 refers to the distance between vehicles in a column as “gap”. Other references refer to this distance as the “interval” between vehicles.

QUESTION: What is infiltration?

ANSWER: During a move by infiltration, a unit dispatches vehicles individually as small groups, or at irregular intervals at a rate that will keep traffic density down and prevent undue massing of vehicles. Infiltration provides the best possible defense against enemy observation and attack. Infiltration is suitable for tactical road marches when enough time and road space are available and when the commander desires maximum security, deception, and dispersion.

Ref: FM 7-7, page Q-2, para Q-1

#### **REMOVE VGT-7**

#### **CHECK ON LEARNING:**

QUESTION: What are the three organizational elements of a convoy?

ANSWER: The organizational elements of a convoy are march units, serials, and columns.

Ref: FM 55-30, page 5-3, para 5-3a

QUESTION: What are the three functional elements of each column, serial, or march unit?

ANSWER: The three functional elements of each column, serial, or march unit are: head, main body and trail.

Ref: FM 55-30, page 5-4, para 5-3b

QUESTION: What are the three basic column formations?

ANSWER: The three basic column formations are close column, open column, and infiltration.

Ref: FM 55-30, page 5-5, para 5-3d

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**C. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify convoy planning considerations
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 55-30.
<b>STANDARDS:</b>	Identified convoy planning considerations by correctly answering questions pertaining to the subject matter IAW FM 55-30 pp 5-5 thru 5-12, para 5-4.

1. Learning Step / Activity 1. Convoy Planning Considerations

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-8

The unit SOP should specify the most common planning activities.

**QUESTION:** Besides convoy control and organization, what topics must convoy commanders consider during the planning process?

**ANSWER:** See VGT-8.

Ref: FM 55-30, page 5-7, para 5-4

**SHOW VGT-8, CONVOY PLANNING**

**CONVOY PLANNING**

- Advance/quartering party
- Convoy control personnel
- Start point
- Release point
- Halts
- Gaps and march rate
- Movement request
- Communications
- Route reconnaissance
- Escort and security
- Convoy support

W325/OCT 04/VGT-8
Basic Noncommissioned Officer Course

Ref: FM 55-30, p 5-7, para 5-4a

**Advance/quartering party:** From a control perspective, the major function of the advance/quartering party is to ensure that the column is able to move quickly off the route and into positions in the marshaling or assembly area. This prevents congestion on the route and enhances security by not allowing vehicles to remain lined up along the route waiting to enter

the marshaling or assembly area.

**Convoy control personnel:** The column commander, serial commanders, and march unit commanders control the convoy. The advance party officer, trail party officer, pacesetter, and escorts assist the convoy commander in controlling the movement.

- Column, serial, and march unit commanders. These commanders plan and control the movement and enforce march discipline. They may be either officers or noncommissioned officers.
- Pacesetters. Pacesetters maintain or adjust the rate of march as necessary to meet the schedule. In so doing, a pacesetter may direct his element to speed up to compensate for lost time due to terrain, weather, traffic conditions, or other obstacles. The pacesetter's job is critical as he must ensure the convoy's actual rate of march averages the required march rate over the length of the route. Pacesetters should be officers or NCOs with march experience and ride in the first vehicle of each element in the convoy.
- Trail officer. The trail officer is positioned at the rear of the column. He checks and observes vehicles, march units, or serials at the SP. He warns traffic approaching from the rear when the column halts. He also picks up guides and markers left by preceding elements of the march column. He investigates accidents on-the-spot, directs evacuation of injured personnel, and effects disposition of disabled equipment.
- Trail maintenance officer. A maintenance technician/NCO rides at the rear of the column with maintenance and recovery personnel and equipment and supervises en route maintenance operations. In a small column, the trail officer and the trail maintenance officer may be the same person.
- Guides. Guides ensure the convoy follows the prescribed route. Guides become very important when operating in an area where road signs are poor or nonexistent. On controlled routes, the area commander may furnish guides to direct units or vehicles moving over these routes. Highway

regulation authorities will use movement regulation teams and military police to assist moving units. Although these teams do not normally escort convoys, they assist convoy commanders in locating supported units, preventing conflict with other convoys, and providing other information on the route. On uncontrolled routes, the moving unit usually must provide its own guides.

Ref: FM 55-30, p 5-8, para 5-4b

**Start Point (SP):** All motor moves scheduling is from a start point to a release point. For most moves, when all vehicles originate from the same location, selecting an SP is a simple procedure. However, columns sometimes comprise vehicles from several different units that may not originate at one location. When this occurs, the convoy commander must select an SP that is common to all units and vehicles on the route.

On passing the SP, each unit should be traveling at the rate of march and vehicle interval (gap) stated in the operation order. If the convoy is moving on a controlled route, the SP will usually be the first checkpoint on the route that the convoy passes. If the convoy is not moving on a controlled route, the convoy commander will select an SP along the route that drivers and control personnel can easily recognize on both map and ground.

Ref: FM 55-30, p 5-8, para 5-4c(1)

**Release Point (RP):** The RP is the place where the column commander releases active control of the elements of a column.

Columns sometimes contain vehicles from several different units and the vehicles may not all have the same final destination. The RP is the place where the commander releases elements of the column from column control to go to their designated areas.

The RP, like the SP, must be on the column's route. If the convoy is moving on a controlled route, the RP will usually be the last checkpoint on the route that the convoy passes. If the convoy is not moving on a controlled route, the RP should be a place along the route that drivers and control personnel can easily recognize on both map and ground.

The RP is neither the final destination nor a place to stop a convoy. The convoy must clear the RP and get off the route with a minimum of delay to prevent congestion with other

scheduled movements. Unit guides may meet their units as they arrive at the RP and lead them to their designated areas. Units should use multiple routes from the RP and move cross-country if necessary to spread rapidly.

If the convoy destination is a customer support location, the convoy commander will use an advance party or other means of communications to contact the receiving unit before arrival of the main body. This will let the receiving units meet the convoy at the RP and guide the vehicles to the designated locations. It will also facilitate getting the vehicles off the route quickly, so they will not interfere with other scheduled traffic. As the vehicles unload, they should scatter out, and the drivers should perform after-operation maintenance. The receiving unit should also inform drivers where and at what time to assemble for the return trip.

Ref: FM 55-30, p 5-9, para 5-4c(2)

**Halts:** Halts are for rest, personal comfort and relief, messing, refueling, maintenance and inspection of equipment, and schedule adjustments. The convoy commander must incorporate halts into road movement planning to ensure that the movement request and the road movement tables reflect time for the halt.

Short halts will normally last 10 to 15 minutes. Longer halts, for messing, refueling, and bivouacking, will last as long as required to accomplish these tasks. When the situation permits, messing and refueling halts will coincide. Convoy commanders must also account for the time taken to get in and out of the rest area as part of the time allocated for the halt.

In most areas of operations, commanders exercising area control will select the location of rest halts on controlled routes and will publish the locations in the highway regulation plan.

During halts, all personnel have certain responsibilities. Officers and noncommissioned officers check the welfare of their soldiers, the security of loads, and en route maintenance. Control personnel inspect vehicles and loads and give instructions to ensure that the column will get started with a minimum of confusion. Dining, medical, and maintenance personnel perform such special duties as the purpose and duration of the halt permit. Drivers inspect their vehicles and loads and perform en route maintenance.

Ref: FM 55-30, p 5-9, para 5-4d

**Gaps and march rate:** The preceding paragraphs have mentioned distance between vehicles (gap) several times. The commander determines the gap based on the march rate, route, and threat. If the commander prescribes the same gap for all speeds, then the unit will execute the move as a fixed column. If the commander wants the gap between vehicles to increase or decrease as speeds increase or decrease, the unit will execute the move as a governed column. March rate will depend on the condition of the road, the traffic, and the speed of the slowest vehicle. In all cases, the march rate will be less than the legal posted speed limits. Also, various commands specify maximum convoy march rates under various operational conditions. Convoy commanders must be familiar with local command policies. If the commander prescribes a governed column, one technique for drivers to determine the correct gap based on speed is the speedometer multiplier. The speedometer multiplier is a number (1, 2, or 3) to multiply times speed to determine the correct gap. For example, with a speedometer multiplier of 2, vehicles traveling at 40 kilometers (25 miles) per hour will have a gap of 80 meters (50 yards) between them. The gap will thus vary by speed and the speedometer multiplier. Because the gap changes with speed, drivers must open or close the gap to adjust to changing conditions. The major benefit is safety, to put more distance between vehicles at higher speeds. Even when using the speedometer multiplier, a minimum gap should be set to prevent bunching of vehicles at very low speeds. Only a well-trained, thoroughly disciplined unit can use the governed column method.

Ref: FM 55-30, p 5-10, para 5-4e

**Submission of Movement Bids:** A movement bid is a request for clearance to move on a controlled route, such as an MSR. Convoys containing a certain number of vehicles, types of vehicles, or types of loads may require a movement bid.

Ref: FM 55-30, p 5-10, para 5-4f

**Communications:** The ability to communicate during convoy operations is essential. The convoy commander must have radio nets to link to higher headquarters, air and artillery support, element commanders, any security force commander, gun trucks, medics, and the trail party commander. Within the column, each march element may have its own control net

between the march element commander, the head and the trail party. The convoy must also have and rehearse other communications techniques, such as signals.

There are several ways to communicate while on convoy. These include the following:

- Visual signals. Visual signals may include arm-and-hand, flashlight, flag, headlight, and pyrotechnic signals. Units should specify signals in an SOP and train and rehearse them so that drivers are completely familiar with them.
- Audio (sound) signals. These may include the use of whistles, horns, and verbal messages. Aircraft and command and control vehicles may be equipped with loudspeakers to issue instructions.
- Radio. This is the best way to communicate during a road march. There are, however, several things to consider about the use of radios:
  - Some vehicles in the convoy may not have radios.
  - Radios have a limited range unless retransmission stations are available.
  - Combat conditions may restrict radio transmissions. Even with newer radios, the volume of radio transmissions and the ability of the enemy to jam radio signals may render radio communications unreliable in some circumstances.

Ref: FM 55-30, p 5-11, para 5-4g

**Route reconnaissance:** The commander's choice of the route to use will depend on routes available under the current highway regulation plan and the ability of routes to support the type of vehicles moving. Often a higher headquarters will prescribe the route that the convoy must use. In this case, a map reconnaissance will enable the convoy commander to select tentative checkpoints or to confirm those already established. The convoy commander should also conduct either a ground or aerial reconnaissance of the route following his map reconnaissance. He should also include subordinate convoy leaders in any reconnaissance to help them become familiar with the route. At a minimum, the route reconnaissance should include identification of critical points and check points and the selection of an SP, RP, halt

sites, and a bypass or alternate route.

Ref: FM 55-30, p 5-11, para 5-4h

**Escort and Security Elements:** Convoy commanders must plan and coordinate through their chain of command all matters pertaining to convoy security including:

- Noise, litter, and light discipline.
- Front, flank, and rear security.
- Security during halts.
- Air cover.
- Fire support.
- Communications security.
- Deception.

Convoy escort and security elements are usually the responsibility of the moving unit. Military police units may provide convoy security to a specific convoy or on an area basis because route security is an MP mission. However, the availability of MP support depends on the threat in the area of operations, the sensitivity of the cargo, and other missions the MPs must support.

In placing escorts, the commander must consider the number of vehicles available, the size of the convoy, terrain and route characteristics, and likely enemy activity. The convoy commander should place escorts to allow maximum protection for the most critical convoy elements. Since it is easier for vehicles to move forward, the commander will normally position escort vehicles in the rear of their assigned march elements. If there is only one escort vehicle, the commander should place it at the rear of the convoy so it can move forward in the event of a tactical emergency.

Ref: FM 55-30, p 5-12, para 5-4i

**Convoy Support:** Based on the mission and circumstances of the move, support to convoys may include any or all of the following: fire support, combat aviation support, messing en route, maintenance en route, refueling en route, and medical support en route.

- Fire support. As a rule, convoy commanders do not coordinate fire support. A fire support element (such as a base operations center, base cluster operations center, or rear area operations center) plans and coordinates convoy fire support on an area basis. This planning may provide fire support to main supply routes (MSRs) or other routes if intelligence indicates that the enemy will likely target convoys at particular locations. Convoy commanders should know the fire support plans along their route and know how to call for and adjust fire.
- Combat aviation support. Another element of fire support that the commander should consider is Army attack helicopters. Through coordination, attack helicopters can be on alert status or overhead while the convoy is en route. In either situation, convoy and security radio operators and control personnel must know their radio frequencies. Standardized marking of convoy vehicles helps prevent fratricide.
- Messing en route. While on convoy, organizational field feeding capabilities or transient messes can feed convoy personnel.
- Maintenance en route. Drivers always perform normal preventive maintenance at halts. Maintenance personnel in the trail element perform unit-level repairs on vehicles of the convoy when maintenance personnel can repair a vehicle quickly.
- Refueling en route. The normal operating range of convoy vehicles determines the convoy's requirements for refueling. The operating range is the normal distance that a vehicle can travel on a full tank of fuel. Operating range varies according to the terrain, vehicle, and load. A heavily loaded truck operating on poor roads in hilly terrain will get less fuel mileage than a lightly loaded truck operating on good roads in fairly level terrain. The commander must plan refueling points within the range of vehicle with the least operating range to prevent any vehicle in the convoy from running out of

fuel.

- Medical support en route. The convoy commander must also consider medical support based on the mission and likelihood of enemy contact. Convoy medical support can include unit personnel trained as combat life savers and a medical team attached to the convoy by a higher headquarters or by the area commander.

Ref: FM 55-30, p 5-12, para 5-4j

**REMOVE VGT-8**

**CHECK ON LEARNING:**

QUESTION: Which convoy control personnel are primarily responsible for maintaining or adjusting the rate of march as necessary to meet the schedule?

ANSWER: Pacesetters.

Ref: Ref: FM 55-30, p 5-8, para 5-4b

QUESTION: What is usually the first checkpoint on a convoy route?

ANSWER: The start point (SP).

Ref: FM 55-30, p 5-8, para 5-4c(1)

QUESTION: What is usually the last checkpoint on a convoy route?

ANSWER: The release point (RP).

Ref: FM 55-30, p 5-8, para 5-4c(2)

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**D. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify convoy defense measures.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 55-30.
<b>STANDARDS:</b>	Identified convoy defense measures by correctly answering questions pertaining to the subject matter IAW FM 55-30, pp 6-1 thru 6-11, para 6-1 thru 6-5.

1. Learning Step / Activity 1. Convoy Defense

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 40 mins  
 Media: VGT-9 thru VGT-14

The damage a convoy incurs when attacked depends on the adequacy of convoy defense training and on the adequacy of the briefing that convoy personnel receive before the operation. The key is to react rapidly to any situation. Successful accomplishment of your mission and your life depend on it.

This section of the lesson covers reactions to air attack, artillery or indirect fire attack, sniper fire, ambush, and NBC attack.

**AIR ATTACK**

The **air threat** varies from UAV, cruise missiles, and armed helicopters to high-performance aircraft. Convoys face the greatest danger of an air attack while moving along open roads or during halts where there is little or no overhead cover.

**NOTE:** Inform the students that lesson uses the tables on VGT-9 thru VGT-13 to organize the material and facilitate discussion and memory. These tables do not appear in FM 55-30.

**SHOW VGT-9, REACT TO AIR ATTACK**

<b>REACT TO AIR ATTACK</b>		
<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"> <li>• Small arms fire</li> </ul>	<ul style="list-style-type: none"> <li>• Dispersion</li> <li>• Camouflage and concealment</li> <li>• Air guards</li> <li>• Communications security</li> </ul>	<ul style="list-style-type: none"> <li>• Stop in place</li> <li>• Continue to march</li> <li>• Disperse to concealed positions</li> </ul>

W325/OCT 04/VGT-9 Basic Noncommissioned Officer Course

Ref: FM 55-30, p 6-1 thru 6-6, para 6-1a

**Active Defense:** The amount of fire a logistical convoy can bring to bear on attacking aircraft is limited to a few mounted machine guns and the individual weapons of operators and passengers. Although the convoy is not totally defenseless, it is no match for a skilled pilot in a modern ground attack jet aircraft. The convoy's capability to defend itself is slightly better against the slower and sometimes more vulnerable ground attack helicopter. At best, a convoy without air defense protection possesses an extremely limited ability to defend against

air attack.

QUESTION: What is the key to effective small arms fire against aircraft?

ANSWER: The key to effective small arms fire against aircraft is volume.

The following are tips for small arms defense:

- Shoot any attacking aircraft or unauthorized UAV.
- Fire at the nose of an aircraft; fire at the fuselage of a hovering helicopter or slightly above the nose of a moving helicopter.
- Fire in volume--everybody shoots.
- Lead aircraft crossing your position (lead jets the length of one football field).
- Take cover if time allows.
- Support your weapon if possible.
- Lie on your back if caught in the open.
- Aim mounted machine guns slightly above the aircraft nose for head-on targets.
- Control small arms fire so attacking aircraft flies throughout it.

Ref: FM 55-30, p 6-1, para 6-1a

**Passive Defense:** For a convoy without significant air defense firepower, passive measures are most effective because the focus on preventing attacks by hostile aircraft.

Passive defense measures include:

- Dispersion. The formation the convoy uses is a type of passive defense. The convoy commander must decide whether to use an open or closed column. For either formation, drivers must not maintain a fixed distance between vehicles.
- Open column. Convoys in open column generally maintain an 80- to 100-meter distance between vehicles. This formation offers an advantage of fewer vehicles damaged by air-to ground rockets, cannons, or cluster bomb units. However, open columns make control more difficult for the convoy

commander when it is necessary to give orders to stop, continue, disperse and seek concealment, or engage aircraft. The column may also be more susceptible to attack because of longer exposure and, if attacked, its small arms fire may be less effective because it cannot concentrate fire against the attacker.

- Close column. Convoys in close column maintain a distance of less than 80 meters between vehicles. This formation has none of the disadvantages noted for the open column formation. However, presenting a bunched up target could be an overriding disadvantage. Where an air attack is likely, it may be wise for the convoy commander to move close column convoys only at night.
- Camouflage and concealment. Camouflage and concealment techniques can make it more difficult for the enemy to spot the convoy.
  - Crews cannot do much to change the shape of a vehicle moving down the road, but it is possible to disguise or conceal the type of cargo by covering it with a tarpaulin. Bulk fuel transporters (tankers) are usually priority targets. Rigging tarps and bows over the cargo compartment conceals the nature of the cargo from the enemy pilot.
  - When stopping, drivers should look for a bush, tree, or some other means of concealment to break the shape as seen from the air.
  - Smooth surfaces and objects, such as windshields, headlights, and mirrors, will reflect light and attract the pilot's attention. Drivers should camouflage or cover all shiny items before the convoy moves out.
  - If the unit has not already painted its vehicles in a pattern to blend with the terrain and to break the outline, drivers can use mud to achieve this effect.

- **Air guard duties.** Element commanders assign air guard duties to specific individuals throughout the convoy, and give each a specific search area. Seeing the enemy first tips the odds in favor of the convoy by giving it more time to react. If the road march lasts more than an hour, soldiers should take shifts at air guard duty because scanning for a long period dulls the ability to spot aircraft.
- **Communications security.** Today's communications equipment can be very useful for controlling convoys, but it can also help enemy pilots find the convoy. Convoy control personnel and drivers should use the radio only when necessary and keep all transmissions short.

**Passive reactions:** When the convoy spots aircraft or receives an early warning, the convoy commander has three options: stop in place, continue to march, or disperse quickly to concealed positions.

- **Stop in place:** If the convoy commander chooses to halt the convoy, the vehicles simply pull to the shoulder of the road in a herringbone pattern. This technique has several advantages:
  - It is harder for the enemy pilot to see the convoy when it halts than when it continues to move.
  - It is easier to continue the march after the attack.
  - The volume and density of organic weapons will be higher than if the convoy disperses.

A disadvantage to this option is that a convoy stopped on the open road makes a good target and an enemy attack has a better chance of causing greater damage to the unit.

- **Continue to march:** The mission or terrain may dictate that the march continues. If this is the case, the convoy should increase speed. Continuing the march offers the advantage of presenting a moving target, making it more difficult for the enemy to hit. However, detection is easier and volume and the

convoy cannot concentrate its small arms fire.

- **Disperse quickly to concealed positions:** A simple technique to disperse vehicles is to establish a method in the SOP that, in the event of an attack, odd-numbered vehicles go to the left and even-numbered vehicles go to the right. The key to dispersion is not to make two straight lines out of what was one long line; drivers must stagger the vehicles. This should not be much of a problem if the unit has trained drivers to go to trees, bushes, folds in the ground, and so forth, which will provide concealment. Once the convoy disperses, all personnel, except for vehicular-mounted weapon gunners, dismount and take up firing positions. The advantages of this option are that it is more difficult for the enemy pilot to detect the vehicles and get multiple hits. However, this method has several disadvantages:
  - It is easier for the enemy pilot to spot the convoy as it begins to disperse.
  - Dispersion reduces the volume and density of small arms fire.
  - It takes longer to reorganize the convoy after the attack.

FM 55-30, p 6-5, para 6-1c

#### **REMOVE VGT-9**

QUESTION: Why are passive air defense measures most effective for a convoy without significant air defense firepower?

ANSWER: Passive air defense measures are most effective because they focus on preventing attacks by hostile aircraft.

Ref: FM 55-30, page 6-2, para 6-1b

#### **ARTILLERY OR INDIRECT FIRE**

The enemy may use **artillery units or indirect fire weapons** to destroy logistical convoys or to harass and interdict the forward movement of supplies and personnel.

Ref: FM 55-30, p 6-7, para 6-2

#### **SHOW VGT-10, REACT TO INDIRECT FIRE**

<b>REACT TO INDIRECT FIRE</b>		
<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"> <li>• Counter-battery fire</li> <li>• Small arms fire against forward observer</li> <li>• Air strikes</li> </ul>	<ul style="list-style-type: none"> <li>• Formation</li> </ul>	<ul style="list-style-type: none"> <li>• Stop in place</li> <li>• Continue to march</li> </ul>

W325/OCT 04/VGT-10 Basic Noncommissioned Officer Course

Ref: FM 55-30, p 6-8, para 6-2

There are two general types of artillery fires: preplanned fires or fires called in and adjusted on a target of opportunity by a forward observer. Of the two, the adjusted fires present the most complex problem as the forward observer can adjust the artillery barrages to follow the actions of the convoy.

**Active Defense:** Active defensive measures against artillery include:

- Directing counter battery fire when it is possible to estimate the direction and approximate distance to the enemy artillery.
- Directing small arms fire or artillery fires against the enemy forward observer when it is possible to locate the forward observer.
- Coordinating air strikes against the enemy artillery.

**Passive Defense:** The formation in which the convoy moves can be a type of passive defense.

- Open column. Convoys in open column generally maintain an 80- to 100-meter distance between vehicles. This formation offers an advantage of fewer vehicles damaged by indirect fire. However, open columns make control more difficult for the convoy commander when it is necessary to give orders. The column may also be more susceptible to attack because of longer exposure.
- Close column. Convoys in close column maintain a distance of less than 80

meters between vehicles. This formation has none of the disadvantages noted for the open column formation. However, presenting a bunched up target could be an overriding disadvantage.

**Passive Reactions:** The convoy commander has three options when confronted with incoming artillery rounds: halt in place, continue to march, or disperse quickly to concealed positions. The primary consideration is the immediate departure from the impact area.

- Stop in place. The commander should only halt the convoy when the artillery concentration is ahead of the convoy. The convoy commander should look for an alternate route around the impact area and the convoy should prepare to move out rapidly.
- Continue to march. The mission or terrain may require the convoy to continue. If this is the case, the convoy should increase speed and spread out to the maximum extent the terrain will allow. Actions that will reduce casualties include avoiding the impact area, increasing speed, wearing protective equipment, using the vehicle for protection, and increasing dispersion.

#### **REMOVE VGT-10**

QUESTION: What is the primary consideration when reacting to indirect fire?

ANSWER: The primary consideration is the immediate departure from the impact area.

Ref: FM 55-30, page 6-8, para 6-2b

#### **SNIPER FIRE**

The enemy may use snipers to harass and interdict the forward movement of supplies and personnel.

#### **SHOW VGT-11, REACTION TO SNIPER FIRE**

<b>REACT TO SNIPER FIRE</b>		
<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"> <li>• Small arms fire</li> </ul>	<ul style="list-style-type: none"> <li>• Protective equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to march</li> </ul>

W325/OCT 04/VGT-11 Basic Noncommissioned Officer Course

Ref: FM 55-30, p 6-8, para 6-3

**Active Defense:** Take extreme caution when firing at a sniper to ensure that any return fire does not harm friendly troops or civilians in the area. Prevent convoy personnel from random firing by designating personnel to return fire. Do not return fire in a no-fire zone.

**Passive Defense:** The best actions are passive. Ensure all personnel wear Kevlar helmets and available body armor at all times.

**Passive Reactions:** All vehicles should move through the area without stopping.

Escort personnel should notify the march element commander by giving a prearranged signal, like a smoke grenade thrown in the direction of fire, and attempt to locate and destroy the sniper by long-range fire if in a free-fire zone.

The convoy commander may order additional fire or supporting forces into the area to destroy, capture, or drive off the sniper. Convoy personnel should also know that the enemy frequently uses a heavy volume of fire to slow down a convoy before an ambush.

Ref: FM 55-30, p 6-7, para 6-3

## **REMOVE VGT-11**

### **AMBUSH**

The enemy may use an ambush to destroy logistical convoys or to harass and interdict the forward movement of supplies and personnel.

## **SHOW VGT-12, REACT TO AMBUSH**

<b>REACT TO AMBUSH</b>		
<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"> <li>• Destroy the ambush</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid the ambush</li> <li>• Reduce the effectiveness of the ambush</li> </ul>	<ul style="list-style-type: none"> <li>• Road not blocked</li> <li>• Road blocked</li> <li>• Mines and Booby Traps</li> </ul>

W325/OCT 04/VGT-12 Basic Noncommissioned Officer Course

Ref: FM 55-30, p 6-8, para 6-4

The very nature of an ambush--a surprise attack from a concealed position--places an ambushed unit at a disadvantage. Combat situations may prevent a convoy from taking all the measures necessary to avoid being caught in an ambush. Therefore, a convoy must take all possible measures to reduce its vulnerability and supplement these passive measures with active measures taken to destroy or escape from an ambush. However, no single defensive measure, or combination of measures, will prevent or effectively counter all ambushes. There is a direct relationship between the effectiveness of counter-ambush measures and the state of training of troops and the leadership ability of the leaders.

**Passive Defense:** The best defense is to avoid the ambush. Commanders should take the following actions to avoid an ambush:

- Select the best route for the convoy.
- Make a map reconnaissance.
- Make a ground reconnaissance.
- Make an aerial reconnaissance.
- Obtain current intelligence information.
- Use OPSEC to deny the enemy foreknowledge of the convoy.
- Do not present a profitable target.
- Avoid moving at routine times or using predictable routes.

The following actions can help to reduce the effectiveness of ambushes:

- Harden vehicles.
- Cover loads.
- Space prime targets throughout the convoy.
- Wear protective clothing.
- Use assistant drivers.
- Carry troops and supplies.
- Use prearranged signals to warn the convoy of an ambush.
- Use escort vehicles (military police, tanks, armored vehicles) or gun trucks.
- Thoroughly brief all convoy personnel on immediate action drills.
- Practice immediate action drills.
- Maintain the interval between vehicles.
- Move through the kill zone, if possible.
- Stop short of the ambush.
- Do not block the road.
- Rapidly respond to orders.
- Aggressively return fire.
- Counterattack with escort vehicles.
- Call for artillery support.
- Call in air support.
- Call for the reserve force.

**Passive Reactions:** Guerrillas are seldom able to contain an entire convoy in a single kill zone. This is due to the extensive road space occupied by even a platoon-size convoy and because security or lack of available forces may limit the size of the ambushing force. More often, the ambush catches only a part of a convoy--the head, tail, or a section of the main body. If the road to the front is open, the part of the convoy that is in the kill zone and receiving fire must exit the kill zone as quickly as possible. Vehicles disabled by enemy fire are left behind or, if blocking the road, pushed out of the way by following vehicles. Armored

escort vehicles must not block convoy vehicles by halting in the traveled portion of the road to return fire.

- Road not blocked. Vehicles that have not entered the kill zone must not attempt to do so. They should stop and personnel should dismount, take up a good defensive position, and await instructions. Since escort vehicles may have left the road to attempt to overrun a hostile position, elements of the convoy should not fire on suspected enemy positions without coordinating with the escort forces.

Other actions that convoy leaders can take to neutralize the ambush force include:

- Call for artillery fire on enemy positions.
- Call for gunship or tactical air or army aviation fire on enemy positions.
- Direct gun trucks and other vehicles with mounted weapons to lay down a heavy volume of fire on the ambush force.
- Call for reaction forces.
- Direct all non-driving personnel to place a heavy volume of fire on enemy forces as vehicles move out of the kill zone.
- Vehicles must keep their distance to reduce the number of vehicles in the kill zone.

A motor transport convoy with a limited escort is seldom able to defeat a hostile force and should not attempt to do so. When part of the convoy is isolated in the kill zone, vehicles that have not entered the ambush area must not attempt to do so. They should stop; personnel should dismount, take up a good defensive position, and await instructions until supporting forces have cleared the ambush.

Normally, a transport unit will not deploy to attack a hostile force unless it is necessary to prevent destruction of the convoy element. It will rely on

supporting air, artillery, escorts, and reaction forces.

- **Road Blocked.** When an element of a convoy halts in the kill zone and is unable to proceed because of disabled vehicles, a damaged bridge, or other obstacle, personnel will dismount, take cover, and return a maximum volume of fire on enemy positions. When dismounting, all personnel should exit the vehicle on the side away from the direction of enemy fire. Security/escort troops from vehicles that have passed through the ambush area should dismount and lay down a base of fire on the ambush position. The commander should call for reaction forces immediately. Normally, the security force will take action to neutralize the ambush while the convoy escapes from the kill zone.

**NOTE:** Booby traps are now known as Improvised Explosive Devices (IEDs).

- **Mines and Booby Traps.** The enemy often uses command-detonated mines to start an ambush and plants mines along the shoulder of the road for harassment and interdiction. They may also use a booby trap system against personnel in vehicles and could consist of hand grenades. Claymore mines or artillery shells may be suspended from trees and command-detonated when a vehicle passes. The following guidelines have proven effective in decreasing damage by mines in convoy operations:
  - Track the vehicle in front.
  - Avoid driving on the shoulder of the road.
  - Whenever possible, do not run over foreign objects, brush, or grass in the road.
  - Avoid fresh earth in the road.
  - Watch local national traffic and the reactions of people on foot. (They will frequently give away the location of any mines or booby traps.)
  - When possible, arrange for the engineers to sweep the road

immediately before the convoy moves over it.

- Deploy heavy vehicles such as tanks in front of the convoy to explode small mines.
- Harden vehicles.
- Wear protective equipment.

Ref: FM 55-30, p 6-8, para 6-4

### **REMOVE VGT-12**

QUESTION: What is the best defense against an ambush?

ANSWER: See VGT-12.

Ref: FM 55-30, page 6-9, para 6-4

### **SHOW VGT-13, THE BEST DEFENSE AGAINST AMBUSH**

***THE BEST DEFENSE AGAINST  
AMBUSH***

Avoid the ambush by:

- Selecting the best route for the convoy.
- Making a map reconnaissance.
- Making a ground reconnaissance.
- Making an aerial reconnaissance.
- Obtaining current intelligence information.
- Using OPSEC to deny the enemy foreknowledge of the convoy.
- Not presenting a profitable target.
- Avoiding movement at routine times or on predictable routes.

W325/OCT 04/VGT-13
Basic Noncommissioned Officer Course

Ref: FM 55-30, page 6-9, para 6-4

### **NBC ATTACK**

The enemy may use an **NBC attack** to destroy logistical convoys or to harass and interdict the forward movement of supplies and personnel.

### **SHOW VGT-14, REACTION TO NBC ATTACK**

<b>REACT TO NBC ATTACK</b>		
<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
	<ul style="list-style-type: none"> <li>• Avoid the contaminated area</li> <li>• Protective equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Stop in place</li> <li>• Continue to march</li> <li>• Disperse to concealed positions</li> </ul>

W325/OCT 04/VGT-14 Basic Noncommissioned Officer Course

Ref: FM 55-30, p 6-11, para 6-5

Artillery fire, mortar fire, rockets, missiles, aircraft spray bombs, grenades, and land mines can all disseminate chemical agents. Always be alert because agents may already be present on the ground or in the air. Chemical agents are substances in gaseous, liquid, or solid form. To protect against an NBC attack, you need to know how those agents may affect your body.

Ref: FM 55-30, p 6-11, para 6-5

**REMOVE VGT-14**

2. Learning Step / Activity 2. Practical Exercise/Solution

Method of Instruction: Practical Exercise (Performance)  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 20 mins  
 Media: PE-1

**NOTE:** Inform the students that this practical exercise supports ELO C and ELO D.

- Hand out Practical Exercise 1 (see Appendix C). Give the students 5 minutes to complete the exercise working alone without the reference.
- After 5 minutes, break class into 3 groups. Give the groups 5 minutes to consolidate individual solutions and prepare a group solution to the practical exercise.
- After 10 minutes, have each group briefly present its solution and assist the students in resolving any differences between the groups.
- Pass out the Solution to Practical Exercise 1 and have the groups check their solutions.

**CHECK ON LEARNING:**

QUESTION: Why are passive air defense measures most effective for a convoy without significant air defense firepower?

ANSWER: Passive air defense measures are most effective because they focus on preventing attacks by hostile aircraft.

Ref: FM 55-30, page 6-2, para 6-1b

QUESTION: What is the primary consideration when reacting to indirect fire?

ANSWER: The primary consideration is the immediate departure from the impact area.

Ref: FM 55-30, page 6-7, para 6-2b

QUESTION: What is the best defense against an ambush?

ANSWER: The best defense against an ambush is to avoid the ambush.

Ref: FM 55-30, page 6-9, para 6-4

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**E. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify assembly area planning considerations.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-7.
<b>STANDARDS:</b>	Identified assembly area planning considerations by correctly answering questions pertaining to the subject matter IAW FM 7-7, pp Q-6 thru Q-7, para Q-3 thru Q-4.

1. Learning Step / Activity 1. Assembly Area Planning Considerations

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-15 and VGT-16

An assembly area is often the final destination for a tactical road movement. This section of the lesson covers assembly area operations with particular attention to the sleep/rest planning issues necessary to sustain your unit during continuous operations.

QUESTION: What is the purpose of an assembly area?

ANSWER: Assembly areas provide the unit a secure defensible position where the unit can prepare for future operations.

Ref: FM 7-7, page Q-6, para Q-3

QUESTION: What activities normally take place in an assembly area?

ANSWER: See VGT-14.

Ref: FM 7-7, page Q-7, para Q-4

**SHOW VGT-15, ASSEMBLY AREA ACTIVITIES**

During and after the occupation of the assembly area, the following activities may take place:

**ASSEMBLY AREA ACTIVITIES**

- Receive and issue orders
- Maintain equipment and weapons
- Conduct personal hygiene
- Leaders inspect
- Resupply
- Rehearse upcoming operation
- Check and test weapon systems
- Eat and rest
- Continue to improve defenses

W325/OCT 04/VGT-15
Basic Noncommissioned Officer Course

Ref: FM 7-7, p Q-7 thru Q-8, para Q-4

#### **REMOVE VGT-15**

The unit commander selects an assembly area location with care to facilitate the activities the unit must perform.

QUESTION: What are some considerations in selecting a location for an assembly area?

ANSWER: See VGT-16.

Ref: FM 7-7, page Q-6, para Q-3

#### **SHOW VGT-16, ASSEMBLY AREA LOCATION**

**ASSEMBLY AREA LOCATION**

- Defensible ground
- Concealment
- Room for dispersion
- Internal routes
- Access to routes forward

W325/OCT 04/VGT-16
Basic Noncommissioned Officer Course

Ref: FM 7-7, p Q-6, para Q-3

The location should be on defensible ground. It should provide concealment, room for

dispersion, and good internal routes, as well as access to routes forward.

**REMOVE VGT-16**

**CHECK ON LEARNING:**

QUESTION: What is the purpose of an assembly area?

ANSWER: Assembly areas provide the unit a secure defensible position where the unit can prepare for future operations.

Ref: FM 7-7, page Q-6, para Q-3

QUESTION: Why should a unit locate its assembly area on defensible ground?

ANSWER: Even though an AA is not expected to be a battle position, a unit must organize an all-round defense with men and equipment positioned or dug in to provide security from ground and air attack.

Ref: FM 7-7, page Q-6, para Q-3

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**F. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify the priority of work for an assembly area.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-7.
<b>STANDARDS:</b>	Identified the priority of work for an assembly area by correctly answering questions pertaining to the subject matter IAW FM 7-7, p Q-6, para Q-3.

1. Learning Step / Activity 1. Assembly Area Priority of Work

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-17

Even though a unit does not expect its assembly area to become a defensive position, the unit should organize an all round defense with men and equipment positioned or dug in to provide security from both ground and air attack.

The amount of preparation at an AA depends on the unit's intended stay. Leaders establish a priority of work and insure that personnel continue to improve positions until the unit moves.

Ref: FM 7-7, page Q-6, para Q-3

QUESTION: What should a priority of work contain?

ANSWER: See VGT-17.

Ref: FM 7-7, p Q-7, para Q-3

### SHOW VGT-17, ASSEMBLY AREA PRIORITY OF WORK

<b>ASSEMBLY AREA PRIORITY OF WORK</b>	
<ul style="list-style-type: none"><li>• Establish local security</li><li>• Position vehicles and crew-served weapons</li><li>• Establish communications</li><li>• Position remaining soldiers</li><li>• Rest and improve positions</li></ul>	
<small>W325/OCT 04/VGT-17</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: FM 7-7, p Q-7, para Q-3

Although commanders may have differing priorities, the priority of work normally includes following activities are in the order listed:

**Establish local security:** Units in an assembly area establish local security by dispatching observation posts. Observation posts should have wire communications with the platoon and carry the M8 chemical-agent alarm. Platoon positions also achieve local security by alternating troops from work to watching, thus keeping roughly half the force providing security.

**Position vehicles and crew-served weapons:** Units should position vehicles with mounted weapons at locations that will best employ the weapons. The unit may not be able to employ some because of terrain restrictions.

**Establish communications:** The platoon sets up a hot loop, connecting the squads to the platoon leader's vehicle by field telephone. To speed the establishment of telephone communications, the platoon leader can take a member of the platoon headquarters element with him to the company CP. As he returns to the platoon AA, he can direct laying of a land telephone line from the company CP back to his vehicle. Also, the platoon leader then has a person who knows where the company CP if he needs to send a messenger. In the AA, the

platoon/squad should restrict use of radios to listening silence.

**Position remaining soldiers:** As in the defense, the squad leaders position remaining squad members to provide security for crew-served weapons, to cover dead space, and to cover avenues of approach.

Dismounted troops should prepare hasty fighting positions initially and then accomplish the follow tasks:

- Clear fields of fire.
- Tie in fires between squads and platoons so that uncovered gaps do not exist in the defense.
- Prepare range cards for vehicle-mounted weapons and dismounted crew-served weapons. Prepare a platoon sector sketch and forward a copy to the company CP.
- Camouflage positions by using the appropriate camouflage screens for vehicles and natural material for infantry fighting positions.

**Rest and improve positions:** Once the platoon/squad has accomplished the basics, leaders should alternate work and rest periods while continuing to improve the defense. Improve the defense by digging fighting positions and providing overhead cover, setting out remote sensors, and establishing security patrols.

Ref: FM 7-7, p Q-7, para Q-3

#### **REMOVE VGT-17**

#### **CHECK ON LEARNING:**

QUESTION: What is the first task in the usual priority of work for an assembly area?

ANSWER: The first task is to establish local security.

Ref: FM 7-7, p Q-7, para Q-3

QUESTION: What is the preferred method of communication within the assembly area?

ANSWER: The preferred method of communication is field telephone (wire).

Ref: FM 7-7, p Q-7, para Q-3

QUESTION: How much preparation is necessary for an Assembly Area?

ANSWER: The amount of preparation at an AA depends on the unit's intended stay. Leaders establish a Priority of Work and insure that personnel continue to improve positions until the unit moves.

Ref: FM 7-7, page Q-6, para Q-3

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**G. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify sleep/rest planning considerations.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 6-22.5.
<b>STANDARDS:</b>	Identified sleep/rest planning considerations by correctly answering questions pertaining to the subject matter IAW FM 6-22.5, pp 57 thru 75, para 4001 thru 4004.

1. Learning Step / Activity 1. Sleep/Rest Planning Considerations

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-18 thru VGT-21

One assembly area activity that often receives less attention than it deserves is sleep.

Military operations, by their demanding nature, create situations where obtaining needed sleep will be difficult or impossible for more than short periods.

QUESTION: Why is a sleep/alert plan important?

ANSWER: People accumulate a "sleep debt" (cumulative loss of sleep over time) when they perform under limited sleep conditions. The only corrective measure for satisfying this sleep debt is sleeping.

Ref: FM 6-22.5, p 57, para 4001

Information gained from the Army Unit Resiliency Analysis Model shows that even healthy young soldiers who eat and drink properly experience a 25 percent loss in mental performance for each successive 24-hour period without sleep.

Ref: FM 6-22.5, p 59, para 4001

Several combat tasks are likely to show decreased performance as a result of cumulative sleep loss.

QUESTION: What combat tasks are likely to show decreased performance due to cumulative sleep loss?

ANSWER: See VGT-18.

Ref: FM 6-22.5, p 57 thru p 58, para 4001

### SHOW VGT-18, SLEEP LOSS EFFECTS

These tasks include the following:

<b>COMBAT TASKS AFFECTED BY SLEEP LOSS</b>	
<ul style="list-style-type: none"> <li>• Orientation with friendly and enemy forces</li> <li>• Coordination and information processing</li> <li>• Combat activity</li> <li>• Force preservation and regrouping</li> <li>• Command and control</li> </ul>	<small>W325/OCT 04/VGT-18      Basic Noncommissioned Officer Course</small>

Ref: FM 6-22.5, p 57, para 4001

**Orientation with friendly and enemy forces:** Knowledge of the squad's location and maintaining camouflage, cover, and concealment.

**Coordination and information processing:** Coordinating firing with other vehicles and dismounted elements, reporting vehicle readiness, and communicating with the headquarters.

**Combat activity:** Firing from bounding vehicle, checking the condition of weapons, observing the terrain for enemy presence.

**Force preservation and regrouping:** Covering disengaging squads, marking the routes between locations, and conducting reconnaissance.

**Command and control activity:** Directing location repositioning, directing mounted defense, assigning fire zones and targets.

Ref: FM 6-22.5, p 57, para 4001

### REMOVE VGT-18

QUESTION: What are some indications of excessive sleep loss?

ANSWER: See VGT-19.

Ref: FM 6-22.5, p 64, para 4002

### SHOW VGT-19, SLEEP LOSS INDICATORS

**SLEEP LOSS INDICATORS**

- Physical appearance
- Mood swings, decreased willingness to work and diminished performance
- Exaggerated feelings of physical exertion
- Increase in bickering and irritability
- Slow comprehension and perception

W325/OCT 04/VGT-19Basic Noncommissioned Officer Course

Ref: FM 6-22.5, p 64, para 4002

**Physical appearance:** Physical changes in appearance, including vacant stares, bloodshot eyes, pale skin, and poor personal hygiene. Other physical signs of sleep loss include the body swaying when standing, sudden dropping of the chin when sitting, occasional loss of hand-grip strength, walking into obstacles or ditches, low body temperature, slowed heart rate, and slurred speech.

**Mood swings:** Mood changes, decreased willingness to work, and diminished performance go hand-in-hand. Soldiers may experience decreasing levels of energy, alertness, interest in their surroundings, and cheerfulness with a concurrent increase in irritability, negativity, and sleepiness. Some become depressed and apathetic. Others, for a time, can become energized by sleep loss, talk more, and may be more assertive without necessarily maintaining good judgment. Sleepiness and mood changes are not signs of weakness. After long periods of sleep loss, soldiers go from being irritable and negative to dull and weary.

**Exaggerated feelings of physical exertion:** Soldiers may feel more effort is needed to perform a physical task in the morning than in the afternoon. Exaggerated feelings of physical exertion may lead to work stoppage, especially between 0400 and 0700. During that time, the tendency to fall asleep is considerably more noticeable than other times.

**Increase in bickering and irritability:** Both bickering and irritability increase with sleep loss. When soldiers argue, it shows that they are still talking to each other and exchanging orders and messages. When arguments cease, especially after a period of increased bickering,

soldiers may be in a state of mental exhaustion.

**Slow comprehension and perception:** Comprehension and perception slow considerably.

Individuals require extended time to understand oral, written or coded information; to find a location on a map and/or chart coordinates; to interpret changes in enemy fire patterns; and to make sense of things seen or heard, especially patterns. They may have difficulty with spot status or damage reports, and may be unable to assess simple tactical situations.

Ref: FM 6-22.5, p 64, para 4002

### **REMOVE VGT-19**

QUESTION: How can leaders enhance individual and unit performance during continuous operations?

ANSWER: See VGT-19.

Ref: FM 6-22.5, p 68, para 4003

### **SHOW VGT-20, LEADER GUIDELINES**

<b>LEADER GUIDELINES</b>	
<ul style="list-style-type: none"> <li>• Know personal tolerance for sleep loss</li> <li>• Know their soldiers' tolerance</li> <li>• Enforce sleep schedules</li> <li>• Enforce safe sleep areas with perimeter guards</li> <li>• Enforce day and night guides for vehicles</li> </ul>	<small>W325/OCT 04/VGT-20      Basic Noncommissioned Officer Course</small>

Ref: FM 6-22.5, p 68, para 4003

**Know personal tolerance for sleep loss:** Some leaders wrongly believe that their round-the-clock presence during an operation is mandatory; they are unwilling to recognize that they, too, are subject to the effects of sleep deprivation. If the unit has regularly trained according to the mission command philosophy, two benefits accrue. Not only will a leader be confident that in his absence his subordinates will adhere to his intent, but the trust he shows in his subordinates will continue to maintain unit morale and help ease some of the stress of the situation.

**Know their soldiers' tolerance for sleep loss:** The longer a soldier goes without sleep, the more his thinking slows and becomes confused. Lapses in attention occur, and soldiers sacrifice speed to maintain accuracy.

**Enforce sleep schedules:** Individual and unit military effectiveness is dependent upon initiative, motivation, physical strength, endurance, and the ability to think clearly, accurately, and quickly. The leader who does not enforce a sleep schedule or routine leads his troops into an environment that increases the opportunity for hazardous conditions to be encountered while in continuous combat. Taking naps is not a sign of low fighting spirit or weakness; it is a sign of foresight. Soldiers need 4 to 5 hours sleep per 24-hour period; 6 or 7 hours is optimum. If they receive less, they must use the first chance for a long rest period for sleep.

Ref: FM 6-22.5, p 68, para 4003

**REMOVE VGT-20**

**SHOW VGT-21, SLEEP/REST PLANNING**

**SLEEP/REST PLANNING**

- Pre-Deployment Stage
- Deployment Stage
- Pre-Combat Stage
- Combat Stage
- Post-Combat Stage

W325/OCT 04/VGT-21
Basic Noncommissioned Officer Course

Ref: FM 6-22.5, p 71, para 4004.

Sleep/rest planning applies to the pre-deployment, deployment, pre-combat, combat, and post-combat stages of battle:

**Pre-Deployment Stage:** Using mission-scenario operation guidelines, determine periods available for sleep and the total number of sleep hours possible. Because continuous operations requirements may change, alternate sleep routines should be planned. Become familiar with the area where the combat unit will sleep; for example, some may have to sleep

in mission-oriented protective posture (MOPP) IV. If you expect that your soldiers will be sleeping in MOPP IV in combat, practice it during the pre-deployment stage. Prior experience reduces stress, so practice anticipated sleep routines before continuous operations.

**Deployment Stage:** Since sleep will be reduced during deployment, follow preplanned sleep routines. The prudent commander will choose a 4-hour on/4-hour off, 6-hour on/6-hour off, or 12-hour on/12-hour off shifts from the start. Take into account that soldiers on night duty will need to sleep during the daytime. Provide night-shift personnel with separate sleeping quarters to avoid disruption of their sleep period.

**Pre-Combat Stage:** In general, people are most effective during the afternoon and are least effective just before dawn. Without prior adjustment to the new time zone, which naturally occurs in 3 to 5 days, leaders can expect degraded daytime performance. The reason is that 0200 to 0600 hours home-base time is the low point in performance efficiency and should be considered when planning workloads.

**Combat Stage:** Make every effort to avoid situations where all personnel are physically and mentally exhausted simultaneously. Make the most of any lull during the combat phase by sleeping briefly. Complete recovery from sleep loss may not be possible during intense combat, but limited sleep is helpful. Uninterrupted short sleeps of 15 minutes or longer are beneficial to partially recovering alertness. Sleep during the combat stage may be risky, however, because a soldier may wake up feeling groggy, confused, sluggish, and uncoordinated. It may take his brain from several seconds to 15 minutes to “warm up.” Individuals differ in how quickly they take to wake up, but it tends to be worse when the body expected to go into deep sleep, and to get worse with increasing sleep loss. Activities that increase circulation of warm blood to the brain, like moderate exercise or drinking a hot beverage, may shorten the start-up time.

**Post-Combat Stage:** It is important to make up sleep debt, but experts disagree about the amount of recovery time needed. Some say the hours of sleep needed for recovery after sleep deprivation are less than the amount lost. Current research indicates that lost sleep is not made up hour-for-hour. Most experts agree that immediately following continuous

combat, soldiers should be allowed to sleep up to 10 hours. Longer sleep periods are not desirable because they cause “sleep drunkenness” and delay in getting back to a normal schedule. After the first sleep period of up to 10 hours, soldiers should return to the regular sleep routine. Sleep inertia lasting longer than 5 to 15 minutes and increased sleepiness may occur for as long as a week following sustained combat. Some experts recommend that 4 of the first 8 hours of recovery sleep should be at the 0200 to 0600 sleep time, and they suggest the following guidelines for complete recovery from the effects of sleep loss:

- 12 hours for sleep and rest after 36 to 48 hours of complete sleep loss with light to moderate work load (fatigue may linger for 3 days).
- 24 hours for sleep and rest after 36 to 48 hours of sleep loss with high workload (12 to 16 hours per day).
- 2 to 3 days time off after 72 hours or more of acute sleep loss.
- As much as 5 days for sleep and rest following 96 hours or more of complete sleep loss.

Ref: FM 6-22.5, p 71, para 4004.

### **REMOVE VGT-21**

#### 2. Learning Step / Activity 2. Practical Exercise/Solution

Method of Instruction: Practical Exercise (Performance)  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 20 mins  
 Media: PE-2

NOTE: Inform the students that this practical exercise supports ELO G.

- Hand out Practical Exercise 2 (see Appendix C). Give the students 5 minutes to complete the exercise working alone without the reference.
- After 5 minutes, break class into 3 groups. Give the groups 5 minutes to consolidate individual solutions and prepare a group solution to the practical exercise.
- After 10 minutes, have each group briefly present its solution and assist the students in resolving any differences between the groups.
- Pass out the Solution to Practical Exercise 2 and have the groups check their solutions.

### **CHECK ON LEARNING:**

QUESTION: What is the only corrective measure for cumulative loss of sleep?

ANSWER: Sleep.

Ref: FM 6-22.5, p 57, para 4001.

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

#### H. ENABLING LEARNING OBJECTIVE

<b>ACTION:</b>	Identify movement techniques.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified movement techniques by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-38 thru 2-40, para 2-10a.

#### 1. Learning Step / Activity 1. Movement Techniques

Method of Instruction: Conference / Discussion

Technique of Delivery: Small Group Instruction (SGI)

Instructor to Student Ratio: 1:16

Time of Instruction: 5 mins

Media: VGT-22 thru VGT-25

Movement techniques are not fixed formations. They refer to the distances between soldiers, teams, and squads in formations that vary based on mission, enemy, terrain, visibility, and any other factor that affects control. Leaders control movement with arm-and-hand signals. They use radios only when needed. Soldiers must be able to see their fire team leader. The squad leader must be able to see his fire team leaders. The platoon leader should be able to see his lead squad leader. Units can use any of the three movement techniques with any formation.

Ref: FM 7-8, p 2-38, para 2-10

QUESTION: What is a movement technique?

ANSWER: A movement technique is the manner a platoon or squad uses to traverse terrain.

Ref: FM 7-8, p 2-38, para 2-10

QUESTION: What are the three movement techniques?

ANSWER: The three movement techniques are traveling, traveling overwatch, and bounding overwatch.

Ref: FM 7-8, p 2-38, para 2-10

#### **SHOW VGT-22, MOVEMENT TECHNIQUES**

<b>MOVEMENT TECHNIQUES</b>					
MOVEMENT TECHNIQUE	WHEN NORMALLY USED	CHARACTERISTICS			
		CONTROL	DISPERSION	SPEED	SECURITY
Traveling	Contact Not Likely	More	Less	Fastest	Least
Traveling Overwatch	Contact Possible	Less	More	Slower	More
Bounding Overwatch	Contact Expected	Most	Most	Slowest	Most

W325/OCT 04/VGT-22 Basic Noncommissioned Officer Course

Ref: FM 7-8, p 2-38, Figure 2-18

Leaders move units tactically to prepare them for contact. Each movement technique and formation has unique advantages and disadvantages. Some offer security, but take longer; others offer speed, but less security. Each works better in certain types of terrain or tactical situations than it would in others.

Ref: FM 7-8, p 2-38, para 2-10

QUESTION: What are the factors to consider when choosing a movement technique?

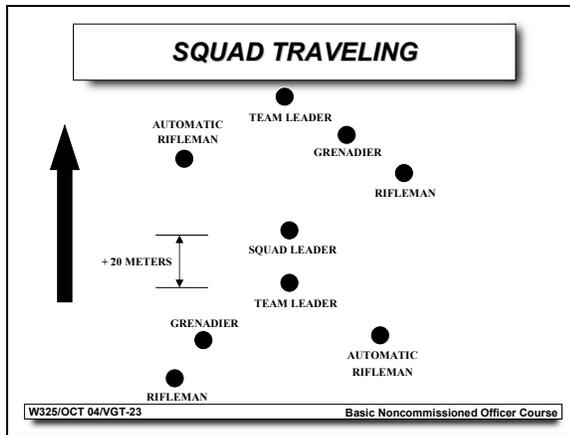
ANSWER: Factors to consider for each technique are control, dispersion, speed, and security.

Ref: FM 7-8, p 2-38, Figure 2-18

### **REMOVE VGT-22**

**Traveling:** Squads use the traveling technique when enemy contact is not likely and speed is essential.

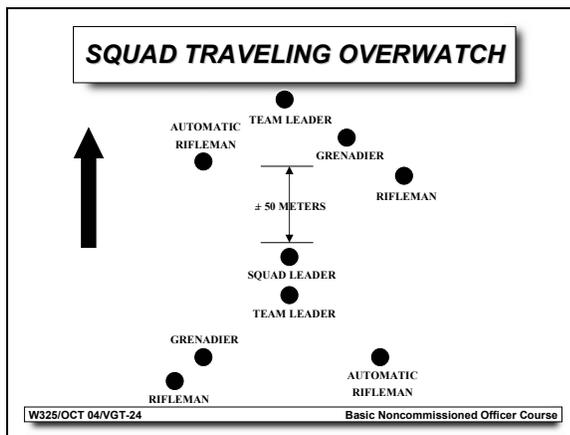
### **SHOW VGT-23, SQUAD TRAVELING**



Ref: FM 7-8, p 2-38, Figure 2-19

**REMOVE VGT-23**

**SHOW VGT-24, SQUAD TRAVELING OVERWATCH**

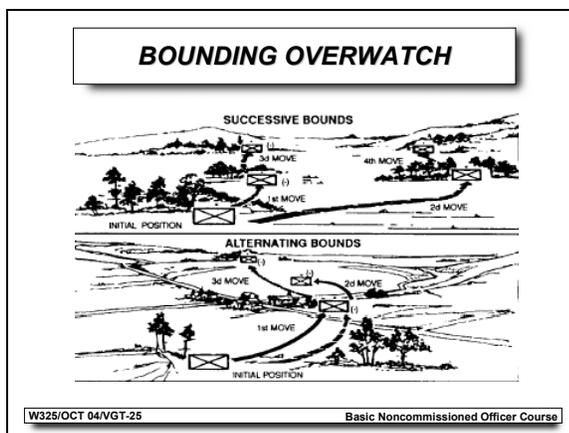


Ref: FM 7-8, p 2-39, Figure 2-20

**Traveling overwatch:** Squads will use the traveling overwatch technique when contact is possible but speed is more important than security. Attached weapons move near the squad leader and under his control so he can employ them quickly.

**REMOVE VGT-24**

**SHOW VGT-25, SQUAD BOUNDING OVERWATCH**



Ref: FM 7-8, p 2-40, Figure 2-22

**Bounding overwatch:** The squad will use the bounding overwatch technique when the squad leader expects contact, when the squad leader feels the enemy is near (movement, noise, reflection, trash, fresh tracks, or even a hunch), or when the squad must cross a large open danger area.

- The lead fire team overwatches first. Soldiers scan for enemy positions. The squad leader usually stays with the overwatch team.
- The trail fire team bounds and signals the squad leader when his team completes its bound and is ready to overwatch the movement of the other team.
- Both team leaders must know if their teams will use successive or alternate bounds and which team the squad leader will be with. The overwatching team leader must know the route and destination of the bounding team. The bounding team leader must know his team's destination and route, possible enemy locations, and actions to take when he arrives there. He must also know where the overwatching team will be, and how he will receive his instructions. The cover and concealment on the bounding team's route dictates how its soldiers move.
- Teams can bound successively or alternately. Successive bounds are easier to control; alternate bounds can be faster.

**REMOVE VGT-25****CHECK ON LEARNING:**

QUESTION: What are the three movement techniques?

ANSWER: The three movement techniques are traveling, traveling overwatch, and bounding overwatch.

Ref: FM 7-8, p 2-38, para 2-10

QUESTION: Which movement technique do squads/platoons normally use when enemy contact is not likely?

ANSWER: Traveling.

Ref: FM 7-8, p 2-38, Figure 2-18

QUESTION: Which movement technique do squads/platoons normally use when they expect enemy contact?

ANSWER: Bounding Overwatch.

Ref: FM 7-8, p 2-38, Figure 2-18

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**I. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify movement to contact techniques.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified movement to contact techniques by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-54 thru 2-56, para 2-12.

1. Learning Step / Activity 1. Movement to Contact Techniques

Method of Instruction: Conference / Discussion

Technique of Delivery: Small Group Instruction (SGI)

Instructor to Student Ratio: 1:16

Time of Instruction: 15 mins

Media: VGT-26 and VGT-27

QUESTION: What are the two techniques infantry units use for conducting a movement to contact?

ANSWER: Infantry units use two techniques for conducting a movement to contact--search and attack or approach march.

Ref: FM 7-8, p 2-54, para 2-12

**SHOW VGT-26, SEARCH AND ATTACK**

<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>SEARCH AND ATTACK</b> </div>
<p>Enemy</p> <ul style="list-style-type: none"> <li>• Dispersed, or expected to avoid contact, or expected to quickly disengage and withdraw</li> </ul> <p>Concept of the Operation:</p> <ul style="list-style-type: none"> <li>• Multiple squads and fire teams coordinate their actions to make contact with the enemy</li> <li>• Attempt to find the enemy, and then fix and finish him</li> <li>• Combines patrolling techniques with the requirement to conduct hasty or deliberate attacks</li> </ul>
<div style="display: flex; justify-content: space-between;"> <span>W325/OCT 04/VGT-26</span> <span>Basic Noncommissioned Officer Course</span> </div>

Ref: FM 7-8, p 2-54, para 2-12

The platoon leader selects the technique based on the expected enemy situation. The platoon will use search and attack when the enemy disperses, when the platoon leader expects the enemy to avoid contact or quickly disengage and withdraw, or when the platoon's mission is to deny the enemy movement in an area.

**Search and Attack:** The search and attack technique involves the use of multiple squads and fire teams coordinating their actions to make contact with the enemy. Platoons attempt to find the enemy, and then fix and finish him. They combine patrolling techniques with the requirement to conduct hasty or deliberate attacks once the platoon finds the enemy.

Planning considerations include--

- The factors of METT-TC.
- The requirement for decentralized execution. The platoon leader coordinates the actions of squads.
- The requirement for mutual support. The platoon leader must be able to respond to contact with his other squads not in contact.
- The length of operations. The plan may need to address continuous operations.
- The soldier's load. Search and attack requires stealth.
- Resupply and MEDEVAC.
- The positioning of key leaders and personnel.

- The employment of key weapons.
- The requirement for patrol bases.
- The concept for entering the zone of action.
- The concept for linkups. All leaders must know how they will linkup once any element makes contact.

Ref: FM 7-8, p 2-54, para 2-12

**REMOVE VGT-26**

**SHOW VGT-27, APPROACH MARCH**

***APPROACH MARCH***

Enemy:

- Expected to deploy using relatively fixed offensive or defensive formations

Concept of the Operation:

- Make contact with the smallest element, allowing the platoon the flexibility of maneuvering or bypassing the enemy force

W325/OCT 04/VGT-27
Basic Noncommissioned Officer Course

Ref: FM 7-8, p 2-54, para 2-12

**Approach March:** The platoon will use the approach march technique when the platoon leader expects the enemy to deploy using relatively fixed offensive or defensive formations. The concept behind the approach march is to make contact with the smallest element, allowing the platoon the flexibility of maneuvering or bypassing the enemy force. As part of a larger unit using the approach march technique, platoons may act as the advance, flank, or rear guard. They may also receive on-order missions as part of the main body.

- **Advance guard.** As the advance guard, the platoon finds the enemy and locates gaps, flanks, and weaknesses in his defense. The advance guard attempts to make contact on ground of its own choosing, to gain the advantage of surprise, and to develop the situation (either fight through or support the assault of all or part of the main body). The advance guard

operates within the range of the main body's indirect fire support weapons.

- One squad leads the advance guard.
  - The platoon uses appropriate formations and movement techniques.
  - The leader rotates the lead squad as necessary to keep soldiers fresh.
- Flank or rear guard. The entire platoon may act as the flank or rear guard for a battalion conducting a movement to contact using this technique. The platoon:
    - Moves using the appropriate formation and movement technique. It must maintain the same momentum as the main body.
    - Provides early warning.
    - Destroys enemy reconnaissance units.
    - Prevents direct fires or observation of the main body.
  - Main body. When moving as part of the main body, the commander may task platoons to assault, bypass, or fix an enemy force; or seize, secure, or clear an assigned area. The commander may also detail platoons to provide squads as flank guards, stay-behind ambushes, rear security, or additional security to the front. These squads may come under the direct control of the company commander. Platoons and squads use appropriate formations and movement techniques, assault techniques, and ambush techniques.

Ref: FM 7-8, p 2-54, para 2-12

#### **REMOVE VGT-27**

#### **CHECK ON LEARNING:**

QUESTION: What are the two techniques infantry units use for conducting a movement to contact?

ANSWER: Infantry units use two techniques for conducting a movement to contact--search and attack or approach march.

Ref: FM 7-8, p 2-54, para 2-12

QUESTION: When will the platoon use the search and attack technique?

ANSWER: The platoon will use search and attack when the enemy disperses, when the platoon leader expects the enemy to avoid contact or quickly disengage and withdraw, or when the platoon’s mission is to deny the enemy movement in an area.

Ref: FM 7-8, page 2-54, para 2-12

QUESTION: When will the platoon use the approach march technique?

ANSWER: The platoon will use the approach march technique when the platoon leader expects the enemy to deploy using relatively fixed offensive or defensive formations.

Ref: FM 7-8, page 2-54, para 2-12

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**J. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify deliberate attack procedures.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified deliberate attack procedures by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-56 thru 2-60, para 2-13.

1. Learning Step / Activity 1. Deliberate Attack Procedures

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 15 mins  
 Media: VGT-28

Platoons and squads usually conduct deliberate attacks as part of a larger force.

The leader uses the troop-leading procedure and the estimate of the situation to develop his plan.

**SHOW VGT-28, DELIBERATE ATTACK**



execution, the platoon leader must consider his objective, a vulnerable flank or exploitable weakness, routes, movement and fire control measures, and formations and movement techniques. The platoon leader considers these along with the factors of METT-TC and the commander's intent to develop a scheme of maneuver and a fire support plan.

Ref: FM 7-8, p 2-56, para 2-13a(1)

**Movement to the Objective:** Platoons and squads use the appropriate formations and movement techniques to avoid contact and achieve surprise. The platoon must remain undetected. If detected early, the platoon concentrates direct and indirect fires, establishes a base of fire, and maneuvers to regain the initiative.

Ref: FM 7-8, p 2-56, para 2-13b

- Movement from the assembly area to the line of departure. The platoon moves forward from the assembly area under company control. When the platoon leader is already forward with the company commander, the platoon sergeant moves the platoon forward. Machine guns and antiarmor weapons can precede the rest of the platoon by moving to an overwatch position on or near the LD. Leaders time the move from the assembly area during reconnaissance or rehearsals to ensure that the lead squad crosses the LD on time and at the right place. The platoon attempts to cross the LD without halting in an attack position. If the platoon must halt in the attack position, it deploys into the initial attack formation, posts security, and takes care of last-minute coordination. Whether or not the platoon halts in the attack position, it must deploy into the attack formation and fix bayonets before crossing the LD.

Ref: FM 7-8, p 2-57, para 2-13b(1)

- Movement from the line of departure to the assault position or support position. The platoon moves using the appropriate technique. If it has its own support and assault elements, it may move them together for security, or along separate routes to their respective positions, for speed. The base-of-

fire element must be in place and ready before the assault element continues beyond the assault position.

- The platoon leader's plan must address actions on chance contact. The lead squad executes the battle drill to react to contact. The platoon leader makes an assessment and reports. The company commander may direct the platoon to fight through, fix, and bypass the enemy, or establish a hasty defense.
- If the platoon encounters an obstacle that it cannot bypass, it attempts a breach.
- If the company concept calls for decentralized execution, the platoon leader must consider when to initiate his supporting fires. If the enemy does not detect the attack, the base-of-fire element may hold fires until the assault element approaches the assault position. This will enhance surprise. The base-of-fire element may initiate fires early to keep the enemy's attention off the assault element as it moves to a flanking or rear position. The leader must consider the length of time needed to suppress the enemy position and destroy as many of his weapons and bunkers as possible before the assault.

Ref: FM 7-8, p 2-57, para 2-13b(2)

- Movement from the assault position to the objective. The assault position is normally the last covered and concealed position before reaching the objective. As it passes through the assault position, the platoon deploys into its assault formation; that is, its squads and fire teams deploy to place the bulk of their firepower to the front as they assault the objective. A platoon sometimes must halt to complete its deployment and to ensure synchronization so that all squads assault at the designated time. Platoons should avoid halting in the assault position, because it is dangerous and may

cause the loss of momentum. The assaulting squads move from the assault position and onto the objective. The platoon must be ready to breach the enemy's protective obstacles. As the platoon moves beyond the obstacle, supporting fires should begin lifting and shifting away from the objective. Both direct and indirect fires shift to suppress areas adjacent to the objective, to destroy enemy forces retreating, or to prevent enemy reinforcement of the objective.

Ref: FM 7-8, p 2-57, para 2-13b(3)

- **Assaulting the Objective.** As the platoon or its assault element moves onto the objective, it must increase the volume and accuracy of fires. Squad leaders assign specific targets or objectives for their fire teams. Only when these discreet fires keep the enemy suppressed can the rest of the unit maneuver. As the assault element gets closer to the enemy, there is more emphasis on suppression and less on maneuver. Ultimately, all but one fire team may be suppressing to allow that one fire team to break in to the enemy position. Throughout the assault, soldiers use proper individual movement techniques, and fire teams retain their basic shallow wedge formation. The platoon does not get "on-line" to sweep across the objective.

Ref: FM 7-8, p 2-58, para 2-13c

**Consolidation and Reorganization:** Once enemy resistance on the objective has ceased, the platoon must quickly take steps to consolidate and prepare to defend against a counterattack.

- **Consolidation.** Platoons use either the clock technique or the terrain feature technique in consolidating on the objective. All-round security is critical. The enemy might counterattack from any direction. The platoon leader must evaluate the terrain thoroughly.

Ref: FM 7-8, p 2-58, para 2-13d

- **Clock technique** -- In using this method, the platoon leader

designates either a compass direction or the direction of attack as 12 o'clock. He then uses clock positions to identify the left and right boundaries for squads. The platoon leader positions key weapons along the most likely avenue of approach based on his assessment of the terrain.

Ref: FM 7-8, p2-59, Figure 2-34.

- Terrain feature technique -- In a similar manner, the platoon leader identifies obvious terrain features as the left and right limits for squads.

Ref: FM 7-8, p 2-59, Figure 2-35

- Reorganization. Once platoons complete consolidation on the objective, they begin to reorganize to continue the attack. Reorganization involves--
  - Reestablishing command and control.
  - Manning key weapons, redistributing ammunition and equipment.
  - Clearing the objective of casualties and EPWs
  - Assessing and reporting the platoon status of personnel, ammunition, supplies, and essential equipment.

Ref: FM 7-8, p 2-58, para 2-13e

### **REMOVE VGT-28**

#### **CHECK ON LEARNING:**

QUESTION: What are the two roles the platoon can expect to fill in an attack?

ANSWER: The platoon can expect to be a base-of-fire element or an assault element.

Ref: FM 7-8, p 2-56, para 2-13(a)1

QUESTION: Why should the platoon avoid halting in the assault position?

ANSWER: Platoons should avoid halting in the assault position, because it is dangerous and may cause the loss of momentum.

Ref: FM 7-8, p 2-58, para 2-13b(3)(a)

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**K. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify limited-visibility attack procedures.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified limited-visibility attack procedures by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-60 thru 2-65, para 2-14.

1. Learning Step / Activity 1. Limited-Visibility Attack Procedures

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 15 mins  
 Media: VGT-29

Attacks during limited visibility achieve surprise, avoid heavy losses, cause panic in a weak and disorganized enemy, exploit success and maintain momentum, and keep pressure on the enemy. Limited visibility operations are one of the main missions of infantry forces. Whenever possible, US infantry will use limited visibility to conduct attacks.

**SHOW VGT-29, LIMITED-VISIBILITY ATTACK**

**LIMITED-VISIBILITY ATTACK**

- Planning
- Reconnaissance
- Guides
- Fire control techniques
- Mortar, artillery and antiarmor fires
- Consolidation and reorganization
- Communication
- Target detection

W325/OCT 04/VGT-29
Basic Noncommissioned Officer Course

Ref: FM 7-8, p 2-60 thru 2-63, para 2-14a

**Planning:** The planning considerations for daylight attacks are the same as for limited visibility attacks. However, limited visibility attacks require additional control measures to prevent fratricide and keep the attack focused on the objective. Leaders may use boundaries, restrictive fire lines, and limits of advance to assist in control.

**Reconnaissance:** Reconnaissance is the key to a successful night attack. Leaders should conduct reconnaissance during daylight down to the lowest level possible. The platoon's leaders should reconnoiter the routes on which they will move, the positions that they will occupy, and the assigned objective. However, the platoon leader must balance need for detailed information about the enemy against the risk of detection and the loss of surprise.

The reconnaissance plan should also establish surveillance on the objective in case the enemy repositions units and weapons or prepares additional obstacles. Surveillance and security forces should also secure critical locations, such as assault and support positions, LD and PLD, routes, and RPs, to protect the platoon from enemy ambushes and spoiling attacks. These security forces may become part of the isolation element during the attack.

When reconnaissance does not succeed due to lack of time, the platoon leader should request a delay in the attack time to allow for further reconnaissance. If this is not possible, the commander should consider an illuminated and supported attack. A night attack with marginal information of the enemy's defense is risky and difficult to conduct.

Ref: FM 7-8, p 2-60, para 2-14b

**Use of Guides:** During limited visibility attacks, the platoon may use guides to provide better control while moving into the assault position and onto the probable line of deployment. The company may organize a patrol to place platoon guides from the line of departure to subsequent rally points, at the entrance to the assault positions and at points along the probable line of deployment.

The platoon leader must brief guides on the plan and on their specific duties. The guides must rehearse their actions, to include--

- Reconnaissance of their assigned routes and release points.
- Pick-up and release of their assigned units. They must be able to identify the leader of the element they will guide (or the lead soldier of that element).

They must also know and rehearse recognition signals.

Platoons must rehearse their actions in the same order of march and sequence that they intend to use during the attack in order to make the pick-up and release of guides go

smoothly.

Ref: FM 7-8, p 2-60, para 2-14c

**Fire Control Techniques:** Fire control techniques for limited visibility include the following:

- Tracer fire. Leaders in the assault element fire all tracers; their soldiers fire where the leader's tracers impact. The support element positions a machine gun on a tripod on the flank nearest the assault force. This weapon fires a burst of tracers every 15 seconds to indicate the near limit of the supporting fires. All other weapons in the support element keep their fires on the appropriate side of this tracer. The assault force signals to shift fires to the next position or to a set distance. If required, the support element can adjust these rounds over the assault element to preclude fratricide.
- Luminous tape or chemical lights. Leaders mark assault personnel to prevent fratricide. The enemy must not be able to see the marking. Two techniques are to place tape on the back of the helmet or to use small infrared chemical lights (if the enemy has no night vision devices). The support element must know where the lead assault element is. If the individual soldier markings do not suffice, the unit can use large chemical lights (infrared or visible) and place these lights on the ground or thrown them in front of the assault element. When clearing a trench line, soldiers may put chemical lights on a stick and move them with the lead element to ensure the support element shifts fires.
- Weapon control restrictions. To reduce the risk to the assault element, the leader may assign weapon control restrictions.
  - The platoon leader can give the squad on the right in the assault weapons free to the right flank because there are no friendly soldiers to the squad's right and weapons tight or hold on the left because another friendly unit is located there.

- The platoon leader may direct that the assault force on the objective will not fire automatic weapons to ensure that all automatic weapons are enemy.
- Other control techniques. To increase control during the assault, the leader may use the following:
  - No flares, grenades, or smoke used on the objective.
  - Only certain personnel with night vision devices can engage targets on the objective.
  - A magnetic azimuth for maintaining direction.
  - Mortar or artillery rounds to orient attacking units.
  - Guides.
  - A base squad or fire team to pace and guide others.
  - Reduced intervals between soldiers and squads.
  - Luminous tape on armbands or helmets.

Ref: FM 7-8, p 2-61, para 2-14d

**Mortar, Artillery, and Anti-armor Fires:** Leaders plan mortar, artillery, and antiarmor fires as in a daylight attack. They do not call for the fire, however, until the platoon is ready to assault unless the enemy detects the platoon early. Some weapons may fire before the attack and maintain a pattern to deceive the enemy or to help cover noise made by the platoon's movement, but not if their fire will disclose the attack.

- Indirect fire is hard to adjust when visibility is poor. If doubt exists as to the exact friendly locations, indirect fire is directed first at enemy positions beyond the objective and then moved onto the objective. The platoon may call for illuminating rounds set to burn on the ground to mark objectives. This helps the platoon orient on the objective but also may adversely affect night vision devices.
- Smoke can further reduce the enemy's visibility, particularly if he has night vision devices. Smoke laid close to or on enemy positions does not restrict

friendly movement or hinder the breaching of obstacles. Employing smoke on the objective during the assault may make it hard for assaulting soldiers to find enemy fighting positions. If enough thermal sights are available, smoke on the objective may provide a decisive advantage for a well-trained platoon.

- Leaders should always plan illumination for limited visibility attacks. Battalion commanders normally control the use of illumination but may authorize the company commander to do so. If the commander decides to use illumination, he should not call for illumination until the unit initiates the assault or the enemy detects the attack. The commander may also call for illumination on several locations over a wide area to confuse the enemy as to the exact place of the attack. Units should also plan illumination beyond the objective to help assaulting soldiers see and fire at withdrawing or counterattacking enemy soldiers.
- Leaders should also call for illumination if the enemy uses illumination to disrupt the effect of the night vision devices. Once used, illumination must be continuous because attacking soldiers will have temporarily lost their normal night vision. Any interruption in illumination may also reduce the effect of suppressive fire when the attackers need it most. Squad leaders must not use hand flares before the commander has decided to illuminate the objective.
- The platoon can use thermal sights strictly for observation if there are no targets for the associated weapons to engage. Positioned outside the objective area, these sights can provide current information. The platoon may use thermal sights to assist the support element in controlling their fires or to provide the assault element with reports of enemy movements on the objective.
- When only a few night vision devices are available, the platoon must employ them at the most critical locations. These locations can be with the key

soldiers in the breach element, key leaders in the assault element, other members of the assault element and key leaders and weapons in the support element.

Ref: FM 7-8, p 2-62, para 2-14e

**Consolidation and Reorganization:** After seizing the objective, the platoon consolidates and reorganizes. Consolidation and reorganization are the same as for a daylight attack with the following exceptions:

- The consolidation plan should be as simple as possible. In reorganizing, the platoon should avoid changes to task organization.
- Squad positions should be closer to case control and to improve mutual support. Leaders should adjust the distance between positions as visibility improves.
- Locating and evacuating casualties and Enemy Prisoners of War (EPWs) takes longer. The platoon may have to move EPWs to the rear of the objective and hold them there until visibility improves.

Ref: FM 7-8, p 2-63, para 2-14f

**Communication:** Communication at night calls for the leader to use different methods than during daylight. For instance, arm-and-hand signals used during the day might not be visible at night. Leaders may use other types of signals to pass information, identify locations, control formations, or begin activity. The key to tactical communications is simplicity, understanding, and practice. Signals should be an integral part of the platoon SOP. They should be as simple as possible to avoid confusion.

NOTE: Inform the students that FM 7-8 uses the acronym RATELO for radio-telephone operator. The approved acronym is RTO.

Leaders should also ensure that every soldier understands and practices each basic signal and its alternate if the need arises. A technique to assist leaders and the RTO with communication at night is to attach a large patch of luminous tape to the handset, or carry it in their pockets. Leaders and the RTO can write target numbers, call signs, frequencies, code

words, checkpoints, and so forth on it with a black grease pencil. This is easy to read at night and quickly removed if needed.

- The most common signals relate to the senses--sound, feel, and sight. Audio signals include radio, telephones, messengers, and grating or clicking of objects together. Messengers should carry written messages to avoid confusion and misunderstanding. When this is not possible, leaders ensure that the messenger understands the message by having him repeat it word for word.
- Control at night involves some oral communication but spoken in a whisper. The radio and telephone might not be suitable at night. If the unit uses either, the leader must be careful. Noise travels farther at night; including radio sounds, whispered messages, and the telephone ring.
- The unit can avoid or reduce noise discipline problems by using pre-planned signals or clicks. Headphones reduce the amount of noise from telephones and radios. If headphones are not available, soldiers use the radio selector switch in the ON rather than SQUELCH ON position and adjust the volume so that the operator hears only a faint rushing sound.
- Soldiers can also use rocks and other objects to send audible signals. They can tap or scrape these objects together or against a tree or a rifle stock to pass a message. Units must rehearse these signals. For each signal there must be a reply to show receipt of the signal. Other audible signals are whistles, bells, sirens, clackers or "crickets," and horns. The device or method chosen depends on simplicity and security.
- Leaders can use a variety of visual signals as alternatives to audio signals. The signals can be active or passive. Visual signals must be noticeable and identifiable. Units can use these signals to identify a critical trail junction, to begin an attack, to mark caches, or to report that a danger area is clear. For example, soldiers can use white powder to show direction at a confusing trail

intersection. Star clusters can signal to lift or shift support fires for an attack or raid. Chemical lights can signal a unit cache.

- The exposed dial of a compass can signal all clear when crossing a danger area. The possibilities are endless, but the leader must ensure that each soldier understands every signal. Some signals are:
  - VS-17 panels.

**NOTE:** Inform the students that “VS-17 panel” refers to the VS-17 Panel Marker that units can attach to tanks, trucks, rucksacks and just about anything that needs identification from the air. Units often lay them out on the ground to identify troop positions to friendly aircraft. The VS-17 comes equipped with tie downs for attachment to just about anything and snaps to join multiple panels together. The VS-17 has both a high visibility pink side and a high visibility orange side.

- Sticks showing direction.
  - Light-colored paint.
  - Tape.
  - Rock formations.
  - Markings in the ground.
  - Foot or talcum powder.
  - Luminous tape.
  - Flares.
  - Flashlights.
  - Illumination rounds (grenade launcher, mortar, artillery).
  - Chemical lights.
  - Infrared strobe lights.
  - AN/PVS-5 night vision device.
  - Burning fuel (saturated sand in a can).
  - Luminous compass dial.
- Wire is also a means of maintaining communications during the attack. The wire net should link the squad leaders, platoon leaders, and the company commander. At times, a security patrol can lay the wire before the attack. If

not, the unit can lay the wire as it moves. If a unit lays wire too far in advance of the attack or fails to properly hide the wire, it could lead to discovery of the attack. The unit can also use wire to communicate while moving.

- Platoon net – The platoon lays wire from the platoon RP to the squad RP and to each squad leader's position on the PLD.
- Assault wire – The platoon can use assault wire as a guide from the company RP to the platoon and squad RPs.
- Radios – The platoon can use squad radios for backup communications.

Ref: FM 7-8, p 2-63, para 2-14g

**Target Detection:** The ability to detect targets at night depends on patience, alertness, attention to detail, and practice. Nature provides an endless array of patterns. However, man disturbs them or alters them so that they are detectable. Sensing the enemy at night requires leaders and soldiers to be patient, confident, and calm.

- Stealthy night movement and successful target engagement depend on knowing how the enemy attacks, defends, and uses terrain. Studying his techniques and established patterns helps in detecting targets.
- Patience and confidence are musts for effective target sensing at night. While moving through an area, soldiers must think "patterns." They must look calmly and methodically through the area, not focusing on the surface alone but on patterns--noticing straight lines, strange patterns, and light variations.
- Soldiers must look for sentries or positions at the entrances to draws, overlooking bridges and obstacles and on the military crests of prominent terrain (the spots used for best observation). They look for supporting positions, keeping in mind range distances for supporting weapons, NVDs, and LOS needs. Then soldiers search for enemy positions and other signs of enemy activity.

Ref: FM 7-8, p 2-65, para 2-14h

**REMOVE VGT-29**

2. Learning Step / Activity 2. Practical Exercise/Solution

Method of Instruction: Practical Exercise (Performance)  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 20 mins  
 Media: PE-3

**NOTE:** Inform the students that this practical exercise supports ELO K.

- Hand out Practical Exercise 3 (see Appendix C). Give the students 5 minutes to complete the exercise working alone without the reference.
- After 5 minutes, break class into 3 groups. Give the groups 5 minutes to consolidate individual solutions and prepare a group solution to the practical exercise.
- After 10 minutes, have each group briefly present its solution and assist the students in resolving any differences between the groups.
- Pass out the Solution to Practical Exercise 3 and have the groups check their solutions.

**CHECK ON LEARNING:** Practical Exercise 3 serves as the check on learning for this learning objective.

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**L. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify individual and fire team movement techniques in urban areas.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 3-06.11.
<b>STANDARDS:</b>	Identified individual and fire team movement techniques in urban areas by correctly answering questions pertaining to the subject matter IAW FM 3-06.11, pp 3-1 thru 3-7, para 3-1 thru 3-8.

1. Learning Step / Activity 1. Individual and Fire Team Movement Techniques in Urban Areas

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 15 mins  
 Media: VGT-30 thru VGT-32

Successful combat operations in urban areas depend on the proper employment of the rifle squad. Each member must be proficient in moving, entering buildings, clearing rooms, employing hand grenades, selecting and using fighting positions, navigating in urban areas, and camouflage.

**SHOW VGT-30, URBAN MOVEMENT SKILLS**

<b>URBAN MOVEMENT SKILLS</b>	
<ul style="list-style-type: none"> <li>• Crossing open areas</li> <li>• Moving parallel to buildings</li> <li>• Moving past windows</li> <li>• Moving around corners</li> <li>• Crossing a wall</li> <li>• Using doorways</li> <li>• Moving between positions</li> <li>• Fire team movement</li> </ul>	
W325/OCT 04/VGT-30	Basic Noncommissioned Officer Course

Ref: 3-06.11, Chap 3, p 3-1 thru 3-7

Movement in urban areas is the first fundamental skill the soldier must master. Soldiers must practice these movement techniques until they become habitual. To reduce exposure to enemy fire, the soldier avoids open areas, avoids silhouetting himself, and selects his next covered position before movement.

**Crossing open areas:** Soldiers should avoid open areas such as streets, alleys, and parks. They are natural kill zones for enemy crew-served weapons or snipers. Units can cross safely if the individual or small-unit leader applies certain fundamentals including using smoke from hand grenades or smoke pots to conceal movement. When employing smoke as an obscurant, keep in mind that thermal sighting systems can see through smoke. Also, when soldiers throw smoke in an open area, the enemy may choose to engage with suppressive fires into the smoke cloud.

- Before moving to another position, the soldier makes a visual reconnaissance, selects the position offering the best cover and concealment, and determines the route he takes to get to that position.
- The soldier develops a plan for his own movement. He runs the shortest distance between buildings and moves along the far building to the next position, reducing the time of exposure to enemy fire.

Ref: FM 3-06.11, p 3-1, para 3-1

**Movement parallel to buildings:** Soldiers and small units may not always be able to

use the inside of buildings as routes of advance and must move on the outside of the buildings. Units should use smoke, suppressive fires, and cover and concealment to hide movement. The soldier moves parallel to the side of the building maintaining at least 12 inches of separation between himself and the wall to avoid *rabbit rounds*, ricochets and rubbing or bumping the wall, stays in the shadow, presents a low silhouette, and moves rapidly to his next position. If an enemy gunner inside the building fires on a soldier, he exposes himself to fire from other squad members providing overwatch. An enemy gunner farther down the street would have difficulty detecting and engaging the soldier.

Ref: FM 3-06.11, p 3-1, para 3-2

**Movement past windows:** Windows present another hazard to the soldier. The most common mistakes are exposing the head in a first-floor window and not being aware of basement windows.

- When using the correct technique for passing a first-floor window, the soldier stays below the window level and near the side of the building. He makes sure he does not silhouette himself in the window. An enemy gunner inside the building would have to expose himself to covering fires if he tried to engage the soldier.

Ref: FM 3-06.11, p 3-3, Figure 3-3

- Soldiers use the same techniques in passing first-floor windows when passing basement windows. A soldier should not walk or run past a basement window, since he presents a good target to an enemy gunner inside the building. The soldier should stay close to the wall of the building and step or jump past the window without exposing his legs.

Ref: FM 3-06.11, pp 3-2, para 3-3 and p 3-3, Figure 3-4

**Moving around corners:** A soldier must observe the area around a corner before moving. The most common mistake a soldier makes at a corner is allowing his weapon to extend beyond the corner exposing his position (this mistake is known as *flagging* your weapon). He should show his head below the height an enemy soldier would expect to see it.

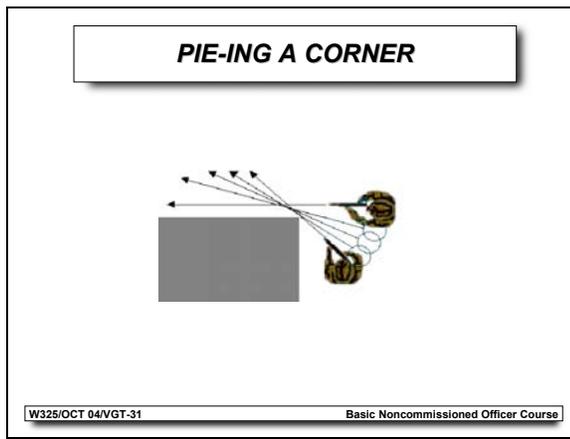
The soldier lies flat on the ground and does not extend his weapon beyond the corner of the building. He wears his Kevlar helmet and only exposes his head (at ground level) enough to permit observation.

Ref: FM 3-06.11, p 3-4, para 3-4.

**REMOVE VGT-30**

**NOTE:** Prepare to reshow VGT-29 following the next slide.

**SHOW VGT-31, PIE-ING A CORNER**



Ref: FM 3-06.11, p 3-4, figure 3-6

Another corner clearing technique that soldiers use when speed is necessary is the *pie-ing* method. Soldiers execute this maneuver by aiming the weapon beyond the corner into the direction of travel (without flagging) and side-stepping around the corner in a circular fashion with the muzzle as the pivot point.

**REMOVE VGT-31**

**RESHOW VGT-30, URBAN AREA MOVEMENT SKILLS**

<b>URBAN MOVEMENT SKILLS</b>	
<ul style="list-style-type: none"> <li>• Crossing open areas</li> <li>• Moving parallel to buildings</li> <li>• Moving past windows</li> <li>• Moving around corners</li> <li>• Crossing a wall</li> <li>• Using doorways</li> <li>• Moving between positions</li> <li>• Fire team movement</li> </ul>	
<small>W325/OCT 04/VGT-30</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: 3-06.11, Chap 3, p 3-1 thru 3-7

**Crossing a wall:** Each soldier must learn the correct method of crossing a wall.

After he has reconnoitered the other side, he rolls over the wall quickly, keeping a low silhouette. Speed of his move and a low silhouette deny the enemy a good target.

Ref: FM 3-06.11, p 3-5, para 3-5 and Figure 3-7

**Use of doorways:** Soldiers should not use doorways as entrances or exits since the enemy normally covers them by fire. If a soldier must use a doorway as an exit, he should move quickly to his next position, staying as low as possible to avoid silhouetting himself. Leaders should emphasize pre-selecting positions, speed, a low silhouette, and the use of covering fires in exiting doorways.

Ref: FM 3-06.11, p 3-5, para 3-6 and Figure 3-8

**Movement between positions:** When moving from position to position, each soldier must be careful not to mask his supporting fires. When he reaches his next position, he must cover the movement of other members of his fire team or squad. He must use his new position effectively and fire his weapon from either shoulder depending on the position.

Ref: FM 3-06.11, p 3-6, para 3-7

- The most common errors a soldier makes when firing from a position are firing over the top of his cover and silhouetting himself against the building to his rear. Both provide the enemy an easy target. The correct technique for firing from a covered position is to fire around the side of the cover, which

reduces exposure to the enemy.

Ref: FM 3-06.11, p 3-6, Figure 3-9

- Another common error is for a right-handed shooter to fire from the right shoulder around the left corner of a building. Firing left-handed around the left corner of a building takes advantage of the cover afforded by the building. Right-handed and left-handed soldiers should train to adapt cover and concealment to fit their manual orientation. Soldiers should be able to fire from the opposite shoulder.

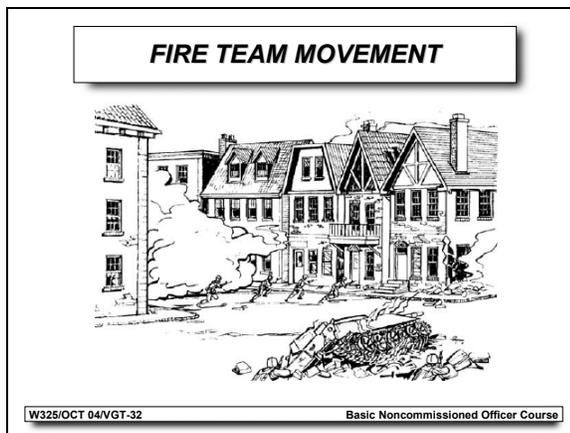
Ref: FM 3-06.11, p 3-7, Figure 3-10

### REMOVE VGT-30

**Fire Team Employment:** Moving as a fire team from building to building or between buildings presents a large target for enemy fire.

Ref: FM 3-06.11, p 3-7, para 3-8

### SHOW VGT-32, FIRE TEAM MOVEMENT



Ref: FM 3-06.11, p 3-7, para 3-8

To minimize exposure, when moving from the corner of one building to another, the fire team should move across the open area in a group. Moving from the side of one building to the side of another presents a similar problem and the technique of movement employed is the same. The fire team uses the building as cover. In moving to an adjacent building team members should keep a distance of 3 to 5 meters between themselves and, using a planned

signal, make an abrupt flanking movement (on line) across the open area to the next building.

Ref: FM 3-06.11, p 3-7, para 3-8

### **REMOVE VGT-32**

#### **CHECK ON LEARNING:**

QUESTION: What are the most common errors a soldier makes when firing from a position?

ANSWER: The most common errors a soldier makes when firing from a position are firing over the top of his cover and silhouetting himself against the building to his rear.

Ref: FM 3-06.11, p 3-6, para 3-7

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

#### **M. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify building entry techniques.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 3-06.11.
<b>STANDARDS:</b>	Identified building entry techniques by correctly answering questions pertaining to the subject matter IAW FM 3-06.11, pp 3-8 thru 3-21, para 3-9 thru 3-13.

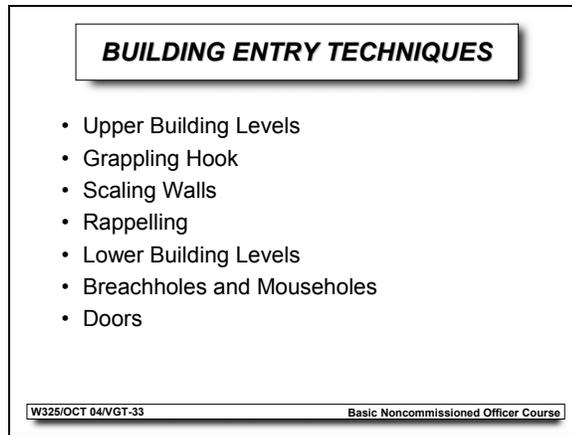
#### 1. Learning Step / Activity 1. Building Entry Techniques

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 15 mins  
 Media: VGT-33

When entering buildings a soldier must minimize his exposure time. Before moving toward the building he must select the entry point. When moving to the entry point the soldier should use smoke to conceal his advance. He must avoid using windows and doors except as a last resort. He should consider the use of demolitions, tank rounds, and other means to make new entrances. If the situation permits he should precede his entry with a grenade, enter immediately after the grenade explodes under cover by one of his buddies.

Ref: FM 3-06.11, p 3-8, Section II

#### **SHOW VGT-33, BUILDING ENTRY TECHNIQUES**



Ref: FM 3-06.11, p 3-8 thru 3-21, para 3-9

**Upper Building Levels:** Although entering a building from any level other than the ground floor is difficult, the preferred method is clearing a building from the top down. Assaulting or defending a building is easier from an upper story. Gravity and the building's floor plan become assets when throwing hand grenades and moving from floor to floor.

An enemy forced to the top of a building may feel cornered and fight desperately or escape over the roof. An enemy who forced down to ground level may withdraw from the building, thus exposing himself to friendly fires from the outside.

Units may use various means, such as ladders, drainpipes, vines, helicopters, or the roofs and windows of adjoining buildings, to reach the top floor or roof of a building. As a last resort, one soldier may be able to climb onto the shoulders of another and reach high enough to pull himself up.

- Ladders. Ladders offer the quickest method to access the upper levels of a building. Units deploying into an urban environment should have a lightweight, man-portable, collapsible ladder as referenced in the platoon urban operations kit. If portable ladders are not available, the platoon can obtain material to build ladders through supply channels. The platoon can also build ladders with resources available throughout the urban area; for example, lumber from the inside the walls of buildings. Although ladders do not permit access to the top of some buildings, they do offer security and

safety through speed. The platoon can also use ladders to conduct an exterior assault of an upper level if it is possible to minimize soldiers' exposure to enemy fire.

Ref: FM 3-06.11, p 3-8, para 3-9c

- Grappling Hook. Units should not use a grappling hook and rope to ascend into a building. Experimentation and training indicates that using the grappling hook and rope to ascend is extremely difficult for the average soldier, and makes a unit more likely to fail in its mission. Grappling hooks are still a viable tool for accomplishing the following tasks:
  - Clearing concertina or other tangle wire.
  - Clearing obstacles or barricades that may have booby traps.
  - Descending to lower floors.

Ref: FM 3-06.11, p 3-10, para 3-10

- Scaling Walls. When required to scale a wall while exposed to enemy fire, soldiers should use all available concealment. Smoke and diversionary measures improve the chances of success. When using smoke for concealment, soldiers must plan for wind direction. They should use suppressive fire, shouting, and distraction devices from other positions to divert the enemy's attention. A soldier scaling an outside wall is vulnerable to enemy fire. Overwatching units should cover soldiers who are moving from building to building and climbing buildings. Properly positioned friendly weapons can suppress and eliminate enemy fire. If a soldier must scale a wall with a rope, he should avoid silhouetting himself in windows and avoid exposing himself to enemy fires from lower windows. He should climb with his weapon slung over the firing shoulder so he can bring it quickly to a firing position. If the ROE permits, units should engage the objective window and any lower level windows in the path of the climber with grenades (hand or launcher) before the soldier begins his ascent. The soldier enters the

objective window with a low silhouette. Entry can be head first; however, the preferred method is to hook a leg over the window sill and enter sideways straddling the ledge.

Ref: FM 3-06.11, p 3-10, para 3-11

- Rappelling. Rappelling is an entry technique that soldiers can use to descend from the rooftop of a tall building into a window, or through a hole in the floor, in order to descend to the lower floor.

Ref: FM 3-06.11, p 3-12, para 3-12

**Lower Building Levels:** Units should clear buildings from the top down. However, entering a building at the top may be impossible. Entry at the bottom or lower level is common and may be the only course of action. When entering a building at lower levels, soldiers should avoid entering through windows and doors since the enemy can easily booby trap them and cover them by fire.

- When entering at lower levels, units can employ demolitions, artillery, tank fire, anti-armor weapons fire, or similar means to create a new entrance to avoid booby traps. This is the preferred procedure if the Rules of Engagement (ROE) permit it. Units must make a quick entry to take advantage of the effects of the blast and concussion.
- When the only entry to a building is through a window or door, units should direct supporting fire at that location to destroy or drive away enemy forces. The assaulting soldiers should not leave their covered positions before the support by fire element has accomplished this procedure.
- Before entering, soldiers may throw a cooked off hand grenade into the new entrance to reinforce the effects of the original blast. METT-TC factors and the structural integrity of the building will dictate the type grenade the soldiers will use: fragmentation, concussion, or stun.

Ref: FM 3-06.11, p 3-12, para 3-13

When making a new entrance in a building, soldiers must consider the effects of the

blast on the building and on adjacent buildings. If there is the possibility of a fire in adjacent building, soldiers coordinate with adjacent units and obtain permission before starting the operation.

In wooden frame buildings, the blast may cause the building to collapse. In stone, brick, or cement buildings, soldiers aim supporting fires at the corner of the building or at weak points in the building construction. Units can position armored vehicles next to a building allowing soldiers to use the vehicle as a platform to enter a room or gain access to a roof.

**NOTE:** In FM 3-06.11, the following discussion of entry by breachholes, mouseholes, and doors is part of the section on the use of hand grenades. This lesson does not cover the entire section on the use of hand grenades.

**Breachholes and mouseholes:** Units blow or cut breachholes and mouseholes through a wall so soldiers can enter a building. These are safer entrances than doors because the enemy can easily booby trap doors and soldiers should avoid using a door, unless they breach the door with an explosive.

- Soldiers should throw a grenade through the breach before entering and use available cover, such as the lower corner of the building, or protection from fragments.
- Soldiers should use stun and concussion grenades when engaging through thin walls.

Ref: FM 3-06.11, p 3-19, para 3-14d

**Doors:** When a door is the only means of entering a building, soldiers must beware of booby traps and fire from enemy soldiers within the room.

- Units can breach (force open) locked doors using one of the four breaching methods: mechanical, ballistic, explosive, or thermal (see Chapter 8). If none of these methods are available, soldiers can resort to kicking the door open. This method should be the last choice since it is difficult and tiring to the soldier. It rarely works the first time, and gives any enemy soldiers in the room ample warning and time to shoot through the door. Once the door is open, soldiers should throw in a grenade before entering.

- When opening an unlocked door by hand, the assault team should be sure not to expose themselves to enemy fire through the door. The soldiers should stay close to one side of the doorway to minimize exposure in the open doorframe. Once the door is open, soldiers should throw in a grenade before entering. After the grenade explodes, soldiers can enter and clear the room.

Ref: FM 3-06.11, p 3-20, para 3-14e

**REMOVE VGT-33**

**CHECK ON LEARNING:**

QUESTION: When should soldiers use a grappling hook?

ANSWER: Grappling hooks are still a viable tool for accomplishing the following tasks: clearing concertina or other tangle wire; clearing obstacles or barricades that may have booby traps; and descending to lower floors of a building.

Ref: FM 3-06.11, p 3-10, para 3-10

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**N. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify room clearing techniques.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 3-06.11.
<b>STANDARDS:</b>	Identified room clearing techniques by correctly answering questions pertaining to the subject matter IAW FM 3-06.11, pp 3-22 thru 3-27, para 3-16 thru 3-21.

1. Learning Step / Activity 1. Room Clearing Techniques

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 20 mins  
 Media: VGT-34 thru VGT-37

Infantry units often use close combat techniques to enter and clear buildings and rooms.

QUESTION: What are the two clearing techniques?

ANSWER: High Intensity and Precision

Ref: FM 3-06.11, p 3-22, Section III

**SHOW VGT-34, CLEARING TECHNIQUES**

<b>CLEARING TECHNIQUES</b>	
<ul style="list-style-type: none"> <li>• High-Intensity</li> <li>• Precision</li> </ul>	
<small>W325/OCT 04/VGT-34</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: FM 3-06.11, p 3-22, Section III

**NOTE:** FM 3-06.11 does not provide a clear, brief, up-front answer to the following two questions.

QUESTION: What is the high-intensity clearing technique?

ANSWER: The high-intensity clearing technique refers to the use of supporting fires, demolitions, and fragmentation grenades to neutralize a space before friendly troops enter.

Ref: FM 3-06.11, p 3-23, para 3-16c

QUESTION: What is the precision clearing technique?

ANSWER: The precision clearing technique refers principally to entering a room without first neutralizing known enemy occupants by fire or explosives.

Ref: FM 3-06.11, p 3-23, para 3-16d

QUESTION: When do leaders direct the use of precision room clearing techniques?

ANSWER: Leaders direct precision room clearing techniques when the tactical situation calls for room-by-room clearing of a relatively intact building in which enemy combatants and noncombatants may be in close proximity.

Ref: FM 3-06.11, p 3-22, para 3-16

Precision room clearing techniques involve increased risk in order to clear a building methodically, rather than using overwhelming firepower (High-Intensity Technique) to eliminate or neutralize all its inhabitants.

- From a conceptual standpoint, standard high-intensity room clearing drills can be thought of as a deliberate attack. The task is to seize control of the room with the purpose being the neutralization of the enemy in the room. The fragmentation and or concussion grenades can be thought of as the

preparatory fires used before the assault. As in a deliberate attack against any objective, the assaulting elements move into position using covered and concealed routes. The preparatory fires (fragmentation and or concussion grenades) are initiated when soldiers are as close to the objective as they can get without being injured by the fires. The assault element follows the preparatory fires onto the objective as closely as possible. A rapid, violent assault overwhelms and destroys the enemy force and seizes the objective.

Ref: FM 3-06.11, p 3-22, para 3-16a

- Compared to the deliberate attack represented by high-intensity room clearing techniques, precision room clearing techniques are more conceptually like a reconnaissance in force or perhaps an infiltration attack. During a reconnaissance in force, the friendly unit seeks to determine the enemy's locations, dispositions, strength, and intentions. Once the friendly force locates the enemy, the friendly force can engage and destroy the enemy, especially if it can achieve surprise. The friendly force retains the options of not employing preparatory fires (fragmentation and or concussion grenades) if the enemy is not in the room or if they are inappropriate because there are noncombatants present also. The attacking unit may choose to create a diversion (use a stun grenade) to momentarily distract the defender while they enter and seize the objective.
- The determination of which techniques to employ is up to the leader on the scene. The leader bases his determination on his analysis of the existing METT-TC conditions. The deliberate attack (high-intensity techniques), with its devastating suppressive and preparatory fires, neutralizes everyone in the room and is less dangerous to the assaulting troops. The reconnaissance in force (precision techniques) conserves ammunition, reduces damage, and minimizes the chance of noncombatant casualties. Unfortunately, even when well-executed, it is very stressful and hazardous for friendly troops.

- Certain precision room clearing techniques, such as methods of squad and fire team movement, the various firing stances, weapon positioning, and reflexive shooting, are useful for all combat in confined areas. Other techniques, such as entering a room without first neutralizing known enemy occupants by fire or explosives, are appropriate in only some tactical situations.
- Generally, if an alerted enemy force that is determined to resist occupies a room or building, and if most or all noncombatants are clear, platoons should employ overwhelming firepower to avoid friendly casualties. In such a situation, the platoon should use supporting fires, demolitions, and fragmentation grenades to neutralize a space before friendly troops enter.
- In some combat situations the use of heavy supporting fires and demolitions would cause unacceptable collateral damage or would unnecessarily slow the unit's movement. In other situations, often during stability and support operations, enemy combatants and noncombatants are in such close proximity that US forces cannot, in good conscience, use all available supporting fires. Room-by-room clearing may be necessary. At such times, precision room clearing techniques are most appropriate.

Ref: FM 3-06.11, p 3-22, para 3-16a

#### **REMOVE VGT-34**

Leaders must plan and execute battles that occur at close quarters, such as within a room or hallway, with care. Units must train, practice, and rehearse precision room clearing techniques until each fire team and squad operates smoothly.

QUESTION: What are the principles of precision room clearing?

ANSWER: See VGT-34.

#### **SHOW VGT-35, PRINCIPLES OF PRECISION ROOM CLEARING**

**PRINCIPLES OF  
PRECISION ROOM CLEARING**

- Surprise
- Speed
- Controlled violence of action

W325/OCT 04/VGT-35Basic Noncommissioned Officer Course

Ref: FM 3-06.11, p 3-23 thru 3-24, para 3-17a thru 3-17c

Each unit member must understand the principles of precision room clearing: surprise, speed, and controlled violence of action.

**Surprise:** Surprise is the key to a successful assault at close quarters. The fire team or squad clearing the room must achieve surprise, if only for seconds, by deceiving, distracting, or startling the enemy. Sometimes the team may use stun grenades to achieve surprise. These are more effective against a non-alert, poorly trained enemy than against alert, well-trained soldiers.

**Speed:** Speed provides a measure of security to the clearing unit. It allows soldiers to use the first few vital seconds provided by surprise to their maximum advantage. In precision room clearing, speed is not how fast you enter the room, rather it's how fast you eliminate the threat and clear the room.

**Controlled Violence of Action:** Controlled violence of action eliminates or neutralizes the enemy while giving him the least chance of inflicting friendly casualties. It also involves a soldier mind-set of complete domination in addition to the application of firepower. Each of the principles of precision room clearing has a synergistic relationship to the others. Controlled violence coupled with speed increases surprise. Hence, successful surprise allows increased speed.

#### **REMOVE VGT-35**

QUESTION: What are the fundamentals of precision room clearing?

ANSWER: See VGT-36.

Ref: FM 3-06.11, p 3-24, para 3-18

**SHOW VGT-36, FUNDAMENTALS OF PRECISION ROOM CLEARING**

<b>FUNDAMENTALS OF PRECISION ROOM CLEARING</b>	
<ul style="list-style-type: none"> <li>• Move tactically and silently</li> <li>• Carry minimum equipment</li> <li>• Arrive undetected at the entry</li> <li>• Enter quickly and dominate the room</li> <li>• Eliminate all enemy in the room</li> <li>• Gain and maintain control of the situation</li> <li>• Confirm enemy casualties</li> <li>• Perform a cursory search</li> <li>• Evacuate dead and wounded</li> <li>• Mark the room as cleared</li> <li>• Maintain security</li> </ul>	
<small>W325/OCT 04/VGT-36</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: FM 3-06.11, p 3-24, para 3-18

The fundamentals of precision room clearing address actions soldiers take while moving along confined corridors to the target room, while preparing to enter the room, during room entry and target engagement, and after contact. Team members:

- Move tactically and silently while securing the corridors to the target room.
- Carry only the minimum amount of equipment. (Rucksacks and loose items carried by soldiers tire them, slow their pace, and cause noise.)
- Arrive undetected at the entry to the room in the correct order of entrance, prepared to enter on a single command.
- Enter quickly and dominate the room. Move immediately to positions that allow complete control of the room and provide unobstructed fields of fire.
- Eliminate all enemy in the room by fast, accurate, and discriminating fires.
- Gain and maintain immediate control of the situation and all personnel in the room.
- Confirm whether enemy casualties are wounded or dead. Disarm, segregate, and treat the wounded. Search all enemy casualties.
- Perform a cursory search of the room. Determine if a detailed search is

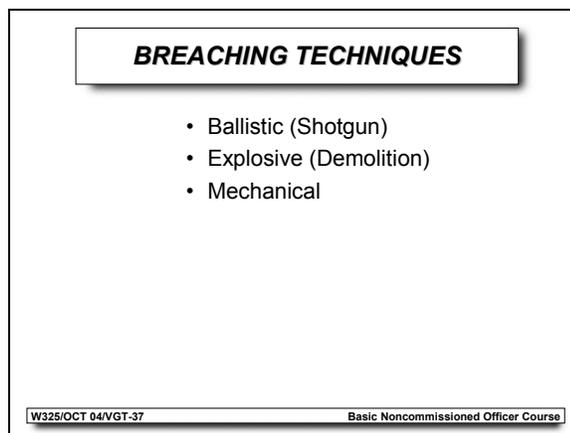
necessary.

- Evacuate all wounded and any friendly dead.
- Mark the room as cleared using a simple, clearly identifiable marking in accordance with the unit SOP.
- Maintain security and readiness to react to more enemy contact at any moment. Do not neglect rear security.

### REMOVE VGT-36

An integral part of precision room clearing is the ability to gain access quickly to the target rooms. Breaching techniques vary based on the type of construction the unit encounters and the types of munitions available to the breaching element, and range from simple mechanical breaching to complex, specialized demolitions.

### SHOW VGT-37, BREACHING TECHNIQUES



Ref: FM 3-06.11, p 3-25 thru 3-27, para 3-20

**Ballistic (Shotgun):** A useful method of breaching is the *shotgun ballistic* breach for forced entry of standard doors. A soldier can use a 12-gauge shotgun loaded with buckshot or slugs to breach most standard doors quickly. Number 9 shot works equally well with reduced collateral damage on the other side of the door. When done properly, the shotgun breach requires only a few seconds. The two standard techniques of shotgun breaching are the *doorknob breach* and the *hinge breach*. When attempting either technique, the gunner is announcing his presence by using the shotgun and completely exposing himself to fire

through the door. Therefore, teams must minimize exposure time. The number 1 man must be ready to gain entry and return fire as soon as possible. While holding the stock of the shotgun in the pocket of his shoulder, the gunner places the muzzle tightly against the door, and aims down at a 45-degree angle.

**NOTE:** Emphasize to the students that if they do not hold the shotgun muzzle tightly against the door, splatter may occur that could affect friendly troops. Also emphasize that buckshot and rifled slugs can over-penetrate doors and may kill or wound occupants in the room.

- **Doorknob.** For the doorknob breach, the aim point is a spot halfway between the doorknob and the frame, not at the doorknob itself. The gunner fires two quick shots in the same location, ensuring the he aims the second shot as carefully as the first. Weak locks may fly apart with the first shot, but the gunner should always fire twice. Some locks that appear blown apart have parts still connected that can delay entry. If the second shot does not defeat the lock, the gunner repeats the procedure. Doors may not always open after firing. The gunner should be ready to kick the door after firing to ensure opening of the entry point.
- **Hinge.** The gunner performs the hinge breach technique much the same as the doorknob breach, except he aims at the hinges. He fires three shots per hinge--the first at the middle, then at the top and bottom. He fires all shots from less than an inch away from the hinge. Because the hinges are often hidden from view, the hinge breach is more difficult. Hinges are generally 8 to 10 inches from the top and bottom of the door; the center hinge is generally 36 inches from the top, centered on the door. Regardless of which technique the gunner uses, immediately after he fires, he kicks the door in or pulls it out. He then pulls the shotgun barrel sharply upward and quickly turns away from the doorway to signal that the breach point is clear. This rapid clearing of the doorway allows the following man in the fire team a clear shot at any enemy who may be blocking the immediate breach site.
- The use of small arms (5.56-mm or 7.62-mm) as a ballistic breach on

doorknobs and hinges is unsafe. Units should use small arms only as a last resort.

**Explosive (Demolition):** Units often need demolitions to defeat more elaborate barriers or to produce a desired effect to aid the initial entry.

**Mechanical breaching:** Units should plan for mechanical breaching as a backup to a ballistic or explosive breach. Mechanical breaching is an assumed capability within all units. Taking the time to defeat weak barriers, such as doors or windows, by means of crowbars, saws, sledgehammers, battering rams, axes, or other breaching tools is a decision that the leader must make based on the conditions of METT-TC.

Ref: FM 3-06.11, p 3-27, para 3-20.

### **REMOVE VGT-37**

Following the breach, the entire team enters the room as quickly and smoothly as possible and clears the doorway immediately. If possible, the team moves from a covered or concealed position already in their entry order. Ideally, the team arrives and passes through the entry point without having to stop. The door is the focal point of anyone in the room. It is known as the *fatal funnel*, because it focuses attention at the precise point where the individual team members are the most vulnerable. Moving into the room quickly reduces the chance anyone being hit by enemy fire directed at the doorway.

Ref: FM 3-06.11, p 3-27, para 3-21

### **CHECK ON LEARNING:**

QUESTION: What are the three breaching techniques?

ANSWER: Ballistic (Shotgun), Explosive (Demolition), and Mechanical breaching.

Ref: FM 3-06.11, p 3-26 para 3-20d(1)(2)(3).

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**O. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify techniques for seizing and maintaining the initiative in the defense.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified techniques for seizing and maintaining the initiative in the defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 1-10 thru 1-11, para 1-8a.

1. Learning Step / Activity 1. Initiative in the Defense

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-38 and VGT-39

While platoons/squads and equivalent small units normally defend as part of a larger force, there have been and will continue to be exceptions.

QUESTION: Why do platoons/squads normally defend?

ANSWER: Platoons/squads normally defend to disrupt, disorganize, delay, or defeat an attacking enemy, deny an area to an enemy, or protect a flank. They may also defend as a part of a larger unit in a retrograde operation.

Ref: FM 7-8, Chap 1, p 1-10, para 1-8

While gaining and maintaining the initiative is critical to a successful offensive operation, it is equally critical to the success of a defense.

QUESTION: Why is it important to retain the initiative in the defense?

ANSWER: To keep the enemy reacting and unable to execute his own plan.

Ref: FM 7-8, Chap 1, p 1-10, para 1-8

QUESTION: Since the enemy decides the time and place of the attack, how do leaders seize and maintain the initiative in the defense?

ANSWER: Leaders seize and retain the initiative in the defense through careful planning, preparation, coordination, and rehearsal.

Ref: FM 7-8, Chap 1, p 1-10, para 1-8(a)

**SHOW VGT-38, INITIATIVE IN THE DEFENSE**

**INITIATIVE IN THE DEFENSE**

- Plan and prepare
- Find the enemy
- Avoid detection
- Fix the enemy
- Find or create a weakness
- Maneuver to exploit the weakness
- Reorganize quickly

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Ref: FM 7-8, Chap 1, p 1-10, para 1-8(a)

Leaders plan and establish the defense to find the enemy first, while remaining undetected; fix the enemy with obstacles and fires; locate or create a weakness in the enemy's attack plan; and maneuver to exploit that weakness with quick violent counterattack.

### **REMOVE VGT-38**

**NOTE:** Be ready to show VGT-38 again following the next slide.

**QUESTION:** How do leaders plan and prepare a defense?

**ANSWER:** Leaders use the troop-leading procedure to make sure they complete all necessary steps to prepare for an operation.

Ref: FM 7-8, Chap 1, p 1-11, para 1-8a(1)

### **SHOW VGT-39, PREPARE A DEFENSE**

**PREPARE A DEFENSE**

- Determine best area to kill the enemy with fires
- Position key weapons to concentrate fires into that area
- Tie in fires with obstacles
- Position remaining platoon/squad members to support and protect key weapons
- Reconnoiter and rehearse counterattacks
- Maneuver to exploit the weakness
- Reorganize quickly

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Ref: FM 7-8, Chap 1, p 1-11, para 1-8a(1)

They analyze the factors of METT-T to determine the best course of action. In the

defense, they determine where best to kill the enemy with fires. They position key weapons to concentrate fires into that area, tie in fires with obstacles, position the remaining platoon and squad weapons to support and protect the key weapons, and reconnoiter and rehearse counterattacks.

**REMOVE VGT-39**

**RESHOW VGT-38, INITIATIVE IN THE DEFENSE**

**INITIATIVE IN THE DEFENSE**

- Plan and prepare
- Find the enemy
- Avoid detection
- Fix the enemy
- Find or create a weakness
- Maneuver to exploit the weakness
- Reorganize quickly

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Ref: FM 7-8, Chap 1, p 1-11, para 1-8a

**Find the enemy:** Platoons/squads find the enemy by knowing how he fights, by analyzing the terrain in light of this knowledge, by positioning observation posts along likely avenues of approach, and by actively patrolling to locate him.

**Avoid detection:** Platoons/squads avoid detection by securing their defensive positions or sectors early and continuously, by positioning squads and weapons away from natural lines of drift or obvious terrain features, and by employing effective camouflage and noise and light discipline.

**Fix the enemy:** Platoons use a combination of tactical obstacles and direct and indirect fires to disrupt the enemy attack and fix the enemy in a place where the platoon can destroy him with fires.

**Find or create a weakness:** Platoons create a weakness by destroying the enemy's command and control nodes, by isolating an attacking or assaulting enemy formation from its support, by causing mounted forces to dismount and thereby slowing the attack and making

the enemy vehicles more vulnerable, by use of night vision devices to gain a visibility advantage, or by the effective use of illumination to blind or expose the enemy during his attack.

**Maneuver to exploit the weakness:** Having created a weakness, platoons must exploit it with counterattacks against the flank or rear of the enemy attack by fire or maneuver. Platoons must carefully coordinate and rehearse all counterattacks to ensure the proper synchronization in lifting and shifting of direct and indirect fires. They must also consider the threat of follow-on enemy forces against their counterattack.

**Reorganize quickly:** Platoons and squads must be able to reorganize quickly to continue the defense against follow-on forces.

**REMOVE VGT-38**

**CHECK ON LEARNING:**

QUESTION: Why is it important to retain the initiative in the defense?

ANSWER: To keep the enemy reacting and unable to execute his own plan.

Ref: FM 7-8, Chap 1, p 1-10, para 1-8

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**P. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify techniques for organizing a defense.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified techniques for organizing a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 1-11 thru 1-18, para 1-8b thru 1-8e.

1. Learning Step / Activity 1. Organize a Defense

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 50 mins  
 Media: VGT-40 thru VGT-52

QUESTION: What are four ways to organize a defense?

ANSWER: See VGT-40.

Ref: FM 7-8, p 1-11 thru 1-18, para 1-8b thru 1-8e

**SHOW VGT-40, ORGANIZE A DEFENSE**

**ORGANIZE A DEFENSE**

- Reverse-Slope
- Perimeter
- Defense in Sector
- Mutually-Supporting Battle Positions

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Ref: FM 7-8, p 1-11 thru 1-18, para 1-8b thru 1-8e

**NOTE:** For consistency, the lesson guides the discussion of each defensive organization in the sequence: characteristics, advantages, disadvantages and conduct of the defense. This discussion sequence does not follow the sequence of presentation in FMs 7-8 and 7-10. Prepare to reshew VGT-40 to begin the discussion of each type of defensive organization.

### REMOVE VGT-40

QUESTION: How does a company/platoon organize a defensive position on a reverse slope?

ANSWER: By establishing defensive positions on the side or slope of a hill away from the enemy.

Ref: FM 7-8, p 1-11, para 1-8b

This defense is on the part of the hill or ridge that the crest masks from enemy direct fire and ground observation. The platoon must control the crest by fire.

### SHOW VGT-41, REVERSE-SLOPE DEFENSE



Ref: FM 7-8, Chap 1, p 1-13, para 1-8b(3)

NOTE: The A, B, and C callouts on the inset diagram indicate squad positions on the reverse-slope of a hill. These are the squads of a forward platoon. The diagram does not show an overwatching platoon position.

The **forward platoons** (squads) are from 200 to 500 meters from the crest of the hill. In these positions, they can have the best fields of fire and still have the advantages of the reverse slope. The commander will position the **overwatching platoon** on the forward slope of the next high ground to the rear if the location is within supporting distance.

Tasks assigned to the overwatching platoon include:

- Protect the flanks and rear of the forward positions
- Reinforce the fires of the forward elements
- Block penetrations of the forward positions
- Cover the withdrawal of forward units
- Counterattack

Platoon leaders plan indirect fire final protective fires on or short of the crest of the hill to deny that area to the enemy and to help breakup his assault as he crosses the crest.

Platoons position observation posts on, or just forward of the crest to watch the entire platoon sector of fire. The observation posts can vary in size from two soldiers to a squad reinforced with machine guns and anti-armor weapons.

Leaders place obstacles below the crest of the hill on the friendly side. Tied in with a final protective fire, this can be effective in stopping or slowing an assault.

#### **REMOVE VGT-41**

QUESTION: What are the advantages of defending from a reverse slope?

ANSWER: See VGT-41.

Ref: FM 7-8, Chap 1, p 1-12, para 1-8b(1) thru para 1-8b(6)

#### **SHOW VGT-42, REVERSE SLOPE DEFENSE ADVANTAGES**

<b>REVERSE-SLOPE DEFENSE ADVANTAGES</b>	
<ul style="list-style-type: none"> <li>• Enemy cannot observe position</li> <li>• More freedom of movement in position</li> <li>• Enemy direct fire cannot hit position</li> <li>• Enemy indirect fire less effective</li> <li>• Defender gains surprise</li> <li>• Attack over crest breaks contact with support</li> </ul>	
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Ref: FM 7-8, Chap 1, p 1-12, para 1-8b(1)

The advantages of defending from a reverse slope are:

**Enemy cannot observe position:** The crest of the hill masks the position from enemy ground observation.

**More freedom of movement in position:** There is more freedom of movement in the position due to the enemy's lack of ground observation.

- Enemy direct-fire weapons cannot hit the position.
- Enemy indirect fire is less effective due to the lack of enemy ground observation.
- The defender gains surprise.
- If the enemy attacks over the crest, he will isolate himself from his supporting element(s).

#### **REMOVE VGT-42**

QUESTION: What are the disadvantages of defending from a reverse slope?

ANSWER: See VGT-42.

Ref: FM 7-8, p 1-12, para 1-8b(2)

#### **SHOW VGT-43, REVERSE SLOPE DEFENSE DISADVANTAGES**

<b>REVERSE-SLOPE DEFENSE DISADVANTAGES</b>	
<ul style="list-style-type: none"> <li>• Difficult to observe the enemy</li> <li>• Difficult to move out of position under pressure</li> <li>• Fields of fire normally short</li> <li>• Difficult to cover obstacles on forward slope</li> <li>• May give the enemy a psychological advantage</li> <li>• Enemy may appear at close range without warning</li> </ul>	<small>W325/OCT 04/VGT-43      Basic Noncommissioned Officer Course</small>

Ref: FM 7-8, Chap 1, p 1-12, para 1-8b(2)

The disadvantages of defending from a reverse slope may include:

**Difficult to observe the enemy:** Soldiers can see no farther forward than the crest, making it difficult to determine just where the enemy is as he advances. This is especially true during limited visibility conditions. Defenders must place observation posts well forward of the crest for early warning and long-range observation.

**Difficult to move out of position under pressure:** Moving out of the position under pressure may be more difficult.

**Fields of fire are normally short:** Grazing fire may be less than 600 meters.

**Difficult to cover obstacles on forward slope:** Defenders can only cover obstacles on the forward slope with indirect fire or by units on the flanks--unless they initially place some weapons forward.

**May give the enemy a psychological advantage:** If the enemy gets to the crest of the hill, he will be able to assault down the hill and this may give him a psychological advantage.

**Enemy may appear at close range without enough warning:** If enough observation posts are not put out or if they are not put in the right positions, the enemy may suddenly appear at close range without enough warning.

#### **REMOVE VGT-43**

The conduct of the defense from a reverse slope is basically the same as from a forward slope. However, the observation posts forward of the position must not only warn of

the enemy's advance but also delay, deceive, and disorganize him by fire and then withdraw before the enemy pins them down. If machine guns are with the observation posts, they withdraw first so they can occupy their primary fighting positions before the enemy reaches the crest. As the observation posts withdraw, leaders call for indirect fire on the forward slope and on the crest of the hill to slow the enemy's advance. Soldiers in primary positions hold their fire until the enemy crosses the crest. As the enemy moves over the crest of the hill, the defenders hit him with all available fire.

When the platoon defeats the enemy assaulting across the crest, the enemy will try to turn, bypass, or envelop the defense. To counter this, the overwatch element orients its fires to the flanks of the forward slope. Also, the defense must have appropriate supplementary positions and obstacles, as well as security elements, to warn if the enemy tries to envelop or bypass the position.

Against armored, motorized, or road-bound attack, leaders should position anti-armor weapons and machine guns so their primary sectors are to the flanks of the reverse slope.

Ref: FM 7-8, Chap 1, p 1-13, para 1-8b(8)

### **RESHOW VGT-40, ORGANIZE A DEFENSE**

**ORGANIZE A DEFENSE**

- Reverse-Slope
- Perimeter
- Defense in Sector
- Mutually-Supporting Battle Positions

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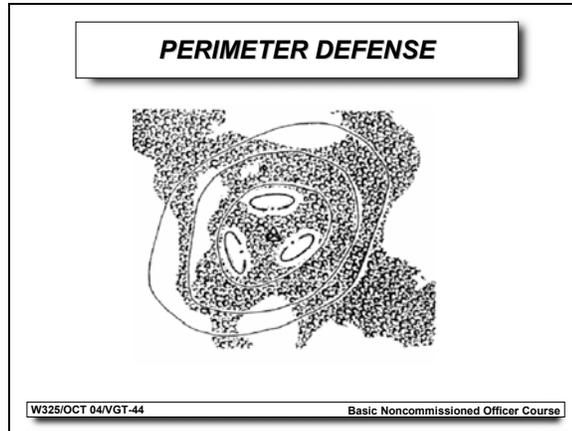
Ref: FM 7-8, p 1-11 thru 1-18, para 1-8b thru 1-8e

The second type of defensive organization is the perimeter defense. Normally a unit organizes a perimeter defense when there are no adjacent friendly units. A unit may organize a perimeter defense in a reserve position, in an assembly area or patrol base, on a semi-

independent operation, during resupply, or when isolated.

**REMOVE VGT-40**

**SHOW VGT-44, PERIMETER DEFENSE**



Ref: FM 7-8, p 1-14, Figure 1-2

**NOTE:** The clear ovals in the center of the slide indicate squad positions on top of a hill.

QUESTION: How does a perimeter defense differ from other defenses?

ANSWER: A perimeter defense differs from other defenses in that--

- The trace of the platoon is circular or triangular rather than linear.
- Unoccupied areas between squads are smaller.
- The squads bend back their flanks of the squads to conform to the plan.
- The bulk of the combat power is on the perimeter.
- The platoon centrally locates the reserve.

Ref: FM 7-8, p 1-14, para 1-8c

QUESTION: What is the major advantage of a perimeter defense?

ANSWER: See VGT-45.

Ref: FM 7-8, p 1-14, para 1-8c

**REMOVE VGT-44**

**SHOW VGT-45, PERIMETER DEFENSE ADVANTAGE**

**PERIMETER DEFENSE  
ADVANTAGE**

- Defend against an attack from any direction

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Ref: FM 7-8, Chap 1, p 1-14, para 1-8c

The major advantage of the perimeter defense is the preparedness of the platoon to defend against an attack from any direction.

**REMOVE VGT-45**

QUESTION: What is the main disadvantage of a perimeter defense?

ANSWER: See VGT-46.

**SHOW VGT-46, PERIMETER DEFENSE DISADVANTAGE**

**PERIMETER DEFENSE  
DISADVANTAGE**

- Does not concentrate combat power on an enemy avenue of approach

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Ref: FM 7-8, Chap 1, p 1-14, para 1-8c

The main disadvantage is that the defender does not concentrate combat power at first against an enemy avenue of approach.

**REMOVE VGT-46**

**RESHOW VGT-40, ORGANIZE A DEFENSE**

**ORGANIZE A DEFENSE**

- Reverse-Slope
- Perimeter
- Defense in Sector
- Mutually-Supporting Battle Positions

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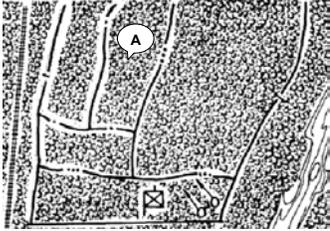
Ref: FM 7-8, p 1-11 thru 1-18, para 1-8b thru 1-8e

The third type of defensive organization is the Defense in Sector

**REMOVE VGT-40**

**SHOW VGT-47, SECTOR DEFENSE**

**SECTOR DEFENSE**



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Ref: FM 7-8, p 1-15, Figure 1-3

**NOTE:** The A point on the slide indicates a squad sector (the whole area inside the boundary lines) rather than a fixed defensive position.

The company commander usually assigns the platoon a sector within the company sector. The platoon leader may in turn assign sectors to individual squads to permit maximum freedom of action for the squad to defend.

The platoon leader must remember that a squad has no way to call for fire support other than through the platoon net. The company may attach forward observers or, as a minimum, leaders must be ready to assist in calls for supporting fires.

Each squad conducts a detailed reconnaissance of its sector and identifies all likely enemy avenues of approach, choke points, kill zones, obstacles, patrol bases, and cache sites. They also identify all tentative positions.

The platoon leader confirms the selected tentative sites and incorporates them into his concept. He designates initial positions and the sequence in which squads are to occupy successive positions. He gives each squad specific guidance concerning contingency plans, rally points, and other coordinating instructions.

Squads then prepare the defense in the sequence designated by the platoon leader. They initially prepare the primary position and then a hasty supplementary position, and then they select the alternate position. Squads improve the positions as time permits.

Ref: FM 7-8, Chap 1, p 1-15, para 1-8d

When Security warns of approaching enemy, the squad occupies its primary positions and prepares to engage the enemy. As the enemy moves into the choke point or kill zone, the squad initiates an ambush. It engages the enemy targets only as long as squads do not become decisively engaged. Squads then move to their next position and repeat the same process. The leader must plan the disengagement. Supporting positions, the use of smoke, and rehearsals are the key to effective disengagements. Depending on METT-T factors, the platoon may fight the entire battle this way. Some variations of this technique include the following:

- Allowing the enemy to exhaust himself reacting to numerous ambushes, and then conduct a violent counterattack along previously rehearsed routes to complete the destruction of the enemy. The platoon leader can do this by retaining direct control over a large portion of the platoon and committing it at the decisive moment. An alternative is to use prearranged signals to consolidate the platoon at a rally point; then to conduct the counterattack.
- Having the forward ambush teams hold their fire until the lead elements of the enemy formation hit another ambush deeper in the sector. Then ambush the next enemy element as it passes through the kill zone. This technique

destroys the cohesion of the enemy and is especially effective if the ambush eliminates the command group of the enemy unit.

- Planning indirect fires to cause more enemy casualties at ambush sites along a well-defined route.

Ref: FM 7-8, Chap 1, p 1-16, para 1-8d(5)

**REMOVE VGT-47**

QUESTION: What are the advantages of a defense in sector?

ANSWER: See VGT-48.

Ref: FM 7-8, p 1-15, para 1-8d

**SHOW VGT-48, SECTOR DEFENSE ADVANTAGES**

<b>SECTOR DEFENSE ADVANTAGE</b>	
<ul style="list-style-type: none"> <li>• Allows the platoon to fight throughout the depth of the sector using dispersed small-unit tactics</li> </ul>	
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Ref: FM 7-8, Chap 1, p 1-15, para 1-8d

Defense in sector maximizes the combat abilities of the infantry. It allows the platoon to fight throughout the depth of the sector using dispersed small-unit tactics.

**REMOVE VGT-48**

QUESTION: What are the disadvantages of a defense in sector?

ANSWER: See VGT-49.

Ref: FM 7-8, p 1-17, para 1-8d(6)

**SHOW VGT-49, SECTOR DEFENSE DISADVANTAGES**

**SECTOR DEFENSE  
DISADVANTAGES**

- Difficult to evacuate casualties
- Difficult to resupply ammunition and water

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Ref: FM 7-8, p 1-17, para 1-8d(6)

Casualty evacuation and resupply of ammunition and water are particularly difficult when defending this way.

**REMOVE VGT-49**

**RESHOW VGT-40, ORGANIZE A DEFENSE**

**ORGANIZE A DEFENSE**

- Reverse-Slope
- Perimeter
- Defense in Sector
- Mutually-Supporting Battle Positions

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Ref: FM 7-8, p 1-11 thru 1-18, para 1-8b thru 1-8e

The fourth type of defensive organization is the battle position defense.

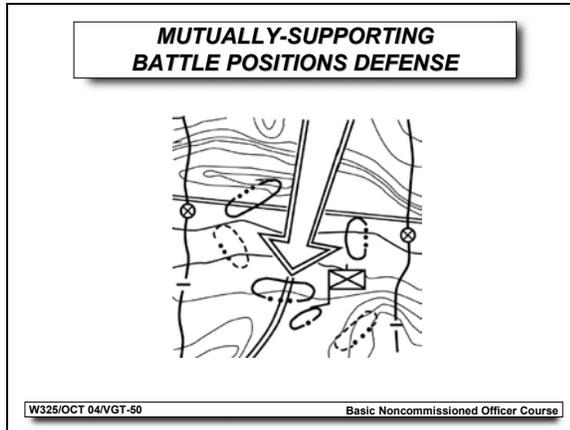
**REMOVE VGT-40**

Fighting from battle positions places the company in a more centralized and also more linear position. However, this defensive technique should not be a static defense. The defender should locate battle positions to achieve surprise and to allow maneuver within and between battle positions. It is effective in concentrating combat power into an engagement

area and it prevents the enemy from isolating one part of the company and concentrating his combat power. Normally, the company commander will assign mutually supporting battle positions that cover the enemy likely avenue of approach and locate the positions on terrain that provides cover and concealment and restricts vehicular movement.

Ref: FM 7-10, Chap 5, p 5-36, para 5-21

### **SHOW VGT-50, MUTUALLY-SUPPORTING BATTLE POSITIONS DEFENSE**



Ref: FM 7-10, p 5-37, Figure 5-15

QUESTION: What are the characteristics of a battle position defense?

ANSWER: Leaders must organize the position in depth, cover all likely avenues of approach by fire, and ensure that all positions have interlocking fires. Each position must support another position and be able to deliver fires into the flank or rear of an enemy attacking it.

Platoons and squads use this technique to concentrate firepower into a given engagement area. This technique prevents the attacker from focusing on the entire defensive scheme.

Leaders must include obstacles in the fire plan to slow and stop the enemy in the engagement area-to include extensive use of mines. Squads patrol forward of the battle position to provide security. They harass the enemy to disorganize and confuse him as to the location of the main defenses. Leaders do not locate fighting positions on likely avenues of approach.

The positioning of squads, organization of the engagement area, and fire control measures are critical to the success of this technique. Leaders position their squads in

relation to the avenue of approach. Platoon leaders use essential control measures to mass fires against the enemy within their sectors.

Ref: FM 7-8, Chap 1, p 1-17, para 1-8e

Variations of this technique include--

- Opening fire at the same time and withdrawing on command.
- Opening fire one element at a time. As the enemy orients on each element firing at them and begins to maneuver against it, other elements open fire and the original element withdraws once it is no longer receiving enemy fire. It either moves to a new position or to a rally point.
- Maneuvering to prevent the enemy from withdrawing or reinforcing.
- Designating more than one engagement area. Leaders use supplementary and on-order positions and secondary sectors of fire to mass fire into engagement areas as required.

Ref: FM 7-8, p 1-17, para 1-8e(3)

#### **REMOVE VGT-50**

QUESTION: What are the advantages of a battle position defense?

ANSWER: See VGT-51.

Ref: FM 7-10, p 5-38, para 5-21

#### **SHOW VGT-51, BATTLE POSITION DEFENSE ADVANTAGES**

<b>BATTLE POSITIONS DEFENSE ADVANTAGES</b>	
<ul style="list-style-type: none"> <li>• Surprise</li> <li>• Massed fires on enemy forces in engagement area</li> </ul>	
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Ref: FM 7-10, p 5-38, para 5-21b

When the terrain provides a large engagement area and the commander's concept allows most of the enemy into the engagement area, the company may engage with massed fires from all of the platoon battle positions.

**REMOVE VGT-51**

QUESTION: What are the disadvantages of a battle position defense?

ANSWER: See VGT-52.

Ref: FM 7-10, p 5-38, para 5-21b

**SHOW VGT-52, BATTLE POSITION DEFENSE DISADVANTAGE**

<b>BATTLE POSITIONS DEFENSE DISADVANTAGE</b>	
<ul style="list-style-type: none"> <li>• If there are still uncommitted enemy forces outside the engagement area, they will know the locations of the battle positions and will attempt to isolate them and concentrate against them</li> </ul>	
<small>W325/OCT 04/VGT-52</small>	<small>Basic Noncommissioned Officer Course</small>

Ref: FM 7-10, p 5-38, para 5-21b

A disadvantage to this technique is that if there are still uncommitted enemy forces outside the engagement area, they will know the locations of the battle positions and will attempt to isolate and concentrate against them.

**REMOVE VGT-52**

**CHECK ON LEARNING:**

QUESTION: What are the four techniques for organizing a defense?

ANSWER: Reverse-slope defense, perimeter defense, defense in sector, and mutually-supporting battle positions.

Ref: FM 7-8, p 1-11 thru 1-18, para 1-8b thru 1-8e

QUESTION: What are some advantages of a reverse-slope defense?

ANSWER: The advantages of a reverse-slope defense include--

- Enemy cannot observe position
- More freedom of movement in position

- Enemy direct fire cannot hit position
- Enemy indirect fire less effective
- Defender gains surprise
- Attack over crest breaks contact with support

Ref: Ref: FM 7-8, Chap 1, p 1-12, para 1-8b(1)

QUESTION: What is the advantage of a perimeter defense?

ANSWER: The platoon can defend against an attack from any direction

Ref: FM 7-8, Chap 1, p 1-14, para 1-8c

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**Q. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify control measures for a defense.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified control measures for a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 1-18, para 1-8f.

1. Learning Step / Activity 1. Defense Control Measures

Method of Instruction: Conference / Discussion

Technique of Delivery: Small Group Instruction (SGI)

Instructor to Student Ratio: 1:16

Time of Instruction: 10 mins

Media: VGT-53 thru VGT-55

QUESTION: What is the purpose of control measures?

ANSWER: Leaders use control measures to assign responsibilities, coordinate fires and maneuver, control combat operations, and clarify their concept of the operation. Additionally, control measures ensure the distribution of fires throughout the platoon's area of responsibility and the initial positioning and subsequent maneuver of squads.

Ref: FM 7-8, Chap 1, p 1-18, para 1-8f

QUESTION: What types of control measures defenders use in the defense?

ANSWER: See VGT-52.

Ref: FM 7-8, Chap 1, p 1-18, para 1-8f

**SHOW VGT-53, CONTROL MEASURES**

**CONTROL MEASURES**

- Graphic control measures
- Weapons control measures
- Engagement priorities

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Ref: FM 7-8, p 1-18, para 1-8f

**REMOVE VGT-53**

**SHOW VGT-54, GRAPHIC CONTROL MEASURES**

**GRAPHIC CONTROL MEASURES**

<ul style="list-style-type: none"> <li>• Sectors</li> <li>• Battle positions</li> <li>• Boundaries</li> <li>• Contact points</li> <li>• Coordination points</li> <li>• Forward edge of the battle area</li> <li>• Strongpoints</li> </ul>	<ul style="list-style-type: none"> <li>• Target reference points</li> <li>• Assembly areas</li> <li>• Phase lines</li> <li>• Passage points and lanes</li> <li>• Release points</li> <li>• Engagement areas</li> </ul>
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Ref: FM 7-8, p 1-18, para 1-8f(1)

Graphic control measures used in the defense include sectors, battle positions, boundaries, contact points, coordination points, forward edge of the battle area (FEBA), strongpoints, target reference points (TRP), assembly areas, phase lines, passage points and lanes, release points, and engagement areas.

Ref: FM 7-8, p 1-18, para 1-8f(1)

**REMOVE VGT-54**

**SHOW VGT-55, WEAPON CONTROL MEASURES**

**WEAPON CONTROL MEASURES**

- Fire commands
- Range cards
- Sectors of fire
- Principal direction of fire
- Final protective line
- Final protective fires
- Target reference points

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Ref: FM 7-8, p 1-18, para 1-8f(2)

Fire commands and control measures for individual and key weapons also constitute a type of control measure available to leaders.

Weapons control measures include range cards, sectors of fire, principle direction of fire, final protective line, final protective fires, and target reference points. Most of these appear on the range card.

In addition, leaders can give engagement priorities and fire commands to antiarmor gunners, machine gun crews, fire teams, squads, and platoons.

**REMOVE VGT-55**

**CHECK ON LEARNING:**

QUESTION: What are the three types of control measures for a defense?

ANSWER: Graphic control measures, weapons control measures and engagement priorities.

Ref: FM 7-8, Chap 1, p 1-18, para 1-8f

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**R. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify planning considerations for obstacles in a defense.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified planning considerations for obstacles in a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 1-18 thru 1-19 , para 1-8g.

## 1. Learning Step / Activity 1. Obstacle Planning

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 10 mins  
 Media: VGT-56 thru VGT-58

QUESTION: What is the purpose of obstacles in the defense?

ANSWER: Obstacles give strength to a defense when properly employed.

Ref: FM 7-8, Chap 1, p 1-18, para 1-8g

Platoons and squads incorporate existing and reinforcing obstacles into their defense and construct other obstacles systems with mines and wire.

QUESTION: What are some considerations for the use of obstacles in the defense?

ANSWER: See VGT-56.

Ref: FM 7-8, Chap 1, p 1-18, para 1-8g(1)

**SHOW VGT-56, OBSTACLE CONSIDERATIONS**

**OBSTACLE CONSIDERATIONS**

- Integrate obstacle plans with direct and indirect fire plans
- Cover obstacles by fire and observation
- Protect obstacles with antipersonnel mines, trip flares, and warning devices
- Camouflage wire or hide it in natural terrain features

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Ref: FM 7-8, Chap 1, p 1-18, para 1-8g(1)

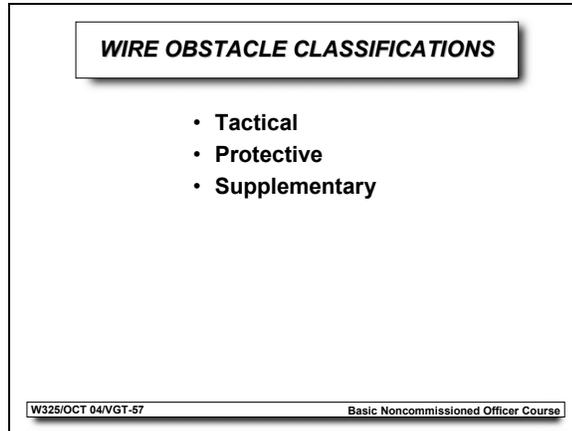
Leaders must integrate their obstacle plans with direct and indirect fire plans and with their scheme of maneuver. Platoons and squads always cover obstacles by fire and observation. They protect obstacles with antipersonnel mines, trip flares, and warning devices. They camouflage wire or hide it in natural terrain features.

**REMOVE VGT-56**

Wire obstacles have three classifications based on their use and location. Priority for

emplacement normally goes to tactical wire. Additionally, leaders can organize their obstacles so that one obstacle can serve both tactical and protective functions.

### SHOW VGT-57, WIRE OBSTACLE CLASSIFICATIONS



Ref: FM 7-8, p 1-18, para 1-8g(2)

**Tactical wire:** Platoons site tactical wire parallel to and along the friendly side of the Final Protective Lines of their major weapons. Tactical wire holds the enemy exposed to automatic rifle fire, Claymores, hand grenades, and machine gun fire.

**Protective wire:** Squads locate protective wire to prevent surprise assaults from points close to the defense area. It normally lies just outside of hand-grenade range and well within both day and night observation.

**Supplementary wire:** Platoons and squads use supplementary wire to disguise the exact line of tactical wire and to give continuity to the company obstacle plan.

Ref: FM 7-8, p 1-18, para 1-8g(2)

### REMOVE VGT-57

#### CHECK ON LEARNING:

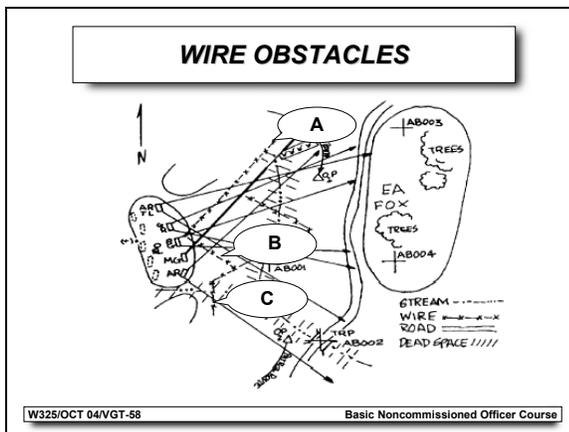
QUESTION: What are the three classifications of wire obstacles?

ANSWER: Tactical, protective, and supplementary.

Ref: FM 7-8, p 1-18, para 1-8g(2)

**NOTE:** After you show VGT-58, select students to identify the classification of the wire at each of the three lettered locations. The wire at location **A** is **tactical wire**, location **B** is **protective wire**, and location **C** is **supplementary wire**.

### SHOW VGT-58, WIRE OBSTACLES



Ref: FM 7-8, Chap 1, p 2-81, Figure 2-42

### REMOVE VGT-58

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

### S. ENABLING LEARNING OBJECTIVE

<b>ACTION:</b>	Identify security measures for a defense.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified security measures for a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 1-20, para 1-9c.

#### 1. Learning Step / Activity 1. Security Measures

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 15 mins  
 Media: VGT-59 and VGT-60

**QUESTION:** What is a security measure?

**ANSWER:** Security measures include any measure taken by platoons and squads against actions that may reduce their effectiveness.

Ref: FM 7-8, Chap 1, p 1-19, para 1-9

Security measures focus on avoiding detection by the enemy or deceiving the enemy about friendly positions and intentions as well as finding the enemy and knowing as much about his positions and intentions as possible. Security allows units to retain freedom of action and is an important part of maintaining the initiative. The requirement for security is an

inherent part of all platoon operations.

In the defense, platoons and squads use both active and passive measures to enhance security.

QUESTION: What are some active security measures?

ANSWER: See VGT-59.

Ref: FM 7-8, p 1-20, para 1-9c(1)

**SHOW VGT-59, ACTIVE SECURITY MEASURES**

**ACTIVE SECURITY MEASURES**

- Destruction of enemy reconnaissance elements
- Deception measures
- Observation posts and patrols
- Alert levels
- Stand-to times

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Ref: FM 7-8, p 1-20, para 1-9c(1)

Platoons also add to their security by actions taken to deny enemy reconnaissance elements accurate information on friendly positions. This includes the destruction of enemy reconnaissance elements and the use of deception measures.

**REMOVE VGT-59**

QUESTION: What are some passive security measures?

ANSWER: See VGT-59.

Ref: FM 7-8, p 1-20, para 1-9c(2)

**SHOW VGT-60, PASSIVE SECURITY MEASURES**

<b>PASSIVE SECURITY MEASURES</b>
<ul style="list-style-type: none"> <li>• Camouflage</li> <li>• Movement control</li> <li>• Noise and light discipline</li> <li>• Proper radiotelephone procedures</li> <li>• Ground sensors</li> <li>• Night vision devices</li> <li>• Anti-armor weapons' day and night sights</li> </ul>
<div style="display: flex; justify-content: space-between;"> <span>W325/OCT 04/VGT-60</span> <span>Basic Noncommissioned Officer Course</span> </div>

Ref: FM 7-8, p 1-20, para 1-9c(2)

**REMOVE VGT-60**

**CHECK ON LEARNING:**

QUESTION: What is a security measure?

ANSWER: Security measures include any measure taken by platoons and squads against actions that may reduce their effectiveness.

Ref: FM 7-8, Chap 1, p 1-19, para 1-9

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**T. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify procedures for conducting a defense.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified procedures for conducting a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 2-66 thru 2-70, para 2-15a thru 2-15f.

1. Learning Step / Activity 1. Conducting a Defense

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 65 mins  
 Media: VGT-61 thru VGT-71

QUESTION: What is the sequence of actions to conduct a defensive operation?

ANSWER: See VGT-60.

Ref: FM 7-8, p 2-66, para 2-15

**SHOW VGT-61, CONDUCT A DEFENSE**

**CONDUCT A DEFENSE**

- Prepare for combat
- Move to defensive positions
- Establish defensive positions
- Locate the enemy
- Initiate contact/actions on enemy contact
- Fight the defense
- Reorganize

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Ref: FM 7-8, p 2-66, para 2-15

### **REMOVE VGT-61**

**NOTE:** Use the following question and slide as a brief review of troop-leading procedures.

QUESTION: What is the sequence of actions to prepare for combat?

ANSWER: See VGT-62.

Ref: FM 7-8, p 2-66 thru 2-67, para 2-15a

### **SHOW VGT-62, PREPARE FOR COMBAT**

**PREPARE FOR COMBAT**

- Issue a warning order
- Make a tentative plan
- Conduct a leader's reconnaissance
- Complete the plan and issue the order
- Check weapons, equipment and supplies
- Camouflage
- Rehearse critical tasks
- Initiate movement

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Ref: FM 7-8, p 2-66 thru 2-67, para 2-15a

The platoon leader receives the company warning or operation order and:

- Quickly issues a warning order.
- Begins making a tentative plan based on his estimate of the situation and an analysis of METT-TC.

- Reconnoiters the defensive position and the route(s) to it (when possible).  
The leader's reconnaissance party should always include a security team (minimum of two soldiers). The leader's reconnaissance:
  - Maintains security.
  - Checks for enemy positions, or signs of past enemy activities, obstacles, booby traps, and NBC contamination.
  - Confirms/adjusts squad positions and sectors of fire from those in the tentative plan. (Normally the platoon leader assigns and adjusts machine guns and anti-armor positions.) The platoon leader revises his plan as necessary based on a further assessment of METT-TC.
  - As the reconnaissance party returns to the platoon, the platoon leader posts guides along the route to maintain security and help the platoon move into the position.
- Based on his reconnaissance, and any additional information, completes and issues the plan.
- All squad leaders check (the platoon sergeant spot checks) weapons, communications equipment and accessories for missing items (squad and individual) and serviceability.
- The platoon sergeant makes sure that the platoon has ammunition, food, water, and medical supplies on hand, in quantities prescribed by the platoon leader. Squads and platoons should plan to pre-stock an additional basic load of ammunition on the defensive position.
- All soldiers camouflage themselves and their equipment to blend with the terrain.
- The platoon rehearses critical tasks first.
- The platoon leader makes final inspection of weapons (test fires weapons, if

possible), equipment (include communications checks), and personnel (include camouflage). The platoon sergeant closely monitors the soldiers' load to ensure that they pack the standard items in accordance with the platoon SOP and that the load is not excessive.

- If the platoon uses an advance party, the platoon leader, platoon sergeant, and advance party leader (normally a squad leader) review advance party activities and redistribute equipment to the advance party (for example, tripods, stakes).
- If not already moving, the platoon leader initiates the movement of his platoon.

**REMOVE VGT-62**

QUESTION: What are the primary considerations for movement to the defensive position?

ANSWER: See VGT-63.

Ref: FM 7-8, p 2-67, para 2-15b

**SHOW VGT-63, MOVE TO A DEFENSIVE POSITION**

***MOVE TO A DEFENSIVE POSITION***

- Move on covered and concealed routes
- Avoid likely ambush sites
- Enforce camouflage, noise, and light discipline
- Maintain all-round security, to include air guards
- Use formations and movement techniques based on METT-TC

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Ref: FM 7-8, p 2-67, para 2-15b

**REMOVE VGT-63**

QUESTION: How should the platoon/squad occupy a defensive position?

ANSWER: See VGT-64.

Ref: FM 7-8, p 2-67, para 2-15c

**SHOW VGT-64, OCCUPY A DEFENSIVE POSITION**

<b>OCCUPY A DEFENSIVE POSITION</b>	
<ul style="list-style-type: none"> <li>• Halt short of position</li> <li>• Link up with security team on position</li> <li>• Guides control movement into position</li> <li>• Perform tasks in the stated priority of work</li> </ul>	
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Ref: FM 7-8, p 2-67, para 2-15c

- The platoon halts short of the defensive position in a covered and concealed position, and establishes local security.
- The platoon leader and squad leaders and a security team (minimum of two soldiers) move forward to link up with the security team on the position.
- The squad leaders return to the platoon and move their squads forward.
- The platoon occupies the designated position. Guides control the movement of the platoon into position.
- As the platoon occupies its position, the platoon leader ensures that the platoon performs all tasks in the **stated priority of work**.

#### **REMOVE VGT-64**

The platoon's priority of work is a list of tasks that the leader uses to control what gets done by whom and in what order in the preparation of the defense. These tasks are normally part of the platoon SOP. The platoon leader will adjust the priority of work based on his consideration of the factors of METT-TC and on his and his higher commander's intent. The platoon's normal priority of work is--

NOTE: Have students compare the steps in the priority of work for a defensive position from FM 7-8, pp 2-84 and 2-85, para 2-25 with the previously referenced priority of work for an assembly area from FM 7-7, p Q-7, para Q-3. Emphasize that although the procedures are generally the same, FM 7-8 provides more detail and attention to detail wins battles.

#### **SHOW VGT-65, PRIORITY OF WORK FOR A DEFENSIVE POSITION**

<b><i>PRIORITY OF WORK FOR A DEFENSIVE POSITION</i></b>	
<ul style="list-style-type: none"> <li>• Establish local security</li> <li>• Position antiarmor weapons, machine guns, and squads and assign sectors of fire.</li> <li>• Position other assets attached to the platoon.</li> <li>• Establish the CP and wire communications.</li> <li>• Designate final protective lines (FPLs) and final protective fires (FPFs).</li> <li>• Clear fields of fire and prepare range cards and sector sketches.</li> <li>• Coordinate with adjacent units—left, right, forward, and to the rear.</li> <li>• Prepare primary fighting positions.</li> <li>• Emplace obstacles and mines.</li> </ul>	
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Ref: FM 7-8, pp 2-84 and 2-85, para 2-25

**REMOVE VGT-65**

**SHOW VGT-66, PRIORITY OF WORK FOR A DEFENSIVE POSITION (cont)**

<b><i>PRIORITY OF WORK FOR A DEFENSIVE POSITION (cont)</i></b>	
<ul style="list-style-type: none"> <li>• Mark or improve marking for target reference points (TRPs) and other fire control measures.</li> <li>• Improve primary fighting positions such as overhead cover.</li> <li>• Prepare alternate positions, then supplementary positions.</li> <li>• Establish a sleep and rest plan.</li> <li>• Reconnoiter routes.</li> <li>• Rehearse engagements, disengagements, and any counterattack plans.</li> <li>• Adjust positions or control measures as required.</li> <li>• Stockpile ammunition, food, and water.</li> <li>• Dig trenches to connect positions.</li> <li>• Continue to improve positions.</li> </ul>	
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Ref: FM 7-8, pp 2-84 and 2-85, para 2-25

**REMOVE VGT-66**

QUESTION: In addition to tasks in the stated priority of work, what additional tasks should the leader perform?

ANSWER: See VGT-66.

Ref: FM 7-8, p 2-67, para 2-15c

**SHOW VGT-67, ADDITIONAL LEADER TASKS**

<b>ADDITIONAL LEADER TASKS</b>	
<ul style="list-style-type: none"> <li>• Walk forward of position to check camouflage and confirm dead space</li> <li>• Check wire and mines</li> <li>• Brief resupply and casualty evacuation routes</li> <li>• Check soldier knowledge of friendly troops forward of position</li> <li>• Check soldier knowledge of signals or conditions to initiate actions</li> </ul>	
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Ref: FM 7-8, p 2-67, para 2-15c

Additionally, the platoon leader--

- Walks forward of positions, if possible to check camouflage and confirm dead space. The most important aspect of infantry fighting positions is that the enemy cannot see them until it is too late.
- Checks on wire and mine teams. The platoon leader ensures that protective wire is outside of hand-grenade range from the fighting positions and tactical wire lies along the friendly side of the final protective line (FPL).
- Briefs the platoon sergeant on the logistics plan (include resupply and casualty evacuation routes).
- Issues finalized platoon order and checks soldier knowledge and understanding.
  - All soldiers must be aware of friendly units forward of the position [for example, patrols, scouts] and their return routes.
  - Soldiers must also know the signals or conditions to initiate, shift, fire final protective, and cease fires, and to reposition to alternate and supplementary positions.

The platoon improves the position continuously.

**REMOVE VGT-67**

QUESTION: What techniques does the platoon/squad employ to locate the enemy?

ANSWER: See VGT-68.

Ref: FM 7-8, p 2-68, para 2-15d

**SHOW VGT-68, LOCATE THE ENEMY**

**LOCATE THE ENEMY**

- Observation posts
- Patrols
- Night surveillance devices
- Binoculars
- Early warning devices

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Ref: FM 7-8, p 2-68, para 2-15d

**NOTE:** FM 7-8 refers to the AN/TRS-2(V) PEWS. The Platoon Early Warning System consists of ten detector anti-intrusion devices, two radio receivers, two interface wire links and other accessories packaged in two carrying bags. This system is not available in all units and the slide uses the generic term “early warning devices”.

The platoon establishes and maintains observation posts and conducts security patrols as directed by the company commander. Patrols, observation posts, and individual soldiers look and listen. They use night surveillance devices, binoculars, and early warning devices to detect the enemy approach.

**REMOVE VGT-68**

QUESTION: Once the unit detects the enemy, what actions should the unit take?

ANSWER: See VGT-69.

Ref: FM 7-8, p 2-68, para 2-15e

**SHOW VGT-69, ACTIONS ON ENEMY CONTACT**

<p><b>ACTIONS ON ENEMY CONTACT</b></p> <ul style="list-style-type: none"> <li>• Alert subordinate leaders</li> <li>• Report situation</li> <li>• Call in observation posts</li> <li>• Call for indirect fire</li> <li>• Initiate long-range direct fires</li> </ul>
<p><small>W325/OCT 04/VGT-69</small> <span style="float: right;"><small>Basic Noncommissioned Officer Course</small></span></p>

Ref: FM 7-8, p 2-68, para 2-15e

Once the platoon detects the enemy, the platoon leader--

- Alerts the squad leaders, platoon sergeant, and his forward observer.
- Reports the situation to the company commander.
- Calls in observation posts. The squad leader or platoon leader may decide to leave the observation posts in place if the soldiers manning them can provide effective flanking fires, their positions afford them adequate protection, and or their return will compromise the platoon's position.
- Calls for and adjusts indirect fire when the enemy is at maximum range.
- Initiates the long-range direct fires of his platoon on command from the company commander.
- Leaders and individual soldiers return to their positions and prepare to fire on command from the platoon leader.

Ref: FM 7-8, p 2-68, para 2-15e

**REMOVE VGT-69**

QUESTION: How should the unit continue the defense?

ANSWER: The platoon leader determines if the platoon can destroy the enemy from its assigned positions.

Ref: FM 7-8, p 2-68, para 2-15f

**SHOW VGT-70, FIGHT THE DEFENSE**

<p><b><i>FIGHT THE DEFENSE</i></b></p> <p>Can the platoon destroy the enemy from its assigned positions?</p> <p><b>YES:</b></p> <ul style="list-style-type: none"> <li>• Continue to defend until the platoon repels the enemy or the commander orders the platoon to withdraw</li> </ul>
<p><small>W325/OCT 04/VGT-70</small> <span style="float: right;"><small>Basic Noncommissioned Officer Course</small></span></p>

Ref: FM 7-8, p 2-68, para 2-15f

If the answer is **YES**, the platoon continues to fight the defense—

- The platoon leader, or FO, continues to call for indirect fires as the enemy approaches. The platoon normally begins engaging the enemy at maximum effective range. It attempts to mass fires and initiate them simultaneously to achieve surprise. Long-range fires tied-in with obstacles should disrupt his formations; channelize him toward engagement areas; prevent, or severely limit his ability to observe the location of friendly positions; and destroy him as he attempts to breach tactical obstacles.
- Leaders control fires using standard commands, pyrotechnics, and other prearranged signals. The platoon increases the intensity of fires as the enemy closes within range of additional weapons. Squad leaders work to achieve a sustained rate of fire from their positions by having buddy teams fire their weapons so that both are not reloading them at the same time. In controlling and distributing fires, the platoon and squad leaders consider:
  - The range to the enemy.
  - Priority targets (what to fire at, when to fire, and why).
  - Nearest or most dangerous targets.
  - Shifting to concentrate fires on their own or as directed by higher headquarters.

- Ability of the platoon to engage dismounted enemy with enfilading, grazing fires.
- Ability of the platoon's anti-armor weapon to achieve flank shots against enemy vehicles.
- As the enemy closes on the platoon's protective wire, the platoon leader initiates final protective fires the following actions occur simultaneously:
  - Machine guns and automatic weapons fire along interlocking principle direction of fire (PDF), or final protective lines (FPL) as previously designated and planned. Other weapons fire at designated principle direction of fires. M203 grenade launchers engage enemy in dead space or against enemy attempts to breach protective wire.
  - The platoon continues to fight with Claymores and hand grenades.
  - If applicable, the platoon leader requests indirect final protective fires (FPF) if any are available to support his positions.
- The platoon continues to defend until it repels the enemy, or the company commander orders the platoon to disengage.

Ref: FM 7-8, p 2-68, para 2-15f

**REMOVE VGT-70**

**SHOW VGT-71, FIGHT THE DEFENSE (cont)**

***FIGHT THE DEFENSE (cont)***

Can the platoon destroy the enemy from its assigned positions?

**NO:**

- Report situation
- Continue to engage or reposition as directed

W325/OCT 04/VGT-71
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Ref: FM 7-8, p 2-69, para 2-15f

If the answer is **NO**, the platoon leader--

- Reports the situation to the company commander.
- Continues to engage the enemy or repositions the platoon (or squads of the platoon) only when directed by the company commander to--
  - Continue fires into the platoon sector (engagement area).
  - Occupy supplementary positions.
  - Reinforce other parts of the company.
  - Counterattack locally to retake lost fighting positions.
  - Withdraw from an untenable position using fire and movement to break contact. The platoon leader does not move his platoon out of position if it will destroy the integrity of the company defense. The unit must thoroughly rehearse all movements and actions to reposition squads and platoons.
- In any movement out of a defensive position, the platoon **MUST** employ all direct and indirect fire means available to suppress the enemy long enough for the unit to move.

Ref: FM 7-8, p 2-69, para 2-15f

### **REMOVE VGT-71**

#### 2. Learning Step / Activity 2. Practical Exercise/Solution

Method of Instruction: Practical Exercise (Performance)

Technique of Delivery: Small Group Instruction (SGI)

Instructor to Student Ratio: 1:16

Time of Instruction: 20 mins

Media: PE-4

**NOTE:** Inform the students that this practical exercise supports ELO T.

- Hand out Practical Exercise 4 (see Appendix C). Give the students 5 minutes to complete the exercise working alone without the reference.
- After 5 minutes, break class into 3 groups. Give the groups 5 minutes to consolidate individual solutions and prepare a group solution to the practical exercise.

- After 10 minutes, have each group briefly present its solution and assist the students in resolving any differences between the groups.
- Pass out the Solution to Practical Exercise 4 and have the groups check their solutions.

**CHECK ON LEARNING:** PE-4 serves as the check on learning for this learning objective.

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**U. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify procedures for consolidating and reorganizing.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.
<b>STANDARDS:</b>	Identified procedures for consolidating and reorganizing by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 2-70, para 2-15g and p 1-11, para 1-8a(7).

1. Learning Step / Activity 1. Consolidate and Reorganize

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 20 mins  
 Media: VGT-72 and VGT-73

Platoons and squads must be able to reorganize quickly to continue the defense against follow-on forces.

Ref: FM 7-8, p 1-11, para 1-8a(7)

**QUESTION:** What are the steps to consolidate and reorganize the platoon following a successful defense?

**ANSWER:** See VGT-72.

Ref: FM 7-8, p 2-70, para 2-15g

**SHOW VGT-72, CONSOLIDATE AND REORGANIZE**

<b>CONSOLIDATE AND REORGANIZE</b>	
<p>The Platoon:</p> <ul style="list-style-type: none"> <li>• Reestablishes security.</li> <li>• Mans key weapons.</li> <li>• Provides first aid and prepares wounded soldiers for MEDEVAC.</li> <li>• Repairs damaged obstacles and replaces mines (Claymore) and booby traps.</li> <li>• Redistributes ammunition and supplies.</li> <li>• Relocates selected weapons to alternate positions if leaders believe that the enemy may have pinpointed them during the attack. Adjusts other positions to maintain mutual support.</li> <li>• Reestablishes communications.</li> <li>• Reoccupies and repairs positions, and prepares for renewed enemy attack.</li> </ul>	
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Ref: FM 7-8, p 2-70, para 2-15g

The platoon--

- Reestablishes security.
- Mans key weapons.
- Provides first aid and prepares wounded soldiers for MEDEVAC.
- Repairs damaged obstacles and replaces mines (Claymore) and booby traps.
- Redistributes ammunition and supplies.
- Relocates selected weapons to alternate positions if leaders believe that the enemy may have pinpointed them during the attack. Adjusts other positions to maintain mutual support.
- Reestablishes communications.
- Reoccupies and repairs positions, and prepares for renewed enemy attack.

**REMOVE VGT-72**

**SHOW VGT-73, CONSOLIDATE AND REORGANIZE (cont)**

<p><b>CONSOLIDATE AND REORGANIZE</b> <b>(cont)</b></p> <p>Squad and team leaders: Provide ammunition, casualty, and equipment (ACE) reports to the platoon leader.</p> <p>The platoon leader:</p> <ul style="list-style-type: none"> <li>• Reestablishes the platoon chain of command.</li> <li>• Consolidates squad ACE and provides ACE report to the company commander.</li> </ul> <p>The platoon sergeant: Coordinates for resupply and supervises the execution of the casualty and EPW evacuation plan.</p> <p>The platoon: Continues to improve positions. The platoon quickly reestablishes observation posts (OPs) and resumes patrolling as directed.</p>
<p><small>W325/OCT 04/VGT-73</small> <span style="float: right;"><small>Basic Noncommissioned Officer Course</small></span></p>

Ref: FM 7-8, p 2-68, para 2-15e

Squad and team leaders provide ammunition, casualty, and equipment (ACE) reports to the platoon leader.

The platoon leader:

- Reestablishes the platoon chain of command.
- Consolidates squad ACE and provides ACE report to the company commander.

The platoon sergeant coordinates for resupply and supervises the execution of the casualty and EPW evacuation plan.

The platoon continues to improve positions. The platoon quickly reestablishes observation posts (OPs) and resumes patrolling as directed.

Ref: FM 7-8, p 2-70, para 2-15g

### **REMOVE VGT-73**

### **CHECK ON LEARNING:**

QUESTION: Why must platoons and squads be able to reorganize quickly?

ANSWER: Platoons and squads must be able to reorganize quickly to continue the defense against follow-on forces.

Ref: FM 7-8, p 1-11, para 1-8a(7)

**NOTE:** Inform the students of the Enabling Learning Objective requirements.

**V. ENABLING LEARNING OBJECTIVE**

<b>ACTION:</b>	Identify the planning considerations for a defense in urban terrain.
<b>CONDITIONS:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 3-06.11.
<b>STANDARDS:</b>	Identified the planning considerations for a defense in urban terrain by correctly answering questions pertaining to the subject matter IAW FM 3-06.11, pp 5-43 thru 5-48, para 5-29 thru 5-30.

1. Learning Step / Activity 1. Defense in an Urban Area

Method of Instruction: Conference / Discussion  
 Technique of Delivery: Small Group Instruction (SGI)  
 Instructor to Student Ratio: 1:16  
 Time of Instruction: 20 mins  
 Media: VGT-74 thru VGT-76

In urban areas, buildings provide cover and concealment, limit fields of observation and fire, and restrict the movement of troops and armored vehicles. This section covers the key planning considerations, weapons selection, preparations, and the construction of a platoon/squad defensive position in an urban area.

Planning the defense begins when the leader receives a mission or determines a requirement to defend such as during consolidation and reorganization after an assault.

The leader must use terrain wisely and designate a point of main effort. He chooses defensive positions that force the enemy to make costly attacks or conduct time consuming maneuvers to avoid them. A position that the enemy can readily avoid has no defensive value unless the defender can induce the enemy to attack it. The defense, no less than the offense, should achieve surprise.

As platoon and squad leaders conduct their troop-leading procedures, they also have to consider civilians, rules of engagement (ROE), limited collateral damage, and coordination with adjacent units to eliminate the probability of fratricide. Maneuver, methods, and courses of action in establishing defensive positions in and around urbanized terrain are METT-TC intensive.

**QUESTION:** What is the platoon/squad's focus for defending in an urban area?

**ANSWER:** The squad's and platoon's focus for defending in an urban area is the retention of terrain.

Ref: FM 3-06.11, p 5-43, para 5-29a

As with most defensive scenarios, the squad and platoon will defend as part of the company. The platoon will either be given a sector to defend or a battle position to occupy and the platoon leader must construct his defense within the constraints given to him.

QUESTION: What is one of the platoon/squad's most common defensive tasks in an urban area?

ANSWER: One of the most common defensive tasks for a platoon during urban operations is to conduct a strongpoint defense of a building, part of a building, or a group of small buildings as part of a company's mission.

Ref: FM 3-06.11, p 5-43, para 5-29b

The platoon leader organizes the strongpoint defense by positioning personnel and their weapons systems to maximize their capabilities and incorporates supporting fires into the overall defensive plan to provide depth to the engagement area.

The platoon leader organizes the defense into a series of individual, team, and squad fighting positions located to cover avenues of approach and obstacles, and to provide mutual support in order to repel the enemy advance. If available, the platoon should position snipers to support the commander's intent and to allow for the opportunity to engage C2 and key targets.

Depending on the length of the mission, the platoon should stockpile munitions (especially grenades), food and water, medical supplies, and fire-fighting equipment.

A critical platoon/squad-level defensive task during defensive urban operations is the preparation of fighting positions. General defensive considerations in urban terrain are similar to any other defensive operations. Defenders in urban areas usually construct fighting positions inside buildings and select positions based on an analysis of the building's location, the individual characteristics of the building, and the characteristics of the available weapons systems.

QUESTION: What is the priority of work for establishing a defensive position in an urban area?

ANSWER: See VGT-74.

Ref: FM 3-06.11, p 5-43, para 5-30

**SHOW VGT-74, PRIORITY OF WORK**

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"><b>PRIORITY OF WORK</b></div> <ul style="list-style-type: none"> <li>• Establish security</li> <li>• Assign areas of responsibility</li> <li>• Clear fields of fire</li> <li>• Select and prepare initial fighting positions</li> <li>• Establish communications</li> <li>• Emplace obstacles and mines</li> <li>• Improve fighting positions</li> <li>• Establish and mark routes between positions</li> </ul>
<div style="display: flex; justify-content: space-between;"> <span>W325/OCT 04/VGT-74</span> <span>Basic Noncommissioned Officer Course</span> </div>

Ref: FM 3-06.11, p 5-43, para 5-30

Priorities of work in during defensive operations in urban areas are basically the same as for other defensive operations with some additional considerations for a defense on urbanized terrain.

**Establish security:** Units should quickly establish all-round security by placing forces on likely avenues of approach. METT-TC factors determine the level of security (50 percent, 30 percent, and so forth). While the unit is establishing security, it needs to identify and evacuate civilians located within the defensive area.

**Assign areas of responsibility:** Units normally assign boundaries to define sectors of responsibility including areas where units may fire and maneuver without interference or coordination with other units. In urban areas, the rules for establishing boundaries are:

- Boundaries should never split responsibility for primary avenues of approach.
- In areas of semidetached construction, where observation and movement are less restricted, units should establish boundaries along alleys or streets to include both sides of a street in a single sector.
- Where buildings present a solid front along streets, boundaries may have to extend to one side of the street.
- Commanders and leaders should specify which buildings comprise the battle positions or strongpoints.

- Commanders and leaders should clearly designate positions so that no doubt remains as to which elements have responsibility for occupation or control.

**Clear fields of fire:** In urban areas, units may need to rubble certain buildings and structures to provide greater protection and fields of fire to the defender. If the ceiling of a lower-story room can support the weight of the rubble, collapsing the top floor of a building before the battle starts may afford better protection against indirect fires. Rubbling an entire building can increase the fields of fire and create an obstacle to enemy movement but prior planning must be extensive so that rubbled buildings will not interfere with planned routes of withdrawal or counterattack. Units may also need to move vehicles or wrecks to clear fields of fire.

**Select and prepare initial fighting positions:** Units should select positions in depth, prepare positions as soon as troops arrive and continue preparing as long as positions are occupied. Enemy infiltration or movement sometimes occurs between and behind friendly positions. Therefore, the defender must organize each position for all-round defense. When preparing positions, the defender should:

- Make minimum changes to the outside appearance of buildings that contain positions.
- Screen or block windows and other openings to keep the enemy from seeing in or tossing in hand grenades.
- Remove combustible material to limit the danger of fire. Fires are dangerous to defenders and create smoke that could conceal attacking troops. Defenders should remove all flammable materials and stockpile fire-fighting equipment (water, sand, and so forth). The danger of fire also influences the type of ammunition used in the defense. Defenders should not use tracers or incendiary rounds extensively if threat of fire exists.
- Turn off electricity and gas. Both propane and natural gas are explosive. Natural gas is also poisonous, displaces oxygen, and a protective mask does not filter it. Propane gas, although not poisonous, is heavier than air. If it

leaks into an enclosed area, it displaces the oxygen and causes suffocation. Defenders should shut off gas mains and electricity at the facility that serves the urban area.

- Locate positions so as not to establish a pattern. Units should avoid obvious firing locations like towers and buildings prohibited for use by the Law of Land Warfare, such as churches.
- Camouflage positions.
- Reinforce positions with all materials available such as mattresses, furniture, and so forth. Defenders must be cautious when using materials such as mattresses and fabric furniture because they are flammable. Filling drawers and cabinets with earth or sand can provide cover. Defenders can also place vehicles, such as trucks or buses, over positions outside buildings. Before using vehicles, defenders should drain flammable fluids, remove flammables interior items such as seats, and fill gas tanks with water.
- Block stairwells and doorways with wire or other material to prevent enemy movement.
- Create holes between floors and rooms to allow covered and concealed movement within a building.
- Prepare range cards, fire plans, and sector sketches.
- Look at emplacing machine guns in basements if they can achieve grazing fire from basement windows and seal unused basements to prevent enemy entry.
- Cache resupply of ammunition, water, and medical supplies.

**Establish communications:** Commanders should consider the effects of urban areas on communications when they allocate time to establish communications because the time needed to establish an effective communications system in urban terrain may be greater than in other terrain. In urban areas, line-of sight limitations affect both visual and radio

communications; wire laid at street level is easily damaged by rubble and vehicle traffic; and the noise of urban area combat is much louder than in other areas, making sound signals difficult to hear. Units should consider the following techniques when planning for communications:

- Emplace line of sight radios and retransmission sites on the upper floors of buildings.
- Use existing telephone systems. However, telephones are not secure even though many telephone cables are underground.
- Use messengers at all levels since they are the most secure means of communications.
- Lay wire through buildings for maximum protection, if the assets are available.

**Emplace obstacles and mines:** To save time and resources in preparing the defense, commanders must emphasize using all available materials (automobiles, railcars, rubble) to create obstacles.

- The principles for employing mines and obstacles do not change in the defense of an urban area; however, the techniques do change. For example, it is difficult to bury and conceal mines in concrete and asphalt street. Instead, defenders should consider hiding mines in sandbags and using fake mines placed in sandbags in order to deceive the enemy.

NOTE: FASCAM is an acronym for Family of Scatterable Mines. Scatterable mine systems enable tactical commanders to emplace minefields in enemy held terrain, contaminated territory, or in other areas where it is not possible to emplace conventional minefields.

- FASCAM may be effective on the outskirts of an urban area or in parks; however, in a city core, areas may be too restrictive. Units must follow the rules of engagement when emplacing mines and obstacles. Antipersonnel mines must be command-detonated. Units may employ riot control agents to control noncombatant access into defensive areas, if the National Command Authority (NCA) grants permission.

**Improve fighting positions:** When time permits, defenders should reinforce all

positions, to include supplementary and alternate positions, with sandbags and provide overhead cover. Attached engineers can help in this effort by providing advice and assisting with construction.

**Establish and mark routes between positions:** Reconnaissance by all defending elements will assist in route selection for use by defenders moving between positions. Movement is crucial in fighting in urban areas. Early selection and marking of routes adds to the defender's advantages. Improve and mark movement routes between positions as well as to alternate and supplementary positions. Improve routes by digging trenches, if possible; using sewers and tunnels; creating entry holes; and positioning ropes and ladders for ascending and descending.

**REMOVE VGT-74**

**SHOW VGT-75, URBAN DEFENSE CONSIDERATIONS**

**URBAN DEFENSE  
CONSIDERATIONS**

- Security
- Protection
- Dispersion
- Concealment
- Fields of fire
- Covered routes
- Observation
- Fire hazard
- Tag lines
- Time

W325/OCT 04/VGT-75
Basic Noncommissioned Officer Course

Ref: FM 3-06.11, p 5-44 thru 5-45, para 5-30b

The leader must also consider the following when establishing a defensive position.

**Security:** The first priority is establishing all-around security. Each position should have at least one soldier providing security during all preparations.

**Protection:** Select buildings that provide protection from direct and indirect fires. Reinforced concrete buildings with three or more floors provide suitable protection while buildings constructed of wood, paneling, or other light material require additional reinforcement to provide sufficient protection. One- and two-story buildings without a strongly

constructed cellar are vulnerable to indirect fires and require construction of overhead protection for each fighting position. If possible, use materials gathered from the immediate area to build the overhead cover.

**Dispersion:** A platoon should establish a position in a single building when it is possible to occupy two or more buildings that permit mutually supporting fires. A position in one building without mutual support is vulnerable to bypass, isolation, and subsequent destruction from any direction.

**Concealment:** Do not select buildings that are obvious defensive positions easily targeted by the enemy. If the requirements for security and fields of fire dictate the occupation of exposed buildings, the platoon must add reinforcement materials to the building to provide suitable protection to the troops inside.

**Fields of Fire:** To prevent isolation, individual and crew-served weapons positions should be mutually supporting and have fields of fire in all directions. If possible, try to maintain the natural appearance of the surrounding area when clearing fields of fire. Removing objects that interfere with the gunner's field of vision may be necessary.

**Covered Routes:** The platoon should establish at least one covered and concealed route from the building for resupply, medical evacuation, reinforcement, or withdrawal. The platoon can establish the route using underground systems, communications trenches, or walls and buildings that allow covered movement.

**Observation:** Positions in buildings should permit observation of enemy avenues of approach and adjacent defensive sectors. Upper stories offer the best observation but also attract enemy fire.

**Fire Hazard:** If possible, avoid selecting positions in buildings that are obvious fire hazards. If the platoon must occupy these flammable structures, soldiers can reduce the danger of fire by wetting down the immediate area, laying an inch of sand on the floors, and providing fire extinguishers and fire fighting equipment. Ensure that each defender is familiar with the withdrawal routes and that they have the opportunity to rehearse their withdrawal using these planned routes in the event of fire.

**Tag Lines:** Tag lines are a flexible handhold used to guide individuals along a route. Tag lines aid in navigation and movement when operating in confined spaces such as buildings, tunnel systems and caverns with limited visibility and where soldiers can lose their sense of direction. When preparing defensive positions inside buildings, tag lines can be run from each fighting position back to the command post, or along an egress route. Platoons can make these lines from rope, string, cable, wire and so forth. The most effective item to be used as a tag line is WD-1A communications wire. Along with serving as a tag line wire can be the primary means of communication between individual fighting positions and leader's positions.

**Time:** Time is the one element in METT-TC that the platoon and its leaders have no control over. The most important factor to consider when planning the use of time is to provide subordinate leaders with two-thirds of all available time. The unit tactical SOP provides the leaders with their priorities when time does not allow for detailed planning. The platoon will complete defensive preparation IAW the TACSOP and the commander's operational priorities.

#### **REMOVE VGT-75**

The platoon will normally prepare individual fighting positions inside the buildings the platoon defends. Parts of a building may require additional defensive preparation.

#### **SHOW VGT-76, ADDITIONAL DEFENSIVE PREPARATIONS**

<b><i>ADDITIONAL DEFENSIVE PREPARATIONS</i></b>	
<ul style="list-style-type: none"> <li>• Basements and ground floors</li> <li>• Upper floors</li> <li>• Interior routes</li> <li>• Fire prevention</li> <li>• Communications</li> <li>• Rubbling</li> <li>• Rooftops</li> <li>• Obstacles</li> <li>• Fields of fire</li> <li>• Antitank weapons positions</li> </ul>	
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Ref: FM 3-06.11, p 5-45 thru 5-49, 5-30d

**Basements and ground floors:** Any underground system not used by the defender that could provide enemy access to the position must be blocked. Soldiers should lock or nail shut any unused **doors**. Soldiers can also block and barricade unused doors with furniture, sandbags, or other field expedients. If not required for the defender's movement, the defender should block **hallways** with furniture and tactical wire. The defender should also block unused **stairs** with furniture and tactical wire. If possible, soldiers should block all stairs and use ladders to move from floor to floor being careful to remove the ladders after each use. Soldiers should also remove all glass from **windows** and block unused windows with boards or sandbags to prevent observation and access. Make fighting positions in the **floors**. If there is no basement, fighting positions can give additional protection from heavy direct-fire weapons. Erect support for **ceilings** that otherwise would not withstand the weight of fortified positions or rubble from upper floors. Block **rooms** not required for defense with tactical wire.

**Upper floors:** Upper floors require the same preparation as ground floors. Soldiers need not block windows, but should cover them with wire mesh, canvas, ponchos, or other heavy material, to prevent the enemy from throwing grenades in from the outside. The covering should be loose at the bottom to permit the defender to drop grenades.

**Interior routes:** Defending fire teams and squads require routes that permit movement within the building to engage enemy forces from any direction. Defenders should also plan and construct escape routes to permit rapid evacuation of a room or a building. Defenders should make mouseholes through interior walls to permit movement between rooms and mark the holes to enable defenders to easily locate them during day and night conditions. Leaders should brief all personnel on the location of various routes and conduct rehearsals to familiarize everyone with the routes.

**Fire prevention:** Buildings that have wooden floors and rafter ceilings require extensive fire prevention measures. Cover the attic and other wooden floors with about one to two inches of sand or dirt, and position buckets of water for immediate use. Place fire-fighting materials (dirt, sand, fire extinguishers, and blankets) on each floor for immediate use. Fill water basins and bathtubs as a reserve for fire fighting. Turn off all electricity and gas. If

available, use any existing fire extinguishers found in buildings.

**Communications:** Conceal radio antennas by placing them among civilian television antennas, along the sides of chimneys and steeples, or out of windows that would direct FM communications away from enemy early-warning sources and ground observation. Lay wire through adjacent buildings or underground systems or bury them in shallow trenches. Lay wire communications within the building through walls and floors.

**Rubbling:** If they have the authority and the ROE permit, commanders may rubble buildings to increase fields of fire. However, rubbing the buildings too soon or rubbing too many may disclose exact locations and destroy cover from direct fire. Because rubbing may take more resources than are available to units, commanders must carefully consider available resources before rubbing. Additionally, commanders must take care not to rubble areas that are necessary to support operations, such as main supply routes (MSRs). Engineers normally assist in rubbing buildings and will usually employ explosives and engineer equipment to accomplish this task. If available, units can use armored vehicles to rubble buildings.

**Rooftops:** Platoons must position obstacles on the roofs of flat-topped buildings to prevent helicopters from landing and to deny troops from gaining access to the building from the roof. Cover rooftops that are accessible from adjacent structures with tactical wire or other expedients and guard them. Block entrances to buildings from rooftops if compatible with the overall defensive plan. Remove or block the structure on the outside of a building that could aid the attacker in scaling the building to gain access to upper floors or to the rooftop.

**Obstacles:** Position obstacles adjacent to buildings to stop or delay vehicles and infantry. To save time and resources in preparing the defense, platoon leaders must allow the use of all available materials, such as automobiles, railcars, and rubble, to create obstacles. Defenders can tie vehicles together by running poles through their windows. Leaders must supervise the construction of obstacles to ensure integration with buildings and rubble areas to increase effectiveness, and to canalize the enemy into engagement areas the leader selects. Direct support engineers can provide advice and resources as to the employment of

obstacles and mines.

**Fields of fire:** The field of fire is the area a weapon or group of weapons may cover effectively with fire from a given position. After the leaders select defensive positions and the individuals have occupied their assigned positions, they will determine what clearance is necessary to maximize their field of fire. Leaders and individuals must view fields of fire from the fighting position and from the view of the enemy. Defenders must do only selective clearing to improve the field of fire. If necessary, the defenders will relocate a position to attain the desired field of fire. Within the field of fire leaders will designate a primary and an alternate sector of fire for each weapons system. Each weapons system has unique requirements for its field of fire, and the platoon and squad leaders must ensure the weapon's position meets these requirements. Leaders must check each position to ensure that the fields of fire provide the maximum opportunity for target engagement and to determine any dead space within the sector of fire.

**Antitank weapons positions:** Employ antitank weapons in areas that maximize their capabilities in the urban area. The lack of a protective transport could require the weapon to be fired from inside a building, from behind the cover of a building, or from behind the cover of protective terrain. Leaders should make every effort to employ antitank weapons in pairs so they can engage the same target from different positions. Another consideration is security for the crew and system. This is necessary to allow the gunner to concentrate on locating and engaging enemy armor.

**Snipers:** Snipers give the platoon a force multiplier by providing an overwatch capability and by engaging enemy command and control (C2) targets. Snipers normally operate in a two-man team, which provides the shooter with security and another set of eyes for observation and to locate and identify targets. Leaders should allow the snipers to select their own positions for supporting the defense. An effective sniper organization can trouble the enemy far more than its cost in the number of friendly soldiers employed. Snipers deploy in positions where they are not easily detected and where they can provide the most benefit.

**REMOVE VGT-76**

**CHECK ON LEARNING:**

QUESTION: What is one of the platoon/squad's most common defensive tasks in an urban area?

ANSWER: One of the most common defensive tasks for a platoon during urban operations is to conduct a strongpoint defense of a building, part of a building, or a group of small buildings as part of a company's mission.

Ref: FM 3-06.11, p 5-43, para 5-29b

QUESTION: What is a tag line?

ANSWER: Tag lines are a flexible handhold used to guide individuals along a route when operating in confined spaces such as buildings, tunnel systems and caverns where conditions may reduce visibility and soldiers may lose their sense of direction.

Ref: FM 3-06.11, page 5-45, para 5-30a(9)

QUESTION: When defending a building, where will the platoon normally prepare fighting positions?

ANSWER: The platoon will normally prepare individual fighting positions inside the buildings the platoon defends.

Ref: FM 3-06.11, page 5-45, para 5-30c

**SECTION IV. SUMMARY**

Method of Instruction: <u>Conference / Discussion</u>
Technique of Delivery: <u>Small Group Instruction (SGI)</u>
Instructor to Student Ratio is: <u>1:16</u>
Time of Instruction: <u>10 mins</u>
Media: <u>None</u>

**Check on Learning**

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Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

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**Review / Summarize Lesson**

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During the last 10 hours we discussed your actions as a squad leader in the battlefield. The way that you conduct your duties and responsibilities will greatly enhance your chances and those of your subordinates of being victorious.

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**SECTION V. STUDENT EVALUATION**

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**Testing  
Requirements**

**NOTE:** Describe how the student must demonstrate accomplishment of the TLO. Refer student to the Student Evaluation Plan.

During this course you will take a 50-question written examination. The examination will include questions on the ELOs and TLO from this lesson. You must correctly answer 35 or more questions to receive GO. A GO is a graduation requirement.

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**Feedback  
Requirements**

**NOTE:** Feedback is essential to effective learning. Schedule and provide feedback on the evaluation and any information to help answer students' questions about the test. Provide remedial training as needed.

None

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**VIEWGRAPHS FOR LESSON 1: W325 version 2**

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Enabling Learning Objective A

Learning Step 1

VGT-1, TYPES OF CONVOY CONTROL

***TYPES OF CONVOY CONTROL***

- Area
- Organizational

VGT-2, ROUTE CLASSIFICATIONS

## ***ROUTE CLASSIFICATIONS***

- Open Route
- Supervised Route
- Dispatch Route
- Reserved Route
- Prohibited Route

## VGT-3, ELEMENTS OF MARCH DISCIPLINE

***ELEMENTS OF MARCH  
DISCIPLINE***

- Using qualified drivers
- Following traffic regulations
- Meeting SP, en route CP, and RP times without failure
- Following the prescribed route at the prescribed march rate
- Halting at rest stops for the required amount of time
- Effectively using protective measures
- Maintaining proper care of equipment
- Observing safety policies and regulations
- Ensuring that drivers obey the rules of the road, traffic laws or regulations, speed limits, and time and distance gaps
- Adhering to unit SOPs

## VGT-4, UNIT MARCH SOP

***UNIT MARCH SOP***

- Duties of the convoy commander and other convoy control personnel
- Convoy organization
- Weapons and ammunition
- Hardening of vehicles
- Individual protective equipment
- Preparation of convoy vehicles
- Counter-ambush actions
- Operations security measures

VGT-5, UNIT MARCH SOP, cont

## ***UNIT MARCH SOP (cont)***

- Immediate action drills
- Actions during scheduled halts
- Maintenance and recovery of disabled vehicles
- Refueling and rest halts
- Communications
- Actions at the release point
- Reporting

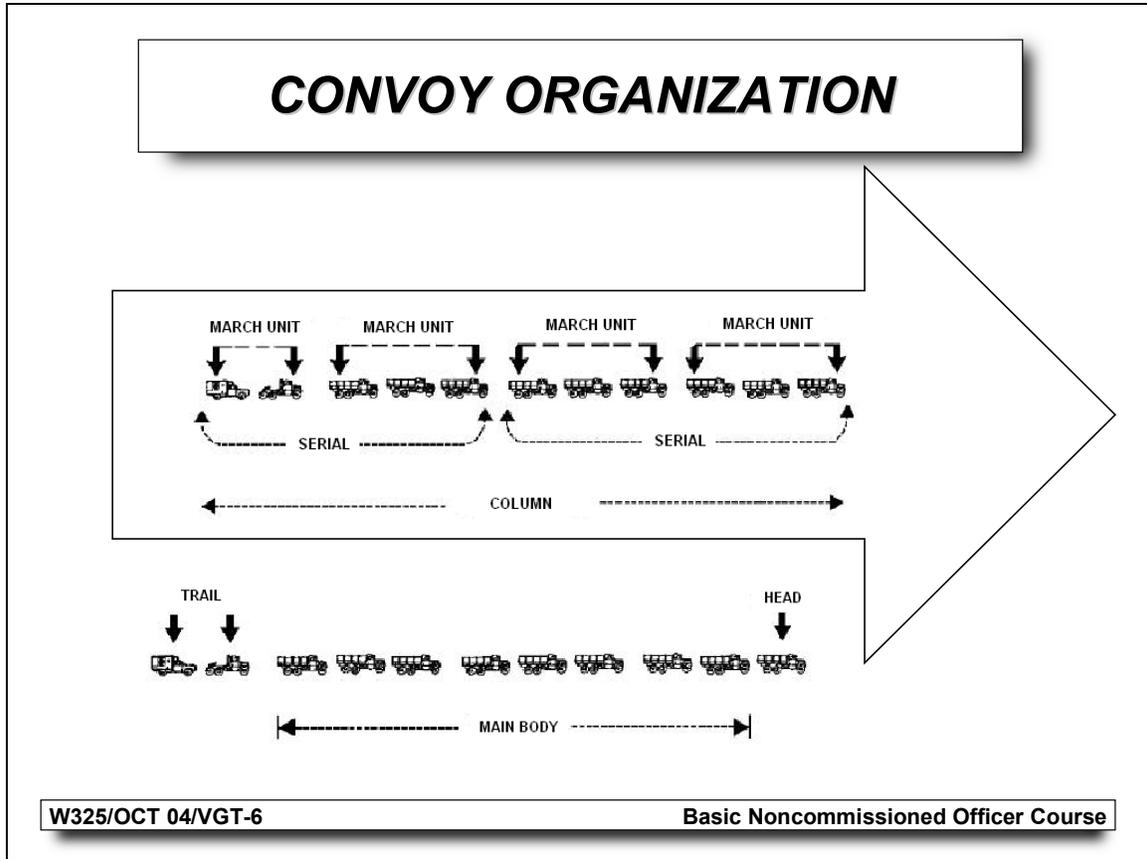
W325/OCT 04/VGT-5

Basic Noncommissioned Officer Course

Enabling Learning Objective B

Learning Step 1

VGT-6, CONVOY ORGANIZATION



W325/OCT 04/VGT-6

Basic Noncommissioned Officer Course

VGT-7, COLUMN FORMATIONS

# ***COLUMN FORMATIONS***

- Close Column
- Open Column
- Infiltration

Enabling Learning Objective C

Learning Step 1

VGT-8, CONVOY PLANNING

## ***CONVOY PLANNING***

- Advance/quartering party
- Convoy control personnel
- Start point
- Release point
- Halts
- Gaps and march rate
- Movement request
- Communications
- Route reconnaissance
- Escort and security
- Convoy support

W325/OCT 04/VGT-8

Basic Noncommissioned Officer Course

Enabling Learning Objective D

Learning Step 1

VGT-9, REACT TO AIR ATTACK

## ***REACT TO AIR ATTACK***

<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"><li>• Small arms fire</li></ul>	<ul style="list-style-type: none"><li>• Dispersion</li><li>• Camouflage and concealment</li><li>• Air guards</li><li>• Communications security</li></ul>	<ul style="list-style-type: none"><li>• Stop in place</li><li>• Continue to march</li><li>• Disperse to concealed positions</li></ul>

## VGT-10, REACT TO INDIRECT FIRE

***REACT TO INDIRECT FIRE***

<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"><li>• Counter-battery fire</li><li>• Small arms fire against forward observer</li><li>• Air strikes</li></ul>	<ul style="list-style-type: none"><li>• Formation</li></ul>	<ul style="list-style-type: none"><li>• Stop in place</li><li>• Continue to march</li></ul>

## VGT-11, REACT TO SNIPER FIRE

***REACT TO SNIPER FIRE***

<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"><li>• Small arms fire</li></ul>	<ul style="list-style-type: none"><li>• Protective equipment</li></ul>	<ul style="list-style-type: none"><li>• Continue to march</li></ul>

## VGT-12, REACT TO AMBUSH

***REACT TO AMBUSH***

<b>ACTIVE DEFENSE</b>	<b>PASSIVE DEFENSE</b>	<b>PASSIVE REACTIONS</b>
<ul style="list-style-type: none"><li>• Destroy the ambush</li></ul>	<ul style="list-style-type: none"><li>• Avoid the ambush</li><li>• Reduce the effectiveness of the ambush</li></ul>	<ul style="list-style-type: none"><li>• Road not blocked</li><li>• Road blocked</li><li>• Mines and Booby Traps</li></ul>

## VGT-13, THE BEST DEFENSE AGAINST AMBUSH

***THE BEST DEFENSE AGAINST  
AMBUSH***

Avoid the ambush by:

- Selecting the best route for the convoy.
- Making a map reconnaissance.
- Making a ground reconnaissance.
- Making an aerial reconnaissance.
- Obtaining current intelligence information.
- Using OPSEC to deny the enemy foreknowledge of the convoy.
- Not presenting a profitable target.
- Avoiding movement at routine times or on predictable routes.

## VGT-14, REACT TO NBC ATTACK

***REACT TO NBC ATTACK***

ACTIVE DEFENSE	PASSIVE DEFENSE	PASSIVE REACTIONS
	<ul style="list-style-type: none"><li>• Avoid the contaminated area</li><li>• Protective equipment</li></ul>	<ul style="list-style-type: none"><li>• Stop in place</li><li>• Continue to march</li><li>• Disperse to concealed positions</li></ul>

Enabling Learning Objective E

Learning Step 1

VGT-15, ASSEMBLY AREA ACTIVITIES

## ***ASSEMBLY AREA ACTIVITIES***

- Receive and issue orders
- Maintain equipment and weapons
- Conduct personal hygiene
- Leaders inspect
- Resupply
- Rehearse upcoming operation
- Check and test weapon systems
- Eat and rest
- Continue to improve defenses

## VGT-16, ASSEMBLY AREA LOCATION

***ASSEMBLY AREA LOCATION***

- Defensible ground
- Concealment
- Room for dispersion
- Internal routes
- Access to routes forward

Enabling Learning Objective F

Learning Step 1

VGT-17, ASSEMBLY AREA PRIORITY OF WORK

***ASSEMBLY AREA  
PRIORITY OF WORK***

- Establish local security
- Position vehicles and crew-served weapons
- Establish communications
- Position remaining soldiers
- Rest and improve positions

Enabling Learning Objective G

Learning Step 1

VGT-18, COMBAT TASKS AFFECTED BY SLEEP LOSS

***COMBAT TASKS AFFECTED  
BY SLEEP LOSS***

- Orientation with friendly and enemy forces
- Coordination and information processing
- Combat activity
- Force preservation and regrouping
- Command and control

## VGT-19, SLEEP LOSS INDICATORS

***SLEEP LOSS INDICATORS***

- Physical appearance
- Mood swings, decreased willingness to work and diminished performance
- Exaggerated feelings of physical exertion
- Increase in bickering and irritability
- Slow comprehension and perception

## VGT-20, LEADER GUIDELINES

***LEADER GUIDELINES***

- Know personal tolerance for sleep loss
- Know their soldiers' tolerance
- Enforce sleep schedules
- Enforce safe sleep areas with perimeter guards
- Enforce day and night guides for vehicles

## VGT-21, SLEEP/REST PLANNING

***SLEEP/REST PLANNING***

- Pre-Deployment Stage
- Deployment Stage
- Pre-Combat Stage
- Combat Stage
- Post-Combat Stage

Enabling Learning Objective H

Learning Step 1

VGT-22, MOVEMENT TECHNIQUES

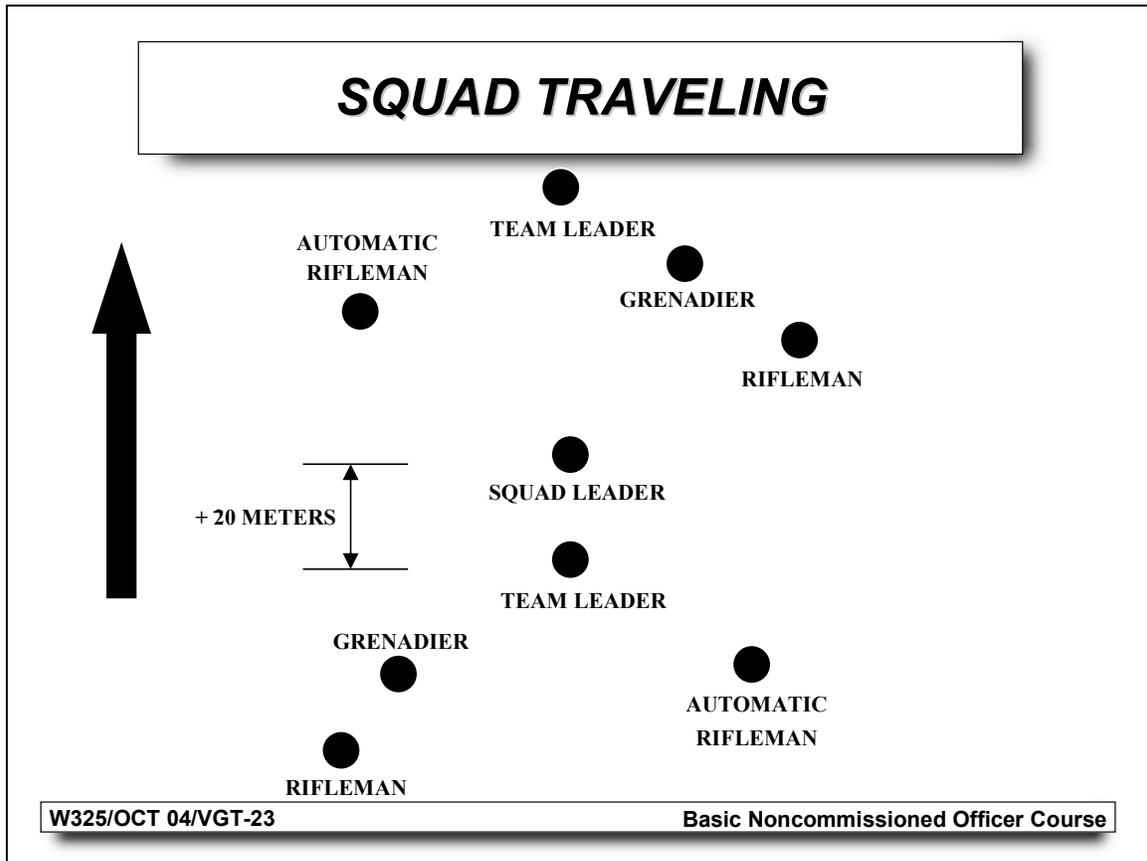
## ***MOVEMENT TECHNIQUES***

MOVEMENT TECHNIQUE	WHEN NORMALLY USED	CHARACTERISTICS			
		CONTROL	DISPERSION	SPEED	SECURITY
Traveling	Contact Not Likely	More	Less	Fastest	Least
Traveling Overwatch	Contact Possible	Less	More	Slower	More
Bounding Overwatch	Contact Expected	Most	Most	Slowest	Most

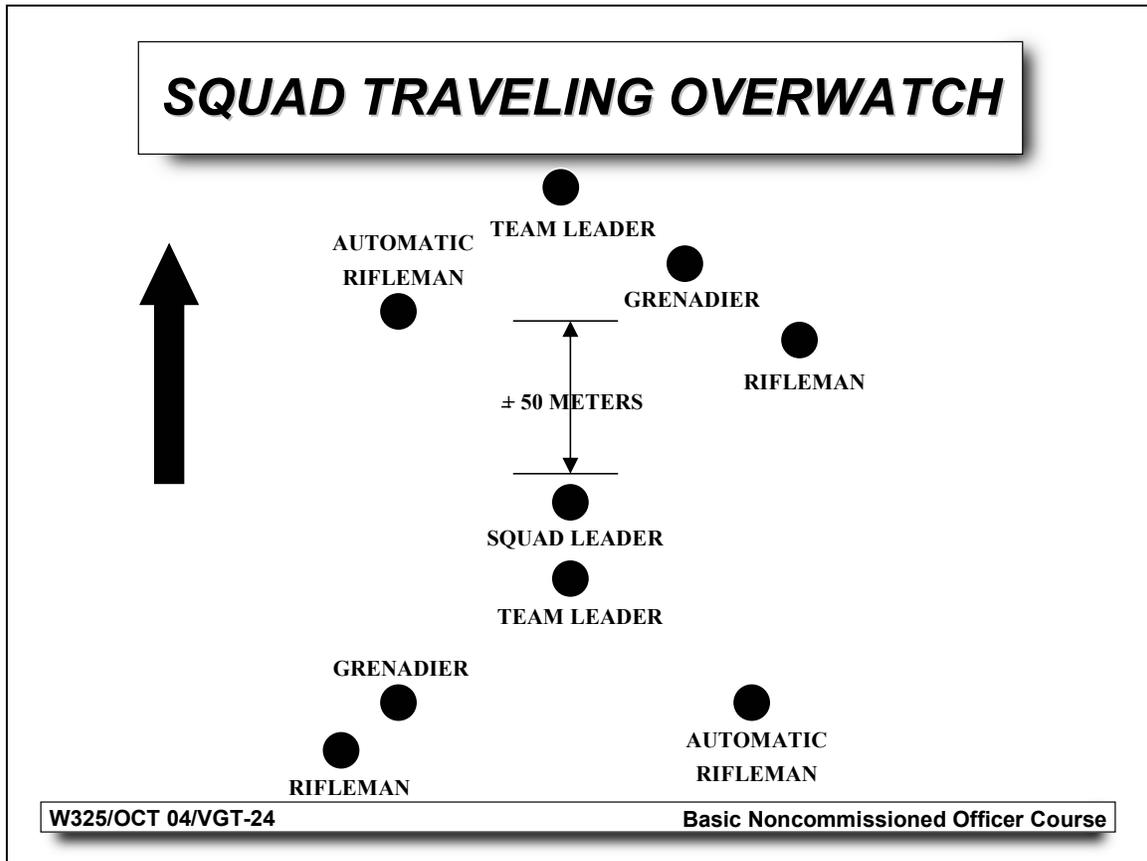
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VGT-23, SQUAD TRAVELING

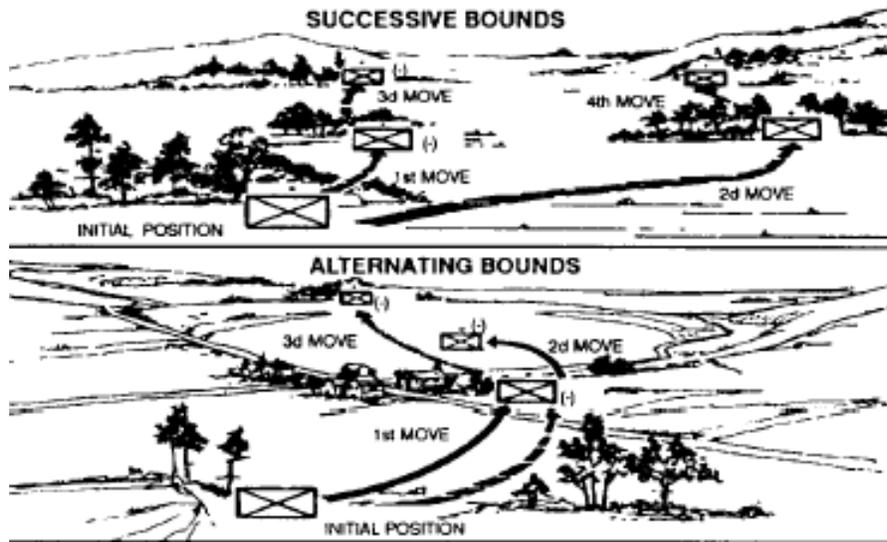


VGT-24, SQUAD TRAVELING OVERWATCH



VGT-25, BOUNDING OVERWATCH

# ***BOUNDING OVERWATCH***



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Enabling Learning Objective I

Learning Step 1

VGT-26, SEARCH AND ATTACK

## ***SEARCH AND ATTACK***

### Enemy

- Dispersed, or expected to avoid contact, or expected to quickly disengage and withdraw

### Concept of the Operation:

- Multiple squads and fire teams coordinate their actions to make contact with the enemy
- Attempt to find the enemy, and then fix and finish him
- Combines patrolling techniques with the requirement to conduct hasty or deliberate attacks

## VGT-27, APPROACH MARCH

***APPROACH MARCH***

## Enemy:

- Expected to deploy using relatively fixed offensive or defensive formations

## Concept of the Operation:

- Make contact with the smallest element, allowing the platoon the flexibility of maneuvering or bypassing the enemy force

Enabling Learning Objective J

Learning Step 1

VGT-28, DELIBERATE ATTACK

## ***DELIBERATE ATTACK***

Organization:

- Base of fire element
- Assault element

Movement to the Objective:

- Assembly Area to Line of Departure
- Line of Departure to Assault or Support Position
- Assault Position to the Objective

Assaulting the Objective

Consolidation and Reorganization

Enabling Learning Objective K

Learning Step 1

VGT-29, LIMITED-VISIBILITY ATTACK

## ***LIMITED-VISIBILITY ATTACK***

- Planning
- Reconnaissance
- Guides
- Fire control techniques
- Mortar, artillery and antiarmor fires
- Consolidation and reorganization
- Communication
- Target detection

Enabling Learning Objective L

Learning Step 1

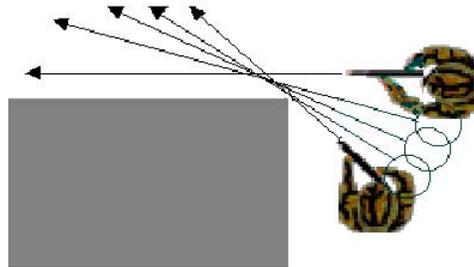
VGT-30, URBAN MOVEMENT SKILLS

## ***URBAN MOVEMENT SKILLS***

- Crossing open areas
- Moving parallel to buildings
- Moving past windows
- Moving around corners
- Crossing a wall
- Using doorways
- Moving between positions
- Fire team movement

VGT-31, PIE-ING A CORNER

# ***PIE-ING A CORNER***



VGT-32, FIRE TEAM MOVEMENT

# ***FIRE TEAM MOVEMENT***



W325/OCT 04/VGT-32

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Enabling Learning Objective M

Learning Step 1

VGT-33, BUILDING ENTRY TECHNIQUES

## ***BUILDING ENTRY TECHNIQUES***

- Upper Building Levels
- Grappling Hook
- Scaling Walls
- Rappelling
- Lower Building Levels
- Breachholes and Mouseholes
- Doors

Enabling Learning Objective N

Learning Step 1

VGT-34, CLEARING TECHNIQUES

## ***CLEARING TECHNIQUES***

- High-Intensity
- Precision

VGT-35, PRINCIPLES OF PRECISION ROOM CLEARING

***PRINCIPLES OF  
PRECISION ROOM CLEARING***

- Surprise
- Speed
- Controlled violence of action

## VGT-36, FUNDAMENTALS OF PRECISION ROOM CLEARING

***FUNDAMENTALS OF  
PRECISION ROOM CLEARING***

- Move tactically and silently
- Carry minimum equipment
- Arrive undetected at the entry
- Enter quickly and dominate the room
- Eliminate all enemy in the room
- Gain and maintain control of the situation
- Confirm enemy casualties
- Perform a cursory search
- Evacuate dead and wounded
- Mark the room as cleared
- Maintain security

VGT-37, BREACHING TECHNIQUES

## ***BREACHING TECHNIQUES***

- Ballistic (Shotgun)
- Explosive (Demolition)
- Mechanical

Enabling Learning Objective O

Learning Step 1

VGT-38, INITIATIVE IN THE DEFENSE

## ***INITIATIVE IN THE DEFENSE***

- Plan and prepare
- Find the enemy
- Avoid detection
- Fix the enemy
- Find or create a weakness
- Maneuver to exploit the weakness
- Reorganize quickly

## VGT-39, PREPARE A DEFENSE

***PREPARE A DEFENSE***

- Determine best area to kill the enemy with fires
- Position key weapons to concentrate fires into that area
- Tie in fires with obstacles
- Position remaining platoon/squad members to support and protect key weapons
- Reconnoiter and rehearse counterattacks
- Maneuver to exploit the weakness
- Reorganize quickly

Enabling Learning Objective P

Learning Step 1

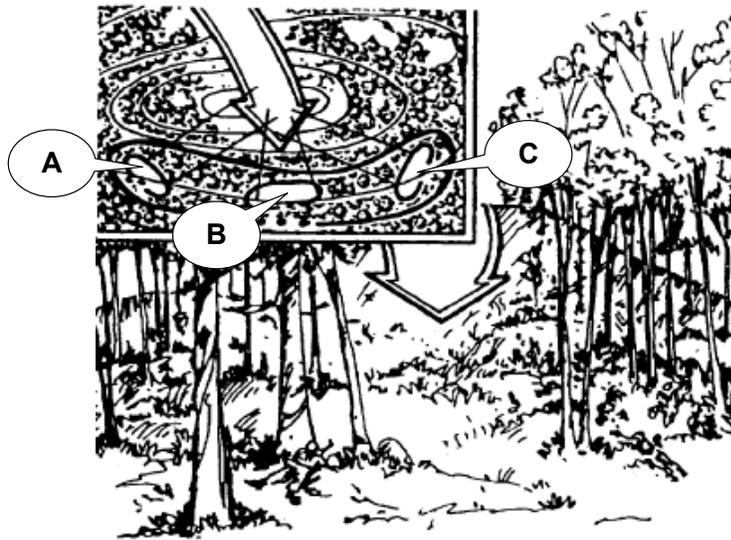
VGT-40, ORGANIZE A DEFENSE

## ***ORGANIZE A DEFENSE***

- Reverse-Slope
- Perimeter
- Defense in Sector
- Mutually-Supporting Battle Positions

VGT-41, REVERSE-SLOPE DEFENSE

# ***REVERSE-SLOPE DEFENSE***



W325/OCT 04/VGT-41

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## VGT-42, REVERSE-SLOPE DEFENSE ADVANTAGES

***REVERSE-SLOPE DEFENSE  
ADVANTAGES***

- Enemy cannot observe position
- More freedom of movement in position
- Enemy direct fire cannot hit position
- Enemy indirect fire less effective
- Defender gains surprise
- Attack over crest breaks contact with support

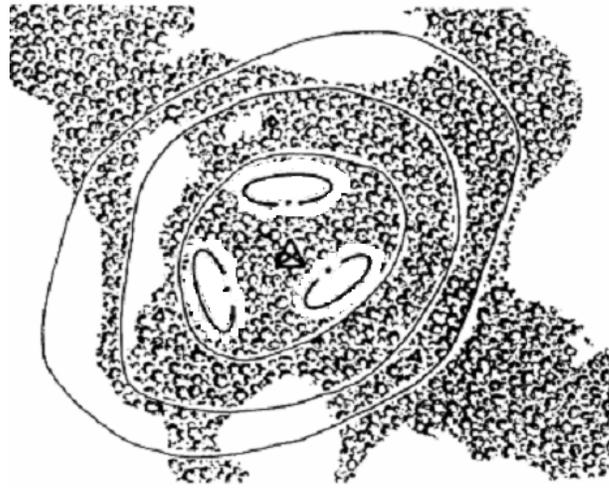
## VGT-43, REVERSE-SLOPE DEFENSE DISADVANTAGES

***REVERSE-SLOPE DEFENSE  
DISADVANTAGES***

- Difficult to observe the enemy
- Difficult to move out of position under pressure
- Fields of fire normally short
- Difficult to cover obstacles on forward slope
- May give the enemy a psychological advantage
- Enemy may appear at close range without warning

VGT-44, PERIMETER DEFENSE

# ***PERIMETER DEFENSE***



W325/OCT 04/VGT-44

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VGT-45, PERIMETER DEFENSE ADVANTAGE

***PERIMETER DEFENSE  
ADVANTAGE***

- Defend against an attack from any direction

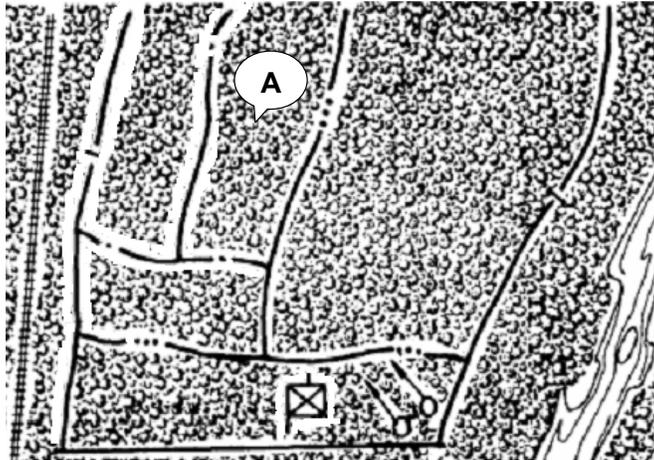
## VGT-46, PERIMETER DEFENSE DISADVANTAGE

***PERIMETER DEFENSE  
DISADVANTAGE***

- Does not concentrate combat power on an enemy avenue of approach

VGT-47, SECTOR DEFENSE

# ***SECTOR DEFENSE***



W325/OCT 04/VGT-47

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## VGT-48, SECTOR DEFENSE ADVANTAGE

**SECTOR DEFENSE  
ADVANTAGE**

- Allows the platoon to fight throughout the depth of the sector using dispersed small-unit tactics

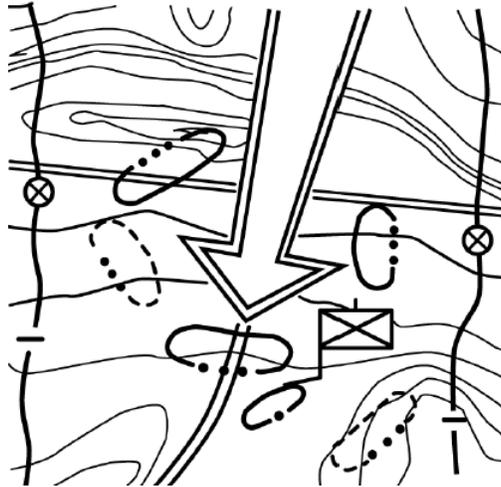
## VGT-49, SECTOR DEFENSE DISADVANTAGES

***SECTOR DEFENSE  
DISADVANTAGES***

- Difficult to evacuate casualties
- Difficult to resupply ammunition and water

VGT-50, MUTUALLY-SUPPORTING BATTLE POSITIONS DEFENSE

**MUTUALLY-SUPPORTING  
BATTLE POSITIONS DEFENSE**



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## VGT-51, BATTLE POSITIONS DEFENSE ADVANTAGES

***BATTLE POSITIONS DEFENSE  
ADVANTAGES***

- Surprise
- Massed fires on enemy forces in engagement area

## VGT-52, BATTLE POSITIONS DEFENSE DISADVANTAGE

***BATTLE POSITIONS DEFENSE  
DISADVANTAGE***

- If there are still uncommitted enemy forces outside the engagement area, they will know the locations of the battle positions and will attempt to isolate them and concentrate against them

Enabling Learning Objective Q

Learning Step 1

VGT-53, CONTROL MEASURES

## ***CONTROL MEASURES***

- Graphic control measures
- Weapons control measures
- Engagement priorities

## VGT-54, GRAPHIC CONTROL MEASURES

***GRAPHIC CONTROL MEASURES***

- Sectors
- Battle positions
- Boundaries
- Contact points
- Coordination points
- Forward edge of the battle area
- Strongpoints
- Target reference points
- Assembly areas
- Phase lines
- Passage points and lanes
- Release points
- Engagement areas

## VGT-55, WEAPON CONTROL MEASURES

***WEAPON CONTROL MEASURES***

- Fire commands
- Range cards
- Sectors of fire
- Principal direction of fire
- Final protective line
- Final protective fires
- Target reference points

Enabling Learning Objective R

Learning Step 1

VGT-56, OBSTACLE CONSIDERATIONS

## ***OBSTACLE CONSIDERATIONS***

- Integrate obstacle plans with direct and indirect fire plans
- Cover obstacles by fire and observation
- Protect obstacles with antipersonnel mines, trip flares, and warning devices
- Camouflage wire or hide it in natural terrain features

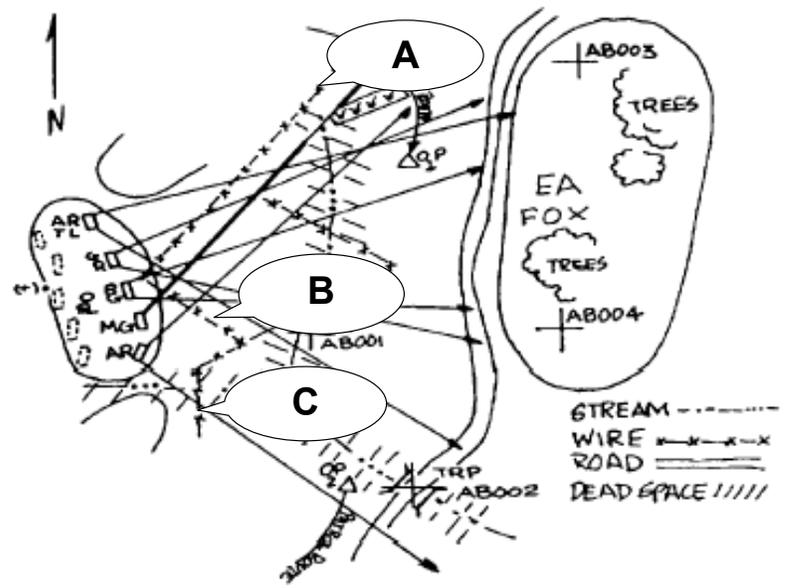
VGT-57, WIRE OBSTACLE CLASSIFICATIONS

***WIRE OBSTACLE CLASSIFICATIONS***

- **Tactical**
- **Protective**
- **Supplementary**

VGT-58, WIRE OBSTACLES

# WIRE OBSTACLES



Enabling Learning Objective S

Learning Step 1

VGT-59, ACTIVE SECURITY MEASURES

## ***ACTIVE SECURITY MEASURES***

- Destruction of enemy reconnaissance elements
- Deception measures
- Observation posts and patrols
- Alert levels
- Stand-to times

## VGT-60, PASSIVE SECURITY MEASURES

***PASSIVE SECURITY MEASURES***

- Camouflage
- Movement control
- Noise and light discipline
- Proper radiotelephone procedures
- Ground sensors
- Night vision devices
- Anti-armor weapons' day and night sights

Enabling Learning Objective T

Learning Step 1

VGT-61, CONDUCT A DEFENSE

## ***CONDUCT A DEFENSE***

- Prepare for combat
- Move to defensive positions
- Establish defensive positions
- Locate the enemy
- Initiate contact/actions on enemy contact
- Fight the defense
- Reorganize

## VGT-62, PREPARE FOR COMBAT

***PREPARE FOR COMBAT***

- Issue a warning order
- Make a tentative plan
- Conduct a leader's reconnaissance
- Complete the plan and issue the order
- Check weapons, equipment and supplies
- Camouflage
- Rehearse critical tasks
- Initiate movement

## VGT-63, MOVE TO A DEFENSIVE POSITION

***MOVE TO A DEFENSIVE POSITION***

- Move on covered and concealed routes
- Avoid likely ambush sites
- Enforce camouflage, noise, and light discipline
- Maintain all-round security, to include air guards
- Use formations and movement techniques based on METT-TC

## VGT-64, OCCUPY A DEFENSIVE POSITION

***OCCUPY A DEFENSIVE POSITION***

- Halt short of position
- Link up with security team on position
- Guides control movement into position
- Perform tasks in the stated priority of work

## VGT-65, PRIORITY OF WORK FOR A DEFENSIVE POSITION

***PRIORITY OF WORK FOR A  
DEFENSIVE POSITION***

- Establish local security
- Position antiarmor weapons, machine guns, and squads and assign sectors of fire.
- Position other assets attached to the platoon.
- Establish the CP and wire communications.
- Designate final protective lines (FPLs) and final protective fires (FPFs).
- Clear fields of fire and prepare range cards and sector sketches.
- Coordinate with adjacent units—left, right, forward, and to the rear.
- Prepare primary fighting positions.
- Emplace obstacles and mines.

## VGT-66, PRIORITY OF WORK FOR A DEFENSIVE POSITION (cont)

***PRIORITY OF WORK FOR A  
DEFENSIVE POSITION (cont)***

- Mark or improve marking for target reference points (TRPs) and other fire control measures.
- Improve primary fighting positions such as overhead cover.
- Prepare alternate positions, then supplementary positions.
- Establish a sleep and rest plan.
- Reconnoiter routes.
- Rehearse engagements, disengagements, and any counterattack plans.
- Adjust positions or control measures as required.
- Stockpile ammunition, food, and water.
- Dig trenches to connect positions.
- Continue to improve positions.

## VGT-67, ADDITIONAL LEADER TASKS

***ADDITIONAL LEADER TASKS***

- Walk forward of position to check camouflage and confirm dead space
- Check wire and mines
- Brief resupply and casualty evacuation routes
- Check soldier knowledge of friendly troops forward of position
- Check soldier knowledge of signals or conditions to initiate actions

## VGT-68, LOCATE THE ENEMY

***LOCATE THE ENEMY***

- Observation posts
- Patrols
- Night surveillance devices
- Binoculars
- Early warning devices

## VGT-69, ACTIONS ON ENEMY CONTACT

***ACTIONS ON ENEMY CONTACT***

- Alert subordinate leaders
- Report situation
- Call in observation posts
- Call for indirect fire
- Initiate long-range direct fires

## VGT-70, FIGHT THE DEFENSE

***FIGHT THE DEFENSE***

Can the platoon destroy the enemy from its assigned positions?

**YES:**

- Continue to defend until the platoon repels the enemy or the commander orders the platoon to withdraw

## VGT-71, FIGHT THE DEFENSE (cont)

***FIGHT THE DEFENSE (cont)***

Can the platoon destroy the enemy from its assigned positions?

**NO:**

- Report situation
- Continue to engage or reposition as directed

Enabling Learning Objective U

Learning Step 1

VGT-72, CONSOLIDATE AND REORGANIZE

## ***CONSOLIDATE AND REORGANIZE***

The Platoon:

- Reestablishes security.
- Mans key weapons.
- Provides first aid and prepares wounded soldiers for MEDEVAC.
- Repairs damaged obstacles and replaces mines (Claymore) and booby traps.
- Redistributes ammunition and supplies.
- Relocates selected weapons to alternate positions if leaders believe that the enemy may have pinpointed them during the attack. Adjusts other positions to maintain mutual support.
- Reestablishes communications.
- Reoccupies and repairs positions, and prepares for renewed enemy attack.

## VGT-73, CONSOLIDATE AND REORGANIZE (cont)

**CONSOLIDATE AND REORGANIZE  
(cont)**

Squad and team leaders: Provide ammunition, casualty, and equipment (ACE) reports to the platoon leader.

The platoon leader:

- Reestablishes the platoon chain of command.
- Consolidates squad ACE and provides ACE report to the company commander.

The platoon sergeant: Coordinates for resupply and supervises the execution of the casualty and EPW evacuation plan.

The platoon: Continues to improve positions. The platoon quickly reestablishes observation posts (OPs) and resumes patrolling as directed.

Enabling Learning Objective V

Learning Step 1

VGT-74, PRIORITY OF WORK

## ***PRIORITY OF WORK***

- Establish security
- Assign areas of responsibility
- Clear fields of fire
- Select and prepare initial fighting positions
- Establish communications
- Emplace obstacles and mines
- Improve fighting positions
- Establish and mark routes between positions

## VGT-75, URBAN DEFENSE CONSIDERATIONS

***URBAN DEFENSE  
CONSIDERATIONS***

- Security
- Protection
- Dispersion
- Concealment
- Fields of fire
- Covered routes
- Observation
- Fire hazard
- Tag lines
- Time

## VGT-76, ADDITIONAL DEFENSIVE PREPARATIONS

***ADDITIONAL DEFENSIVE  
PREPARATIONS***

- Basements and ground floors
- Upper floors
- Interior routes
- Fire prevention
- Communications
- Rubbling
- Rooftops
- Obstacles
- Fields of fire
- Antitank weapons positions

**Appendix C - Practical Exercises and Solutions**

**PRACTICAL EXERCISE(S)/SOLUTION(S) FOR LESSON 1: W325 version 2**

**PRACTICAL EXERCISE 1**

<b>Title</b>	SQUAD TACTICAL OPERATIONS												
<b>Lesson Number / Title</b>	W325 version 2 / SQUAD TACTICAL OPERATIONS												
<b>Introduction</b>	To win on the battlefield you must know your duties and responsibilities as a leader. This knowledge will enable you to ensure that your soldiers complete all tasks accurately and in a timely manner.												
<b>Motivator</b>	This practical exercise will help you reinforce what you learned.												
<b>Learning Objectives</b>	<p><b>NOTE:</b> The instructor should inform the students of the following Enabling Learning Objectives covered by this practical exercise.</p> <p>At the completion of this lesson, you [the student] will:</p> <table border="1"> <tr> <td><b>Action:</b></td> <td>Identify convoy planning considerations.</td> </tr> <tr> <td><b>Conditions:</b></td> <td>As a small unit leader in a company or battalion-level unit, in a classroom environment.</td> </tr> <tr> <td><b>Standards:</b></td> <td>Identified convoy planning considerations by correctly answering questions pertaining to the subject matter IAW FM 55-30 p 5-5, para 5-4.</td> </tr> </table> <table border="1"> <tr> <td><b>Action:</b></td> <td>Identify convoy defense measures IAW FM 55-30.</td> </tr> <tr> <td><b>Conditions:</b></td> <td>As a small unit leader in a company or battalion-level unit, in a classroom environment.</td> </tr> <tr> <td><b>Standards:</b></td> <td>Identified convoy defense measures by correctly answering questions pertaining to the subject matter IAW FM 55-30, pp 6-1 thru 6-11, para 6-1 thru 6-5.</td> </tr> </table>	<b>Action:</b>	Identify convoy planning considerations.	<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment.	<b>Standards:</b>	Identified convoy planning considerations by correctly answering questions pertaining to the subject matter IAW FM 55-30 p 5-5, para 5-4.	<b>Action:</b>	Identify convoy defense measures IAW FM 55-30.	<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment.	<b>Standards:</b>	Identified convoy defense measures by correctly answering questions pertaining to the subject matter IAW FM 55-30, pp 6-1 thru 6-11, para 6-1 thru 6-5.
<b>Action:</b>	Identify convoy planning considerations.												
<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment.												
<b>Standards:</b>	Identified convoy planning considerations by correctly answering questions pertaining to the subject matter IAW FM 55-30 p 5-5, para 5-4.												
<b>Action:</b>	Identify convoy defense measures IAW FM 55-30.												
<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment.												
<b>Standards:</b>	Identified convoy defense measures by correctly answering questions pertaining to the subject matter IAW FM 55-30, pp 6-1 thru 6-11, para 6-1 thru 6-5.												
<b>Safety Requirements</b>	None												
<b>Risk Assessment</b>	Low												
<b>Environmental Considerations</b>	None												
<b>Evaluation</b>	This is not a graded exercise. You will discuss your answers in class. You will use the Solution to Practical Exercise 1 to review your responses.												
<b>Instructional Lead-In</b>	None												
<b>Resource</b>	<b>Instructor Materials:</b>												

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<b>Requirements</b>	Required reference material IAW advance sheet, writing material, easel. <b>Student Materials:</b> Pencils and writing paper
<b>Special Instructions</b>	None
<b>Procedures</b>	1. Working alone without references, you have 5 minutes to list at least 15 unit march SOP topics. 2. Working with a group, you will use your answers to develop a group solution. The group must list a minimum of 15 topics that a unit march SOP should cover.
<b>Feedback Requirements</b>	None

---

**Instructions: List 15 topics that a unit march SOP should cover.**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_

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**SOLUTION FOR****PRACTICAL EXERCISE 1**

Ref: FM 55-30, p 5-13 and 5-14, para 5-5

At a minimum, the unit SOP should cover the following 15 topics:

- Duties of the convoy commander and other convoy control personnel
- Convoy organization
- Weapons and ammunition
- Hardening of vehicles
- Individual protective equipment
- Preparation of convoy vehicles
- Counter-ambush actions
- Operations security measures
- Immediate action drills
- Actions during scheduled halts
- Maintenance and recovery of disabled vehicles
- Refueling and rest halts
- Communications
- Actions at the release point
- Reporting

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## PRACTICAL EXERCISE 2

<b>Title</b>	SQUAD TACTICAL OPERATIONS						
<b>Lesson Number/Title</b>	W325 version 2 / SQUAD TACTICAL OPERATIONS						
<b>Introduction</b>	In order to win on the battlefield you must know your duties and responsibilities as a leader. This knowledge will enable you to ensure that your soldiers complete all tasks accurately and in a timely manner.						
<b>Motivator</b>	This practical exercise will give you an opportunity to apply what you learned throughout the lesson, share experiences, and see how it all comes together.						
<b>Learning Objective</b>	<p><b>NOTE:</b> The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise.</p> <p>At the completion of this lesson, you [the student] will:</p> <table border="1"> <tr> <td style="vertical-align: top;"><b>Action:</b></td> <td>Identify sleep/rest planning considerations.</td> </tr> <tr> <td style="vertical-align: top;"><b>Conditions:</b></td> <td>As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 6-22.5.</td> </tr> <tr> <td style="vertical-align: top;"><b>Standards:</b></td> <td>Identified sleep/rest planning considerations by correctly answering questions pertaining to the subject matter IAW FM 6-22.5, pp 57 thru 75, para 4001 thru 4004.</td> </tr> </table>	<b>Action:</b>	Identify sleep/rest planning considerations.	<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 6-22.5.	<b>Standards:</b>	Identified sleep/rest planning considerations by correctly answering questions pertaining to the subject matter IAW FM 6-22.5, pp 57 thru 75, para 4001 thru 4004.
<b>Action:</b>	Identify sleep/rest planning considerations.						
<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 6-22.5.						
<b>Standards:</b>	Identified sleep/rest planning considerations by correctly answering questions pertaining to the subject matter IAW FM 6-22.5, pp 57 thru 75, para 4001 thru 4004.						
<b>Safety Requirements</b>	None						
<b>Risk Assessment Level</b>	Low						
<b>Environmental Considerations</b>	None						
<b>Evaluation</b>	This is not a graded exercise. You will discuss your answers in class. You will use Solution to Practical Exercise 2 to review your responses.						
<b>Instructional Lead-In</b>	None						
<b>Resource Requirements</b>	<p><b>Instructor Materials:</b></p> <p>Required reference material IAW advance sheet, writing material, easel.</p> <p><b>Student Materials:</b></p> <p>Pencils and writing paper. Reading material listed above.</p>						

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**Special  
Instructions  
Procedures**

None

- 
1. Working alone without references, you have 5 minutes to list the sleep-loss effects for each amount of time without sleep.
  2. Working with a group, you will use your answers to develop a group solution. The group must list the sleep-loss effects for each amount of time without sleep.
- 

**Feedback  
Requirements**None

---

**Instructions: Complete the following table describing the effects of sleep loss.**

TIME WITHOUT SLEEP	EFFECT(S)
24 hours	
48 hours	
72 hours	
More than 72 hours	

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**SOLUTION FOR****PRACTICAL EXERCISE 2**

TIME WITHOUT SLEEP	EFFECT(S)
24 HOURS	Performance on most tasks will be about 75 percent of normal. Ref: FM 6-22.5, p 59, para 4001
48 HOURS	Performance on most tasks will be about 50 percent of normal. Ref: FM 6-22.5, p 59, para 4001
72 HOURS	Performance on most tasks will be about 25 percent of normal. Ref: FM 6-22.5, p 59, para 4001  After 48 to 72 hours without sleep, personnel become militarily ineffective. Ref: FM 6-22.5, p 62, para 4002
MORE THAN 72 HOURS	It is doubtful that a soldier could continue past 72 hours of wakefulness. Ref: FM 6-22.5, p 62, para 4002

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### PRACTICAL EXERCISE 3

<b>Title</b>	SQUAD TACTICAL OPERATIONS						
<b>Lesson Number/Title</b>	W325 version 2 / SQUAD TACTICAL OPERATIONS						
<b>Introduction</b>	In order to win on the battlefield you must know your duties and responsibilities as a leader. This knowledge will enable you to ensure that your soldiers complete all tasks accurately and in a timely manner.						
<b>Motivator</b>	This practical exercise will give you an opportunity to apply what you learned throughout the lesson, share experiences, and see how it all comes together.						
<b>Learning Objective</b>	<p><b>NOTE:</b> The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise.</p> <p>At the completion of this lesson, you [the student] will:</p> <table border="1"> <tr> <td><b>Action:</b></td> <td>Identify limited-visibility attack procedures.</td> </tr> <tr> <td><b>Conditions:</b></td> <td>As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.</td> </tr> <tr> <td><b>Standards:</b></td> <td>Identified limited-visibility attack procedures by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-60 thru 2-65, para 2-14.</td> </tr> </table>	<b>Action:</b>	Identify limited-visibility attack procedures.	<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.	<b>Standards:</b>	Identified limited-visibility attack procedures by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-60 thru 2-65, para 2-14.
<b>Action:</b>	Identify limited-visibility attack procedures.						
<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FM 7-8.						
<b>Standards:</b>	Identified limited-visibility attack procedures by correctly answering questions pertaining to the subject matter IAW FM 7-8, pp 2-60 thru 2-65, para 2-14.						
<b>Safety Requirements</b>	None						
<b>Risk Assessment Level</b>	Low						
<b>Environmental Considerations</b>	None						
<b>Evaluation</b>	This is not a graded exercise. You will discuss your answers in class. You will use Solution to Practical Exercise 3 to review your responses.						
<b>Instructional Lead-In</b>	None						
<b>Resource Requirements</b>	<p><b>Instructor Materials:</b></p> <p>Required reference material IAW advance sheet, writing material, easel.</p> <p><b>Student Materials:</b></p> <p>Pencils and writing paper. Reading material listed above.</p>						

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**Special  
Instructions**

None

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**Procedures**

1. Working alone without references, you have 5 minutes to list at least 20 control measures and signals for a limited-visibility attack.

2. Working with a group, you will use your answers to develop a group solution. The group must list at least 20 control measures and signals for a limited-visibility attack.

---

**Feedback  
Requirements**

None

**Instructions: List 20 control measures and signals for a limited-visibility attack.**

1. \_\_\_\_\_
2. \_\_\_\_\_
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20. \_\_\_\_\_

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**SOLUTION FOR****PRACTICAL EXERCISE 3**

Ref: FM 7-8, p 2-60 thru 2-65, para 2-14

Control and signal measures for a limited-visibility attack may include:

- Guides
- Tracer fire
- Luminous tape or chemical lights to mark paths
- Weapons restrictions
- Flares, grenades, and smoke restrictions
- Night vision devices
- A magnetic azimuth for maintaining direction
- Mortar or artillery rounds to orient attacking units
- A base squad or fire team to pace and guide others
- Reduced intervals between soldiers and squads
- Luminous tape on armbands or helmets to mark soldiers
- VS-17 panels
- Sticks showing direction
- Light-colored paint
- Tape
- Rock formations
- Markings in the ground
- Foot or talcum powder
- Flares
- Flashlights
- Illumination rounds (grenade launcher, mortar, artillery)
- Infrared strobe lights
- Burning fuel (saturated sand in a can)
- Luminous compass dial

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### PRACTICAL EXERCISE 4

<b>Title</b>	SQUAD TACTICAL OPERATIONS						
<b>Lesson Number/Title</b>	W325 version 2 / SQUAD TACTICAL OPERATIONS						
<b>Introduction</b>	In order to win on the battlefield you must know your duties and responsibilities as a leader. This knowledge will enable you to ensure that your soldiers complete all tasks accurately and in a timely manner.						
<b>Motivator</b>	This practical exercise will give you an opportunity to reinforce what you learned and share experiences.						
<b>Learning Objective</b>	<p><b>NOTE:</b> The instructor should inform the students of the following Enabling Learning Objective covered by this practical exercise.</p> <p>At the completion of this lesson, you [the student] will:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 20%;"><b>Action:</b></td> <td>Identify procedures for conducting a defense.</td> </tr> <tr> <td><b>Conditions:</b></td> <td>As a squad leader in a classroom environment given FM 7-8.</td> </tr> <tr> <td><b>Standards:</b></td> <td>Identified procedures for conducting a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 2-66 thru 2-70, para 2-15a thru 2-15f.</td> </tr> </table>	<b>Action:</b>	Identify procedures for conducting a defense.	<b>Conditions:</b>	As a squad leader in a classroom environment given FM 7-8.	<b>Standards:</b>	Identified procedures for conducting a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 2-66 thru 2-70, para 2-15a thru 2-15f.
<b>Action:</b>	Identify procedures for conducting a defense.						
<b>Conditions:</b>	As a squad leader in a classroom environment given FM 7-8.						
<b>Standards:</b>	Identified procedures for conducting a defense by correctly answering questions pertaining to the subject matter IAW FM 7-8, p 2-66 thru 2-70, para 2-15a thru 2-15f.						
<b>Safety Requirements</b>	None						
<b>Risk Assessment Level</b>	Low						
<b>Environmental Considerations</b>	None						
<b>Evaluation</b>	This is not a graded exercise. You will discuss your answers in class. You will use Solution to Practical Exercise 4 to review your responses.						
<b>Instructional Lead-In</b>	None						
<b>Resource Requirements</b>	<p><b>Instructor Materials:</b></p> <p style="padding-left: 40px;">Required reference material IAW advance sheet, writing material, easel.</p> <p><b>Student Materials:</b></p> <p style="padding-left: 40px;">Pencils and writing paper. Student Handout 4.</p>						

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**Special  
Instructions**None

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**Procedures**

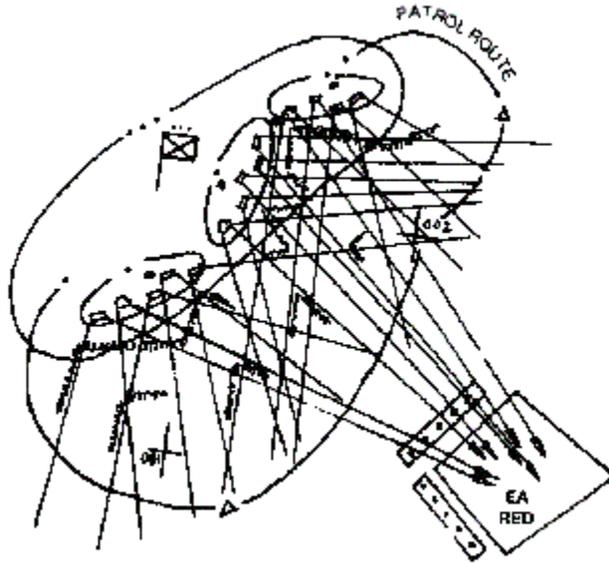
1. Working alone, you have 5 minutes to list the defensive actions required in each of the five situations.
  2. Working with a group, you will use your answers to develop a group solution. The group must list the defensive actions required in each of the five situations.
- 

**Feedback  
Requirements**None

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**Instructions:** Read each situation and list the required actions.

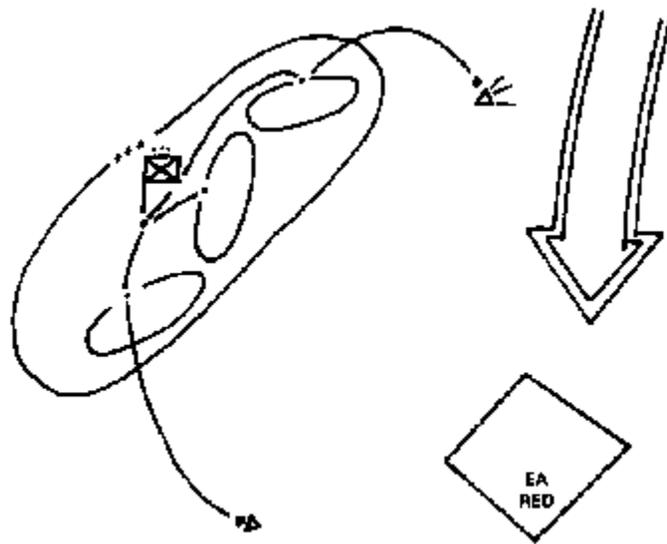
**Situation 1.** Your platoon is establishing the defensive position shown below. In the space provided, list the actions necessary to occupy and prepare to defend the position.



1. \_\_\_\_\_
2. \_\_\_\_\_
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14. \_\_\_\_\_
15. \_\_\_\_\_

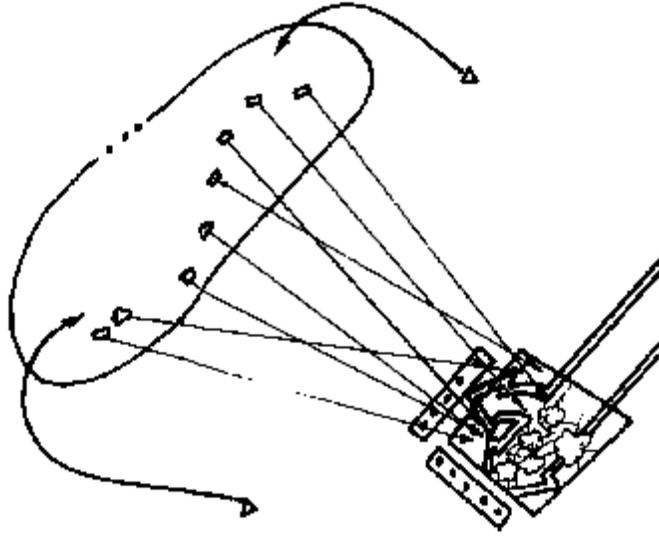
- 16. \_\_\_\_\_
- 17. \_\_\_\_\_
- 18. \_\_\_\_\_
- 19. \_\_\_\_\_

**Situation 2.** An observation post has detected the enemy force moving toward your platoon's engagement area. In the space provided, list the actions required at this point in the defense.



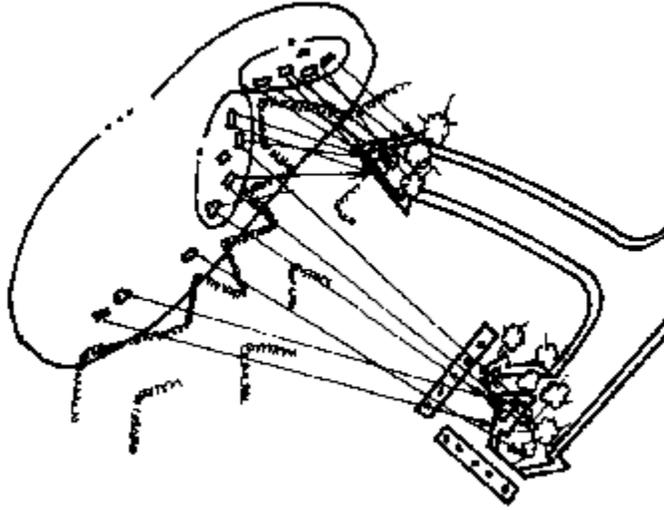
- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

**Situation 3.** The enemy force has entered the engagement area. In the space provided, list the actions required at this point in the defense.



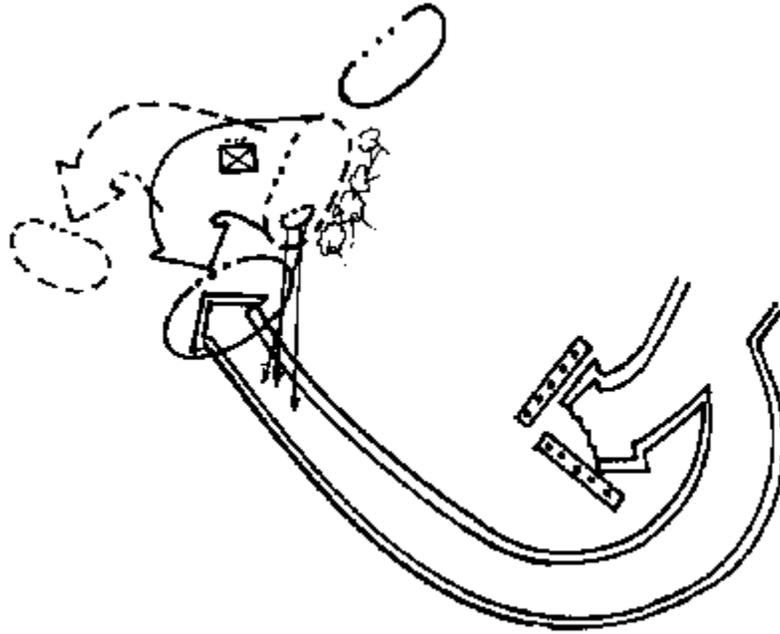
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**Situation 4.** Your platoon leader determines the enemy's attempt to bypass the engagement area will not be successful and the platoon can destroy the enemy from its assigned position. In the space provided, list the actions required at this point in the defense.



1. \_\_\_\_\_
2. \_\_\_\_\_

**Situation 5.** Your platoon leader determines that the enemy's attempt to bypass the engagement will be successful and that the platoon cannot destroy the enemy from its assigned position. In the space provided, list the actions required at this point in the defense.



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

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**SOLUTION FOR****PRACTICAL EXERCISE 4**

Ref: FM 7-8, p 2-66 thru 2-70, para 2-15a thru 2-15f

**Situation 1.**

Ref: FM 7-8, pp 2-84 and 2-85, para 2-25

1. Establish local security
2. Position antiarmor weapons, machine guns, and squads and assign sectors of fire.
3. Position other assets attached to the platoon.
4. Establish the CP and wire communications.
5. Designate final protective lines (FPLs) and final protective fires (FPFs).
6. Clear fields of fire and prepare range cards and sector sketches.
7. Coordinate with adjacent units—left, right, forward, and to the rear.
8. Prepare primary fighting positions.
9. Emplace obstacles and mines.
10. Mark or improve marking for target reference points (TRPs) and other fire control measures.
11. Improve primary fighting positions such as overhead cover.
12. Prepare alternate positions, then supplementary positions.
13. Establish a sleep and rest plan.
14. Reconnoiter routes.
15. Rehearse engagements, disengagements, and any counterattack plans.
16. Adjust positions or control measures as required.
17. Stockpile ammunition, food, and water.
18. Dig trenches to connect positions.
19. Continue to improve positions.

**Situation 2.**

Ref: FM 7-8, p 2-68, para 2-15e

1. Platoon leader alerts the squad leaders, platoon sergeant, and his forward observer.
2. Platoon leader reports the situation to the company commander.

**Situation 3.**

Ref: FM 7-8, p 2-68, para 2-15e

1. Platoon leader calls in observation posts.
2. Platoon leader calls for and adjusts indirect fire when the enemy is at maximum range.
3. Platoon leader initiates the long-range direct fires of his platoon on command from the company commander.
4. Leaders and individual soldiers return to their positions and prepare to fire on command from the platoon leader.

**Situation 4.**

Ref: FM 7-8, pp 2-68 and 2-69, para

1. Leaders control fires
2. Platoon fires increase in intensity as enemy closes

**Situation 5.**

Ref: FM 7-8, pp 2-69 and 2-70, para 2-15f(2)a and 2-15f(2)b

1. Platoon leader reports situation
2. Platoon continues to engage the enemy

OR

2. Repositions the platoon only when directed by the company commander to

**Handouts for Lesson 1: W325 version 2**

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This appendix contains the items listed in this table—

<b>Title/Synopsis</b>	<b>Pages</b>
SH-1, Advance Sheet	SH-1-1 and SH-1-2
SH-2, Extracted material from FM 3-06.11	SH-2-1
SH-3, Extracted material from FM 6-22.5	SH-3-1
SH-4, Extracted material from FM 7-7	SH-4-1
SH-5, Extracted material from FM 7-8	SH-5-1
SH-6, Extracted material from FM 7-10	SH-6-1
SH-7, Extracted material from FM 55-30	SH-7-1

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## Student Handout 1

### Advance Sheet

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<b>Lesson Hours</b>	This lesson consists of 8.4 hours of small group instruction and four practical exercises totaling 1.6 hours.
<b>Overview</b>	To win on the battlefield you must know your duties and responsibilities as a leader. This knowledge will enable you to ensure that your soldiers complete all tasks accurately and in a timely manner.

---

### Learning Objective

Terminal Learning Objective

<b>Action:</b>	Develop a base of knowledge of squad tactical operations.
<b>Conditions:</b>	As a small unit leader in a company or battalion-level unit, in a classroom environment, given FMs 3-06.11, 6-22.5, 7-7, 7-8, 7-10 and 55-30.
<b>Standards:</b>	Developed a base of knowledge of squad tactical operations

<b>ELO A</b>	Identify convoy control measures.
<b>ELO B</b>	Identify convoy organizational considerations.
<b>ELO C</b>	Identify convoy planning considerations.
<b>ELO D</b>	Identify convoy defense measures.
<b>ELO E</b>	Identifying assembly area activities.
<b>ELO F</b>	Identify the priority of work for an assembly area.
<b>ELO G</b>	Identify sleep/rest planning considerations.
<b>ELO H</b>	Identify movement techniques.
<b>ELO I</b>	Identify movement to contact techniques.
<b>ELO J</b>	Identify deliberate attack procedures.
<b>ELO K</b>	Identify limited-visibility attack procedures.
<b>ELO L</b>	Identify individual and fire team movement techniques in urban areas.
<b>ELO M</b>	Identify building entry techniques.
<b>ELO N</b>	Identify room clearing techniques.
<b>ELO O</b>	Identify techniques for seizing and maintaining initiative in the defense.
<b>ELO P</b>	Identify techniques for organizing a defense.
<b>ELO Q</b>	Identify control measures for a defense.
<b>ELO R</b>	Identify planning considerations for obstacles in a defense.
<b>ELO S</b>	Identify security measures for a defense.
<b>ELO T</b>	Identify procedures for conducting a defense.
<b>ELO U</b>	Identify procedures for consolidating and reorganizing.
<b>ELO V</b>	Identify the planning considerations for a defense in urban terrain.

### Assignment

The student assignments for this lesson are:

- Study FM 3-06.11, pp 3-1 thru 3-27, para 3-1 thru 3-21; and pp 5-43 thru 5-48, para 5-29 thru 5-30.
- Study FM 6-22.5, pp 57 thru 75, para 4001 thru 4004.

- Study FM 7-7, pp Q-1 thru Q-8, para Q-1 thru Q-3.
  - Study FM 7-8, pp 1-10 thru 1-20, para 1-8 thru 1-9; p 2-38 thru 2-60, para 2-10 thru 2-15; and pp 2-84 and 2-85, para 2-25.
  - Study FM 7-10, pp 5-35 thru 5-46, para 5-20 thru 5-23.
  - Study FM 55-30, pp 5-1 thru 5-14, para 5-1 thru 5-5; and pp 6-1 thru 6-11, para 6-1 thru 6-5.
- 

**Additional  
Subject Area  
Resources**

- STP 21-24-SMCT
- 

**Bring to Class**

- Student Handouts 1-7.
  - Pen or pencil.
  - Writing paper.
-

## Student Handout 2

### Extracted Material from FM 3-06.11

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This student handout contains 34 pages of extracted material from the following publication:

FM 3-06.11, Combined Arms Operations in Urban Terrain, 28 Feb 2002

Chapter 3	Pages 3-1 thru 3-27
Chapter 5	Pages 5-43 thru 5-49

**Disclaimer:** The training developer downloaded the extracted material from the General Dennis J. Reimer Training and Doctrine Digital Library. The text may contain passive voice, misspellings, grammatical errors, etc., and may not be in compliance with the army Writing Style Program.

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## CHAPTER 3

# URBAN COMBAT SKILLS

*Successful combat operations in urban areas depend on the proper employment of the rifle squad. Each member must be skilled in moving, entering buildings, clearing rooms, employing hand grenades, selecting and using fighting positions, navigating in urban areas, and camouflage.*

### Section I. MOVEMENT

Movement in urban areas is the first fundamental skill the soldier must master. Movement techniques must be practiced until they become habitual. To reduce exposure to enemy fire, the soldier avoids open areas, avoids silhouetting himself, and selects his next covered position before movement.

#### 3-1. CROSSING OPEN AREAS

Open areas, such as streets, alleys, and parks, should be avoided. They are natural kill zones for enemy crew-served weapons or snipers. They can be crossed safely if the individual or small-unit leader applies certain fundamentals including using smoke from hand grenades or smoke pots to conceal movement. When employing smoke as an obscurant, keep in mind that thermal sighting systems can see through smoke. Also, when smoke has been thrown in an open area, the enemy may choose to engage with suppressive fires into the smoke cloud.

a. Before moving to another position, the soldier makes a visual reconnaissance, selects the position offering the best cover and concealment, and determines the route he takes to get to that position.

b. The soldier develops a plan for his own movement. He runs the shortest distance between buildings and moves along the far building to the next position, reducing the time he is exposed to enemy fire.

#### 3-2. MOVEMENT PARALLEL TO BUILDINGS

Soldiers and small units may not always be able to use the inside of buildings as routes of advance and must move on the outside of the buildings (Figure 3-1, page 3-2). Smoke, suppressive fires, and cover and concealment should be used to hide movement. The soldier moves parallel to the side of the building (maintaining at least 12 inches of separation between himself and the wall to avoid *rabbit rounds*, ricochets and rubbing or bumping the wall), stays in the shadow, presents a low silhouette, and moves rapidly to his next position (Figure 3-2, page 3-2). If an enemy gunner inside the building fires on a soldier, he exposes himself to fire from other squad members providing overwatch. An enemy gunner farther down the street would have difficulty detecting and engaging the soldier.

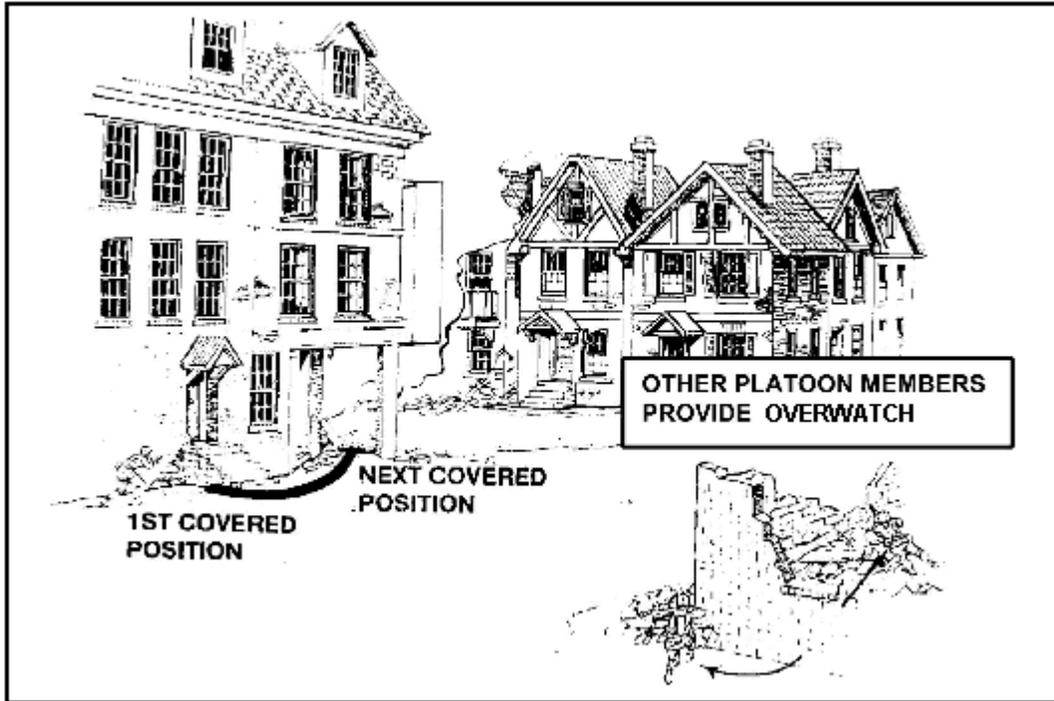


Figure 3-1. Selection of the next position.

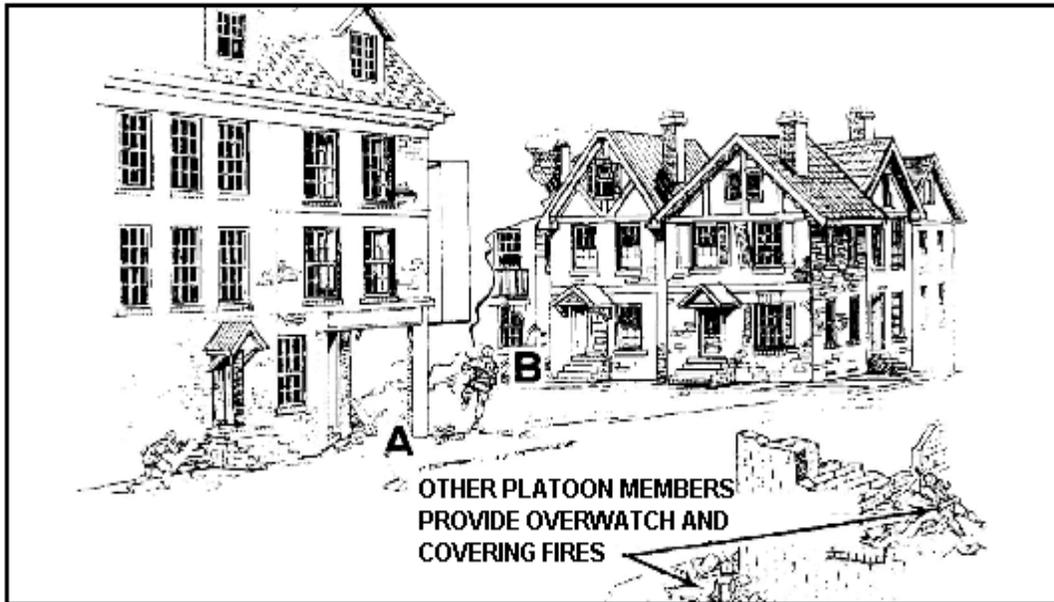


Figure 3-2. Soldier moving outside building.

### 3-3. MOVEMENT PAST WINDOWS

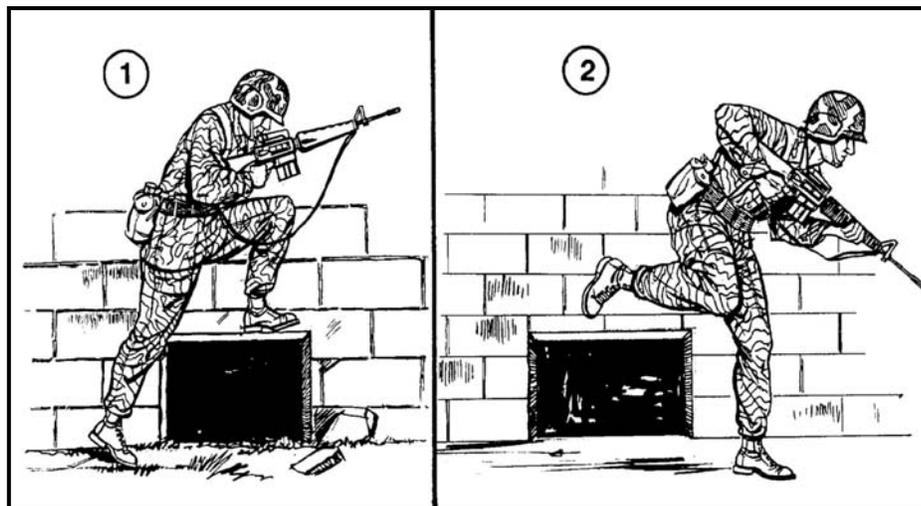
Windows present another hazard to the soldier. The most common mistakes are exposing the head in a first-floor window and not being aware of basement windows.

a. When using the correct technique for passing a first-floor window, the soldier stays below the window level and near the side of the building (Figure 3-3). He makes sure he does not silhouette himself in the window. An enemy gunner inside the building would have to expose himself to covering fires if he tried to engage the soldier.



**Figure 3-3. Soldier moving past windows.**

b. The same techniques used in passing first-floor windows are used when passing basement windows. A soldier should not walk or run past a basement window, since he presents a good target to an enemy gunner inside the building. The soldier should stay close to the wall of the building and step or jump past the window without exposing his legs (Figure 3-4).



**Figure 3-4. Soldier passing basement windows.**

### 3-4. MOVEMENT AROUND CORNERS

The area around a corner must be observed before the soldier moves. The most common mistake a soldier makes at a corner is allowing his weapon to extend beyond the corner exposing his position (this mistake is known as *flagging* your weapon). He should show his head below the height an enemy soldier would expect to see it. The soldier lies flat on the ground and does not extend his weapon beyond the corner of the building. He wears his Kevlar helmet and only exposes his head (at ground level) enough to permit observation (Figure 3-5). Another corner clearing technique that is used when speed is required is the *pie-ing* method. This procedure is done by aiming the weapon beyond the corner into the direction of travel (without flagging) and side-stepping around the corner in a circular fashion with the muzzle as the pivot point (Figure 3-6).

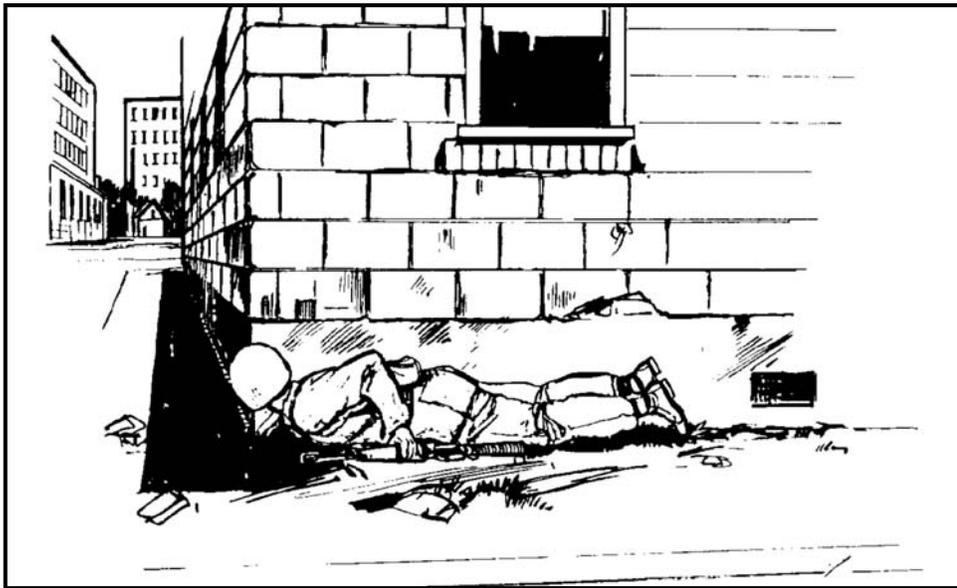


Figure 3-5. Correct technique for looking around a corner.

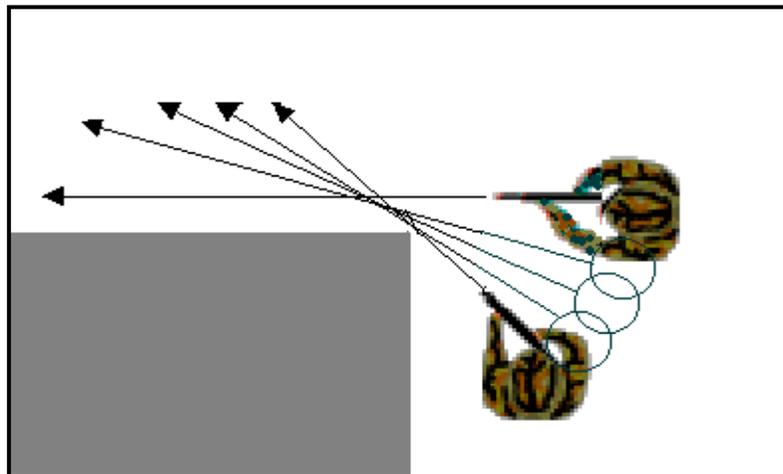


Figure 3-6. Pie-ing a corner.

### 3-5. CROSSING A WALL

Each soldier must learn the correct method of crossing a wall (Figure 3-7). After he has reconnoitered the other side, he rolls over the wall quickly, keeping a low silhouette. Speed of his move and a low silhouette deny the enemy a good target.



Figure 3-7. Soldier crossing a wall.

### 3-6. USE OF DOORWAYS

Doorways should not be used as entrances or exits since they are normally covered by enemy fire. If a soldier must use a doorway as an exit, he should move quickly to his next position, staying as low as possible to avoid silhouetting himself (Figure 3-8). Preselection of positions, speed, a low silhouette, and the use of covering fires must be emphasized in exiting doorways.

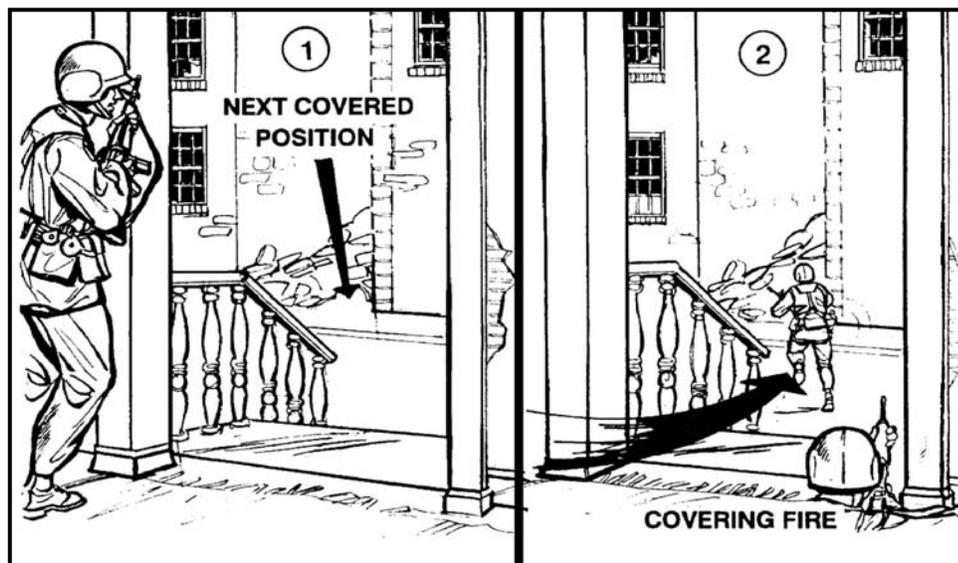


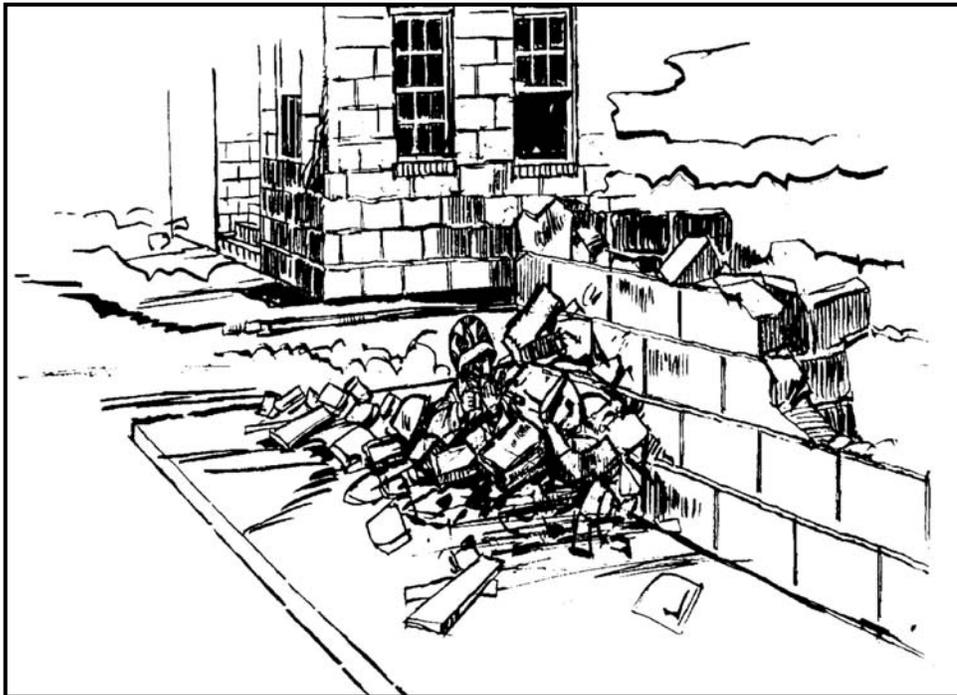
Figure 3-8. Soldier exiting a doorway.

### 3-7. MOVEMENT BETWEEN POSITIONS

When moving from position to position, each soldier must be careful not to mask his supporting fires. When he reaches his next position, he must be prepared to cover the movement of other members of his fire team or squad. He must use his new position effectively and fire his weapon from either shoulder depending on the position.

a. The most common errors a soldier makes when firing from a position are firing over the top of his cover and silhouetting himself against the building to his rear. Both provide the enemy an easy target. The correct technique for firing from a covered position is to fire around the side of the cover, which reduces exposure to the enemy (Figure 3-9).

b. Another common error is for a right-handed shooter to fire from the right shoulder around the left corner of a building. Firing left-handed around the left corner of a building takes advantage of the cover afforded by the building (Figure 3-10). Right-handed and left-handed soldiers should be trained to adapt cover and concealment to fit their manual orientation. Soldiers should be able to fire from the opposite shoulder.



**Figure 3-9. Soldier firing from a covered position.**



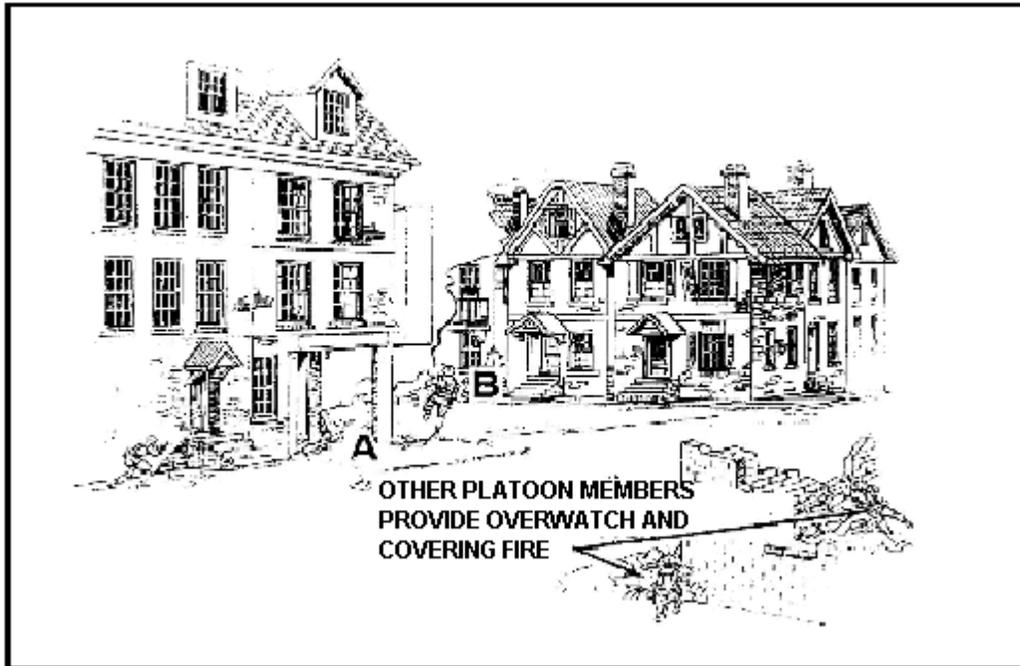
**Figure 3-10. Firing left-handed around the corner of a building.**

### **3-8. FIRE TEAM EMPLOYMENT**

Moving as a fire team from building to building or between buildings presents a large target for enemy fire (Figure 3-11). When moving from the corner of one building to another, the fire team should move across the open area in a group. Moving from the side of one building to the side of another presents a similar problem and the technique of movement employed is the same. The fire team uses the building as cover. In moving to an adjacent building (Figure 3-12, page 3-8) team members should keep a distance of 3 to 5 meters between themselves and, using a planned signal, make an abrupt flanking movement (on line) across the open area to the next building.



**Figure 3-11. Fire team movement.**



**Figure 3-12. Movement to adjacent building.**

## **Section II. ENTRY TECHNIQUES**

When entering buildings a soldier must minimize the time he is exposed. Before moving toward the building he must select the entry point. When moving to the entry point the soldier should use smoke to conceal his advance. He must avoid using windows and doors except as a last resort. He should consider the use of demolitions, tank rounds, and other means to make new entrances. If the situation permits he should precede his entry with a grenade, enter immediately after the grenade explodes, and be covered by one of his buddies.

### **3-9. UPPER BUILDING LEVELS**

Although entering a building from any level other than the ground floor is difficult, clearing a building from the top down is the preferred method. Assaulting or defending a building is easier from an upper story. Gravity and the building's floor plan become assets when throwing hand grenades and moving from floor to floor.

a. An enemy who is forced to the top of a building may be cornered and fight desperately or escape over the roof. An enemy who is forced down to ground level may withdraw from the building, thus exposing himself to friendly fires from the outside.

b. Various means, such as ladders, drainpipes, vines, helicopters, or the roofs and windows of adjoining buildings, may be used to reach the top floor or roof of a building. One soldier can climb onto the shoulders of another and reach high enough to pull himself up.

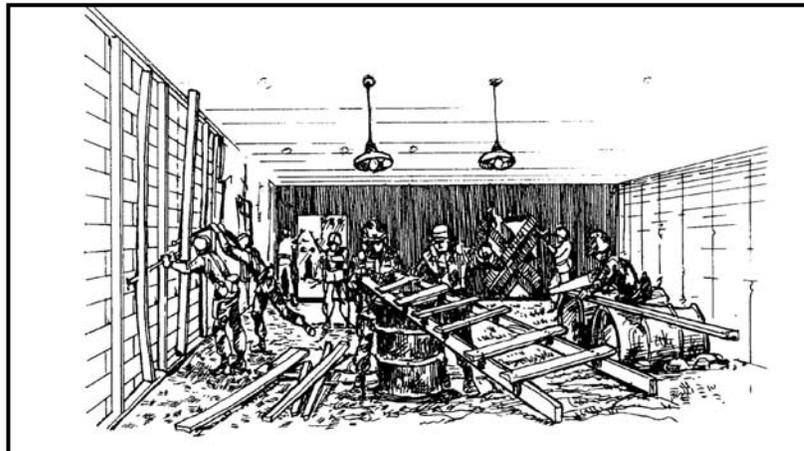
c. Ladders offer the quickest method to access the upper levels of a building (Figure 3-13). Units deploying into an urban environment should be equipped with a

lightweight, man-portable, collapsible ladder as referenced in the platoon urban operations kit.



**Figure 3-13. Entering using portable ladder**

(1) If portable ladders are not available, material to build ladders can be obtained through supply channels. Ladders can also be built with resources available throughout the urban area; for example, lumber can be taken from inside the walls of buildings (Figure 3-14).



**Figure 3-14. Getting lumber from inside the walls.**

(2) Although ladders do not permit access to the top of some buildings, they do offer security and safety through speed. Ladders can be used to conduct an exterior assault of an upper level if soldiers' exposure to enemy fire can be minimized.

### 3-10. USE OF GRAPPLING HOOK

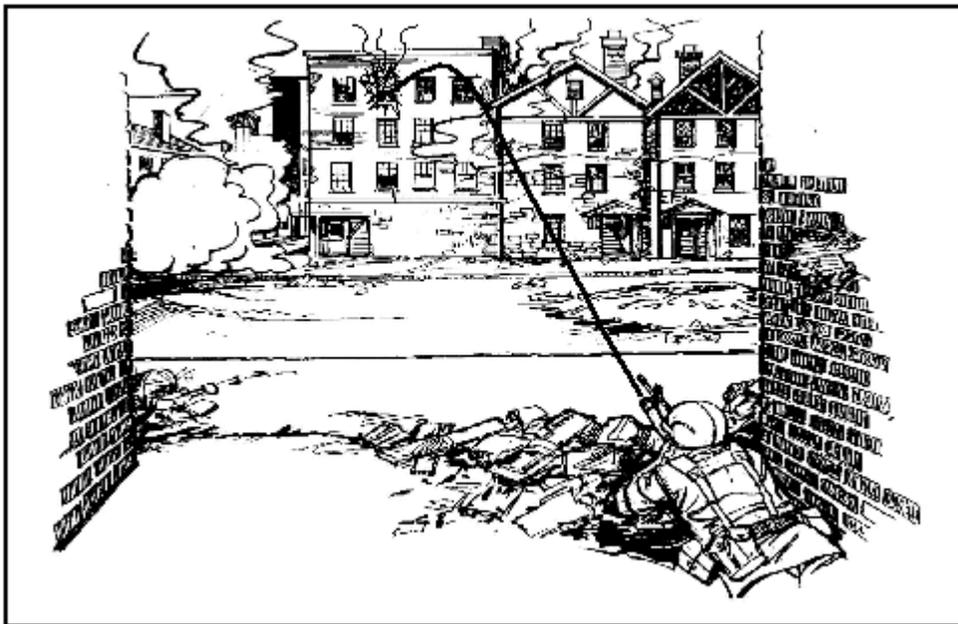
The use of a grappling hook and rope to ascend into a building is not recommended. Experimentation and training has determined that using the grappling hook and rope to ascend is extremely difficult for the average soldier, and makes a unit more likely to fail their mission. Grappling hooks are still a viable tool for accomplishing the following tasks:

- Clearing concertina or other tangle wire.
- Clearing obstacles or barricades that may be booby trapped.
- Descending to lower floors.

### 3-11. SCALING OF WALLS

When required to scale a wall during exposure to enemy fire, all available concealment must be used. Smoke and diversionary measures improve the chances of success. When using smoke for concealment, soldiers must plan for wind direction. They should use suppressive fire, shouting, and distraction devices from other positions to divert the enemy's attention.

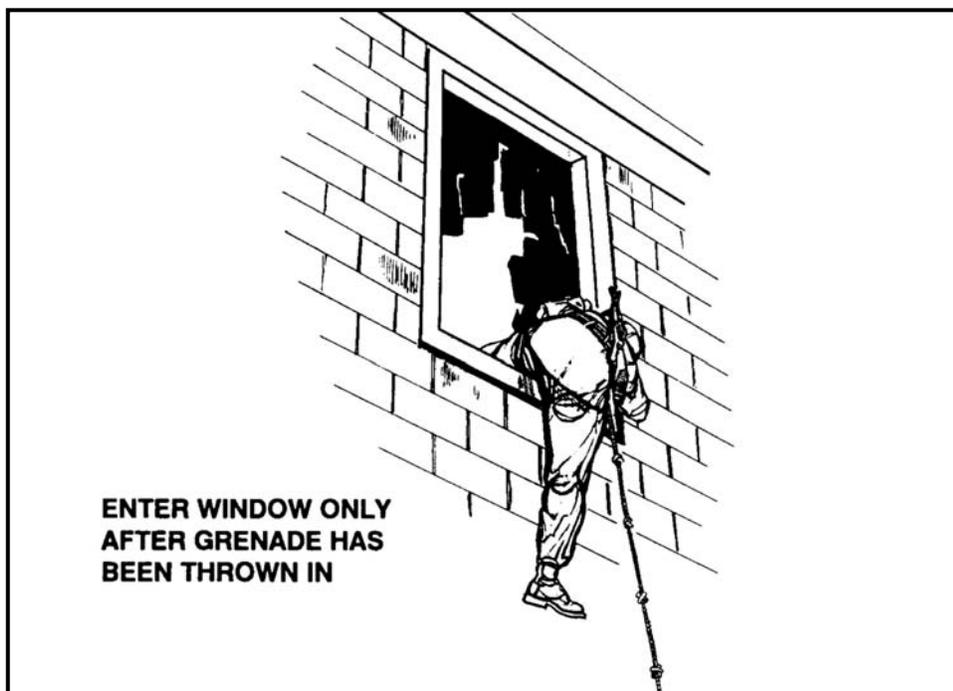
a. A soldier scaling an outside wall is vulnerable to enemy fire. Soldiers who are moving from building to building and climbing buildings should be covered by friendly fire. Properly positioned friendly weapons can suppress and eliminate enemy fire. The M203 grenade launcher is effective in suppressing or neutralizing the enemy from rooms inside buildings (Figure 3-15).



**Figure 3-15. Employment of M203 grenade launcher for clearing enemy snipers.**

b. If a soldier must scale a wall with a rope, he should avoid silhouetting himself in windows that are not cleared and avoid exposing himself to enemy fires from lower windows. He should climb with his weapon slung over the firing shoulder so he can bring it quickly to a firing position. If the ROE permits, the objective window and any lower level windows in the path of the climber should be engaged with grenades (hand or launcher) before the soldier begins his ascent.

c. The soldier enters the objective window with a low silhouette (Figure 3-16). Entry can be head first; however, the preferred method is to hook a leg over the window sill and enter sideways straddling the ledge.



**Figure 3-16. Soldier entering the objective window.**

### 3-12. RAPPELLING

Rappelling is an entry technique that soldiers can use to descend from the rooftop of a tall building into a window (Figure 3-17), or through a hole in the floor, in order to descend to the lower floor. (See TC 21-24 for more information on rappelling.)



**Figure 3-17. Rappelling.**

### 3-13. ENTRY AT LOWER LEVELS

Buildings should be cleared from the top down. However, entering a building at the top may be impossible. Entry at the bottom or lower level is common and may be the only course of action. When entering a building at lower levels, soldiers avoid entering through windows and doors since both can be easily booby trapped and are usually covered by enemy fire. (Specific lower-level entry techniques are shown in Figure 3-18 on pages 3-13 through 3-15. These techniques are used when soldiers can enter the building without receiving effective enemy fire.)

a. When entering at lower levels, demolitions, artillery, tank fire, antiarmor weapons fire, or similar means can be used to create a new entrance to avoid booby traps. This procedure is preferred if the ROE permit it. Quick entry is then required to take advantage of the effects of the blast and concussion.

b. When the only entry to a building is through a window or door, supporting fire is directed at that location to destroy or drive away enemy forces. The assaulting soldiers should not leave their covered positions before the support by fire element has accomplished this procedure.

c. Before entering, soldiers may throw a cooked off hand grenade into the new entrance to reinforce the effects of the original blast. The type grenade used, fragmentation, concussion, or stun, is based on METT-TC factors and the structural integrity of the building.

(1) When making a new entrance in a building, soldiers consider the effects of the blast on the building and on adjacent buildings. If there is the possibility of a fire in

adjacent building, soldiers coordinate with adjacent units and obtain permission before starting the operation.

(2) In wooden frame buildings, the blast may cause the building to collapse. In stone, brick, or cement buildings, supporting fires are aimed at the corner of the building or at weak points in the building construction.

**NOTE:** Armored vehicles can be positioned next to a building allowing soldiers to use the vehicle as a platform to enter a room or gain access to a roof.

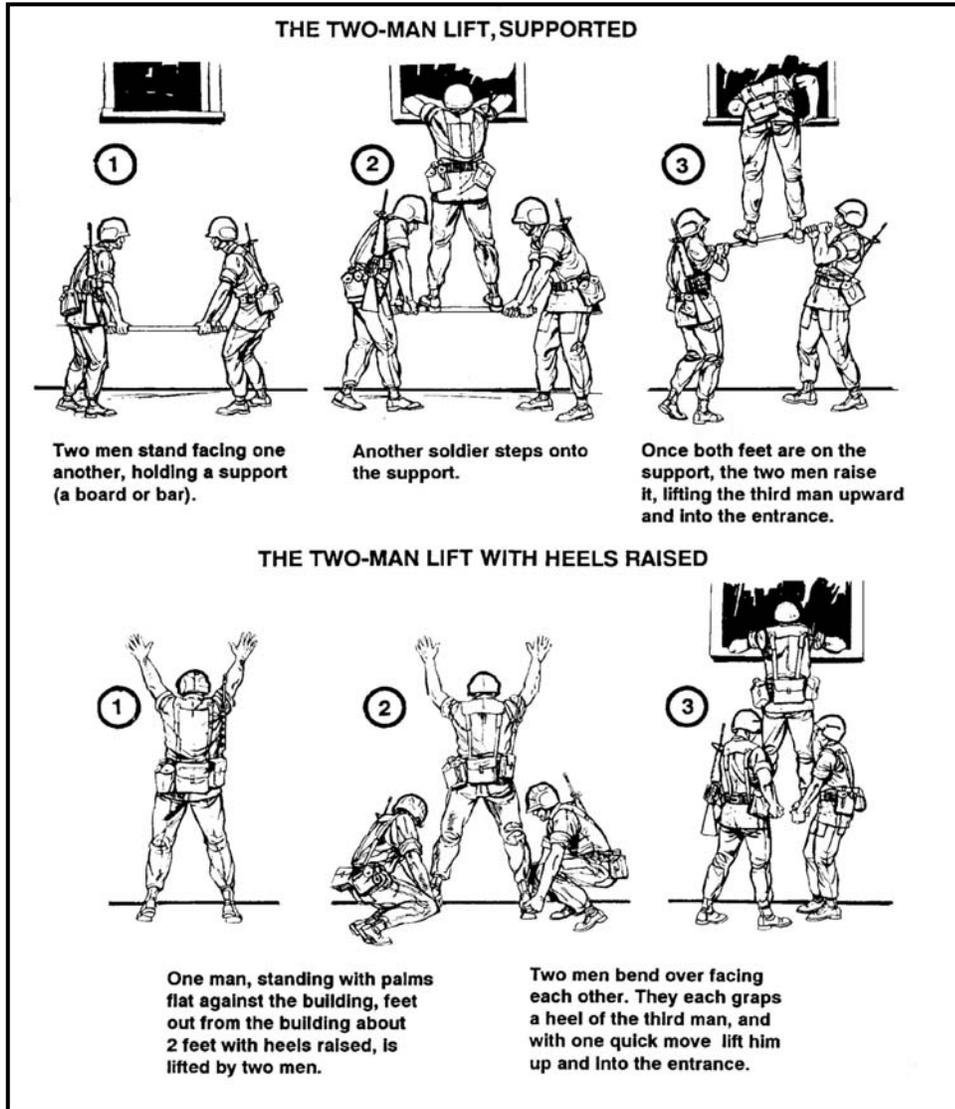


Figure 3-18. Lower-level entry technique.

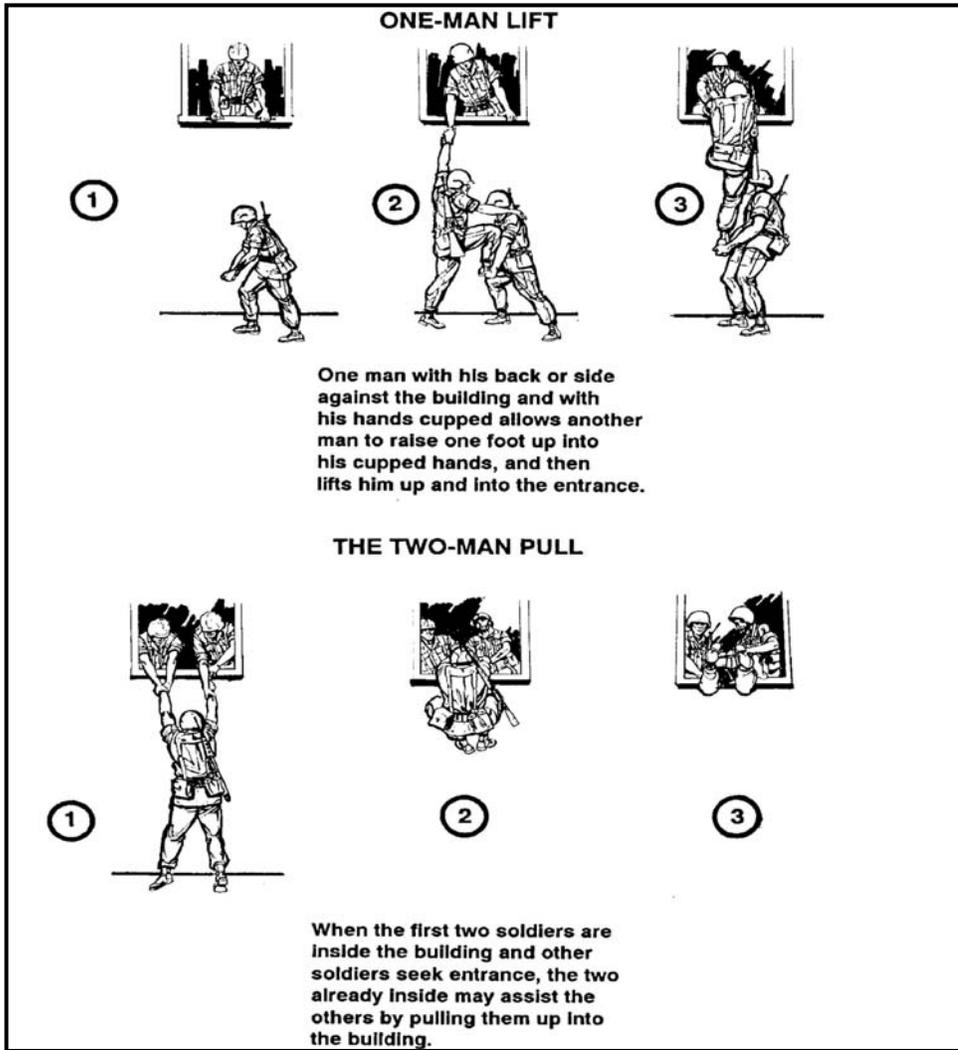
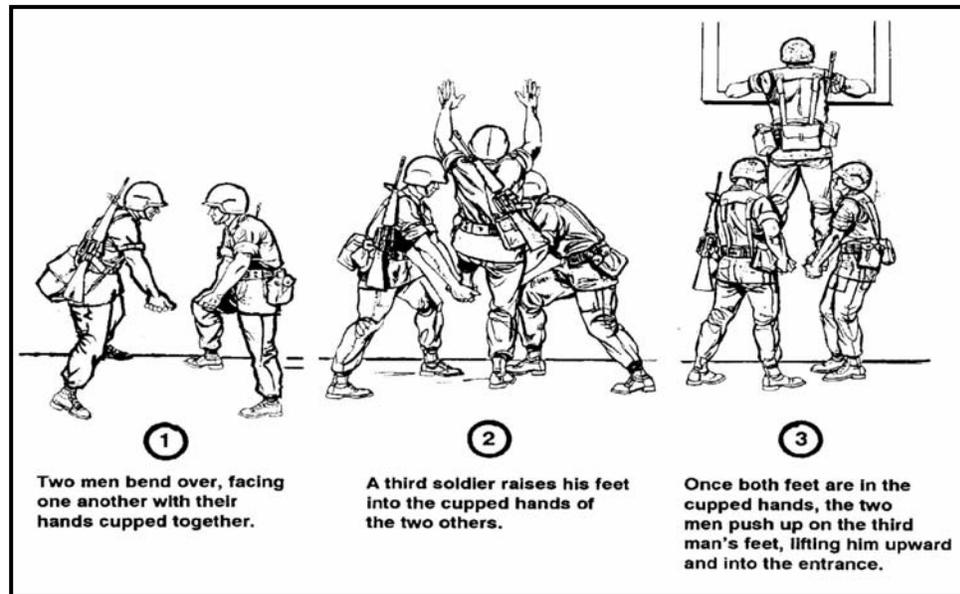


Figure 3-18. Lower-level entry technique (continued).



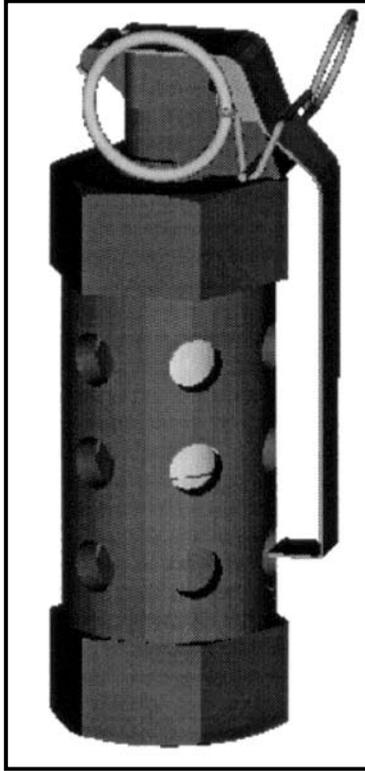
**Figure 3-18. Lower-level entry technique (continued).**

### 3-14. USE OF HAND GRENADES

Combat in urban areas often requires extensive use of hand grenades. Unless the ROE prevent it, use grenades before assaulting defended areas, moving through breaches, or entering unsecured areas. Effective grenade use in urban areas may require throwing overhand or underhand, with both the left and right hand. Normally, the fragmentation grenade should be cooked off for two seconds to prevent the enemy from throwing them back.

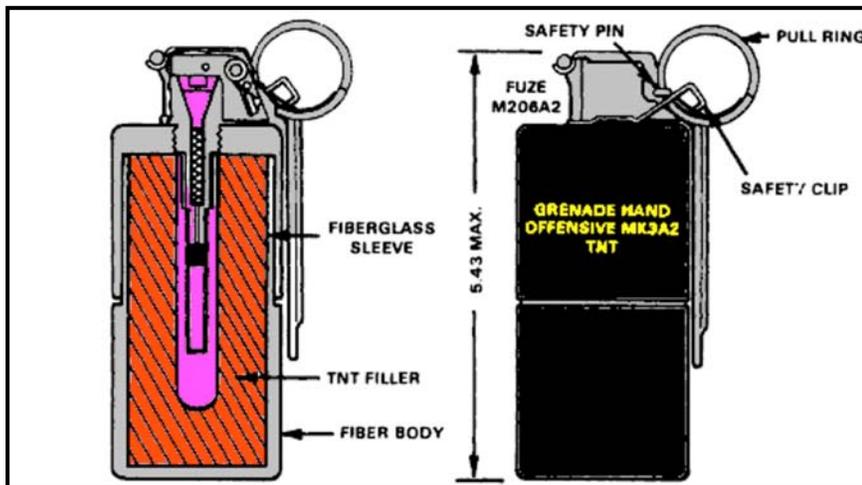
a. Three types of hand grenades can be used when assaulting an urban objective: stun, concussion, and fragmentation. METT-TC factors and the type of construction materials used in the objective building influence the type of grenades that can be used.

(1) The M84 stun hand grenade is a *flash-bang* distraction device, which produces a brilliant flash and a loud bang to momentarily surprise and distract an enemy force (Figure 3-19, page 3-16). The M84 is often used under precision conditions and when the ROE demand use of a nonlethal grenade. The use of stun hand grenades under high intensity conditions is usually limited to situations where fragmentation and concussion grenades pose a risk to friendly troops or the structural integrity of the building.



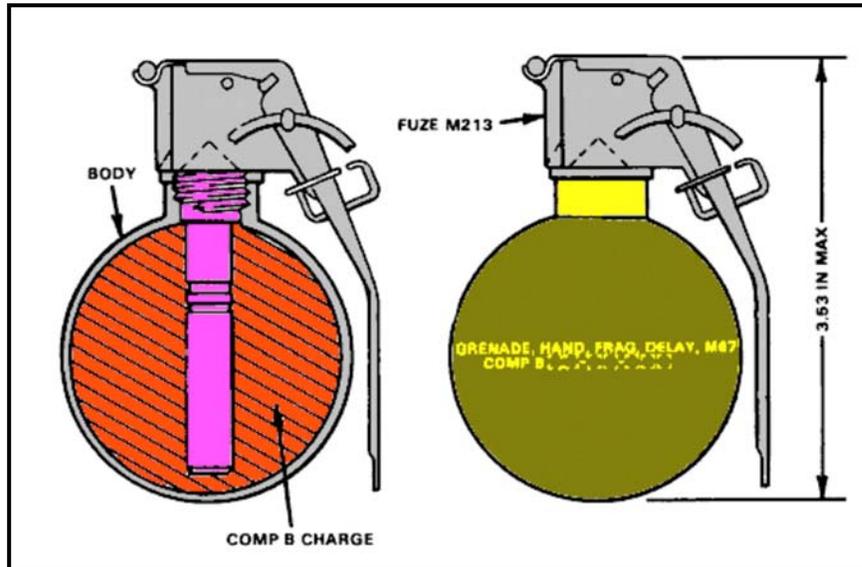
**Figure 3-19. M84 stun hand grenade.**

(2) The concussion grenade causes injury or death to persons in a room by blast overpressure and propelling debris within the room (Figure 3-20). While the concussion grenade does not discard a dangerous fragmentation from its body, the force of the explosion can create debris fallout that may penetrate thin walls.



**Figure 3-20. MK3A2 (concussion grenade).**

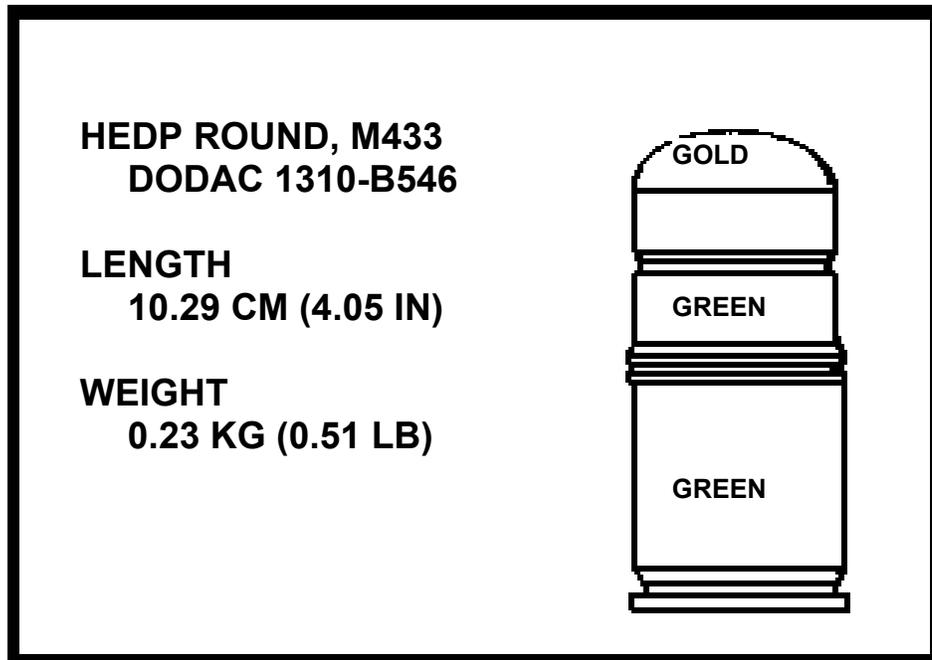
(3) The fragmentation grenade (Figure 3-21) produces substantial overpressure when used inside buildings and, coupled with the shrapnel effects, can be extremely dangerous to friendly soldiers. If the walls of a building are made of thin material, such as Sheetrock or thin plywood, soldiers should either lie flat on the floor with their helmet towards the area of detonation, or move away from any wall that might be penetrated by grenade fragments.



**Figure 3-21. Fragmentation grenade.**

b. Soldiers should engage upper-level openings with grenades (by hand or launcher) before entering to eliminate enemy that might be near the entrance.

(1) The M203 grenade launcher is the best method for putting a grenade in an upper-story window. The primary round of ammunition used for engaging an urban threat is the M433 high-explosive, dual-purpose cartridge (Figure 3-22, page 3-18). Throwing a hand grenade into an upper-story opening is a task that is difficult to do safely during combat.



**Figure 3-22. 40-mm, tube-launched, high-explosive, dual-purpose (HEDP) grenade.**

(2) When a hand grenade must be thrown into an upper-story opening, the thrower should stand close to the building, using it for cover. This technique should only be employed when the window opening is free of glass or screen.

(3) The thrower should allow the grenade to cook off for at least two seconds, and then step out far enough to lob the grenade into the upper-story opening (Figure 3-23). He should keep his weapon in the nonthrowing hand, to be used if needed. The weapon should never be laid outside or inside the building. At the same time, everyone should have a planned area to move to for safety if the grenade does not go through the window but falls back to the ground.

(4) Once the grenade has been thrown into the opening and detonates, assaulting troops must move swiftly to enter the building.



**Figure 3-23. Hand grenade thrown through window.**

c. If soldiers must enter the building by the stairs, they must first look for booby traps, then engage the stairwell door with a grenade (by hand or launcher), let it detonate, and quickly move inside. They can then use the staircase for cover.

#### **WARNINGS**

- 1. If stealth is not a factor, after throwing the grenade the soldier must immediately announce *frag out* to indicate that a grenade has been thrown. He then takes cover since the grenade may bounce back or be thrown back, or the enemy may fire at him.**
- 2. When the M203 grenade launcher is used to deliver the grenade into a window or doorway, ensure proper standoff for arming the round. Also, the assaulting element should take cover around a corner or away from the target area.**

d. Breachholes and mouseholes are blown or cut through a wall so soldiers can enter a building. (See Chapters 4 and 7 for more information.) These are safer entrances than doors because doors can be easily booby trapped and should be avoided, unless explosive breaching is used against the door.

(1) A grenade should be thrown through the breach before entering. Use available cover, such as the lower corner of the building (Figure 3-24), for protection from fragments.

(2) Use stun and concussion grenades when engaging through thin walls.



**Figure 3-24. Soldier entering through a mousehole.**

e. When a door is the only means of entering a building, soldiers must beware of booby traps and fire from enemy soldiers within the room.

(1) Locked doors can be breached (forced open) using one of the four breaching methods: mechanical, ballistic, explosive, or thermal (see Chapter 8). If none of these methods are available, soldiers can resort to kicking the door open. This method is the least preferred since it is difficult and tiring to the soldier. It rarely works the first time, and gives any enemy soldiers in the room ample warning and time to shoot through the door. Once the door is breached, a grenade should precede the soldier's entry.

(2) When opening an unlocked door by hand, the assault team should be sure not to expose themselves to enemy fire through the door. The soldiers should stay close to one side of the doorway to minimize exposure in the open doorframe

(3) Once the door is open, a hand grenade should be tossed in. After the grenade explodes, soldiers enter and clear the room IAW the tactics, techniques, and procedures discussed in Section III.

f. Although buildings are best cleared from the top down, this procedure is not always possible. While clearing the bottom floor of a building, soldiers may encounter stairs, which must also be cleared. Once again, grenades play an important role.

(1) To climb stairs, first inspect for booby traps, then toss a grenade to the head of the stairs (Figure 3-25). Soldiers must use voice alerts when throwing grenades.

(2) Using the staircase for cover, soldiers throw the grenade underhand to reduce the risk of it bouncing back and rolling down the stairs.

(3) Once the first grenade has detonated, another grenade should be thrown over and behind the staircase banister and into the hallway, neutralizing any exposed enemy in the hallway.

(4) When the second hand grenade has detonated, soldiers proceed to clear the stairway in accordance with prescribed TTP.

**NOTE:** Large quantities of hand grenades are used when clearing buildings. A continuous supply must be available.



**Figure 3-25. Soldier tossing grenade up stairway.**

**CAUTION**

Throwing fragmentation grenades up a stairway has a high probability for the grenades to roll back down and cause fratricide. Soldiers should avoid clustering at the foot of the stairway and ensure that the structural integrity of the building permits the use of either a fragmentation or concussion grenade.

### **3-15. INDIVIDUAL WEAPONS CONTROL WHEN MOVING**

As in all combat situations, the clearing team members must move tactically and safely. Individuals who are part of a clearing team must move in a standard manner, using practiced techniques known to all.

a. When moving, team members maintain *muzzle awareness* by holding their weapons with the muzzle pointed in the direction of travel. Soldiers keep the butt of the rifle in the pocket of their shoulder, with the muzzle slightly down to allow unobstructed vision. Soldiers keep both eyes open and swing the muzzle as they turn their head so the rifle is always aimed where the soldier is looking. This procedure allows to soldier to see what or who is entering their line of fire.

b. Team members avoid *flagging* (leading) with the weapon when working around windows, doors, corners, or areas where obstacles must be negotiated. Flagging the weapon gives advance warning to anyone looking in the soldier's direction, making it easier for an enemy to grab the weapon.

c. Team members should keep weapons on safe (selector switch on SAFE and index finger outside of trigger guard) until a hostile target is identified and engaged. After a team member clears his sector of all targets, he returns his weapon to the SAFE position.

d. If a soldier has a weapons malfunction during room clearing, he should immediately announce "gun down" and drop to one knee and conduct immediate action to reduce the malfunction. The other members of the team should engage targets in his sector. Once the weapon is operational, he should announce "gun up" and remain in the kneeling position until directed to stand-up by the team leader.

## **Section III. CLEARING**

Infantry units often use close combat to enter and clear buildings and rooms. This section describes the TTP for clearing.

### **3-16. HIGH INTENSITY VERSUS PRECISION CLEARING TECHNIQUES**

Precision clearing techniques do not replace other techniques currently being used to clear buildings and rooms during high-intensity combat. Specifically, they do not replace the clearing technique in which a fragmentation or concussion grenade is thrown into a room before the US forces enter. Precision room clearing techniques are used when the tactical situation calls for room-by-room clearing of a relatively intact building in which enemy combatants and noncombatants may be intermixed. They involve increased risk in order to clear a building methodically, rather than using overwhelming firepower to eliminate or neutralize all its inhabitants.

a. From a conceptual standpoint, standard high-intensity room clearing drills can be thought of as a deliberate attack. The task is to seize control of the room with the purpose being the neutralization of the enemy in the room. The fragmentation and or concussion grenades can be thought of as the preparatory fires used before the assault. As in a deliberate attack against any objective, the assaulting elements move into position using covered and concealed routes. The preparatory fires (fragmentation and or concussion grenades) are initiated when soldiers are as close to the objective as they can get without being injured by the fires. The assault element follows the preparatory fires onto the

objective as closely as possible. A rapid, violent assault overwhelms and destroys the enemy force and seizes the objective.

b. Compared to the deliberate attack represented by high-intensity room clearing techniques, precision room clearing techniques are more conceptually like a reconnaissance in force or perhaps an infiltration attack. During a reconnaissance in force, the friendly unit seeks to determine the enemy's locations, dispositions, strength, and intentions. Once the enemy is located, the friendly force is fully prepared to engage and destroy it, especially if surprise is achieved. The friendly force retains the options of not employing preparatory fires (fragmentation and or concussion grenades) if they are not called for (the enemy is not in the room) or if they are inappropriate (there are noncombatants present also). The attacking unit may choose to create a diversion (use a stun grenade) to momentarily distract the defender while they enter and seize the objective.

c. The determination of which techniques to employ is up to the leader on the scene and is based on his analysis of the existing METT-TC conditions. The deliberate attack (high-intensity techniques), with its devastating suppressive and preparatory fires, neutralizes everyone in the room and is less dangerous to the assaulting troops. The reconnaissance in force (precision techniques) conserves ammunition, reduces damage, and minimizes the chance of noncombatant casualties. Unfortunately, even when well-executed, it is very stressful and hazardous for friendly troops.

d. Certain precision room clearing techniques, such as methods of squad and fire team movement, the various firing stances, weapon positioning, and reflexive shooting, are useful for all combat in confined areas. Other techniques, such as entering a room without first neutralizing known enemy occupants by fire or explosives, are appropriate in only some tactical situations.

e. Generally, if a room or building is occupied by an alerted enemy force that is determined to resist, and if most or all noncombatants are clear, overwhelming firepower should be employed to avoid friendly casualties. In such a situation, supporting fires, demolitions, and fragmentation grenades should be used to neutralize a space before friendly troops enter.

f. In some combat situations the use of heavy supporting fires and demolitions would cause unacceptable collateral damage or would unnecessarily slow the unit's movement. In other situations, often during stability and support operations, enemy combatants are so intermixed with noncombatants that US forces cannot, in good conscience, use all available supporting fires. Room-by-room clearing may be necessary. At such times, precision room clearing techniques are most appropriate.

### 3-17. PRINCIPLES OF PRECISION ROOM CLEARING

Battles that occur at close quarters, such as within a room or hallway, must be planned and executed with care. Units must train, practice, and rehearse precision room clearing techniques until each fire team and squad operates smoothly. Each unit member must understand the principles of precision room clearing: surprise, speed, and controlled violence of action.

a. **Surprise.** Surprise is the key to a successful assault at close quarters. The fire team or squad clearing the room must achieve surprise, if only for seconds, by deceiving, distracting, or startling the enemy. Sometimes stun grenades may be used to achieve

surprise. These are more effective against a nonalert, poorly trained enemy than against alert, well-trained soldiers.

b. **Speed.** Speed provides a measure of security to the clearing unit. It allows soldiers to use the first few vital seconds provided by surprise to their maximum advantage. In precision room clearing, speed is not how fast you enter the room, rather it's how fast the threat is eliminated and the room is cleared.

c. **Controlled Violence of Action.** Controlled violence of action eliminates or neutralizes the enemy while giving him the least chance of inflicting friendly casualties. It is not limited to the application of firepower only, but also involves a soldier mind-set of complete domination. Each of the principles of precision room clearing has a synergistic relationship to the others. Controlled violence coupled with speed increases surprise. Hence, successful surprise allows increased speed.

### **3-18. FUNDAMENTALS OF PRECISION ROOM CLEARING**

The ten fundamentals of precision room clearing address actions soldiers take while moving along confined corridors to the room to be cleared, while preparing to enter the room, during room entry and target engagement, and after contact. Team members—

- Move tactically and silently while securing the corridors to the room to be cleared.
- Carry only the minimum amount of equipment. (Rucksacks and loose items carried by soldiers tire them, slow their pace, and cause noise.)
- Arrive undetected at the entry to the room in the correct order of entrance, prepared to enter on a single command.
- Enter quickly and dominate the room. Move immediately to positions that allow complete control of the room and provide unobstructed fields of fire.
- Eliminate all enemy in the room by fast, accurate, and discriminating fires.
- Gain and maintain immediate control of the situation and all personnel in the room.
- Confirm whether enemy casualties are wounded or dead. Disarm, segregate, and treat the wounded. Search all enemy casualties.
- Perform a cursory search of the room. Determine if a detailed search is required.
- Evacuate all wounded and any friendly dead.
- Mark the room as cleared using a simple, clearly identifiable marking in accordance with the unit SOP.
- Maintain security and be prepared to react to more enemy contact at any moment. Do not neglect rear security.

### **3-19. COMPOSITION OF THE CLEARING TEAM**

Precision room clearing techniques are designed to be executed by the standard four-man fire team. Because of the confined spaces typical of building- and room-clearing operations, units larger than squads quickly become unwieldy. When shortages of personnel demand it, room clearing can be conducted with two- or three-man teams, but four-man teams are preferred. Using fewer personnel greatly increases the combat strain and risks.

### 3-20. BREACHING

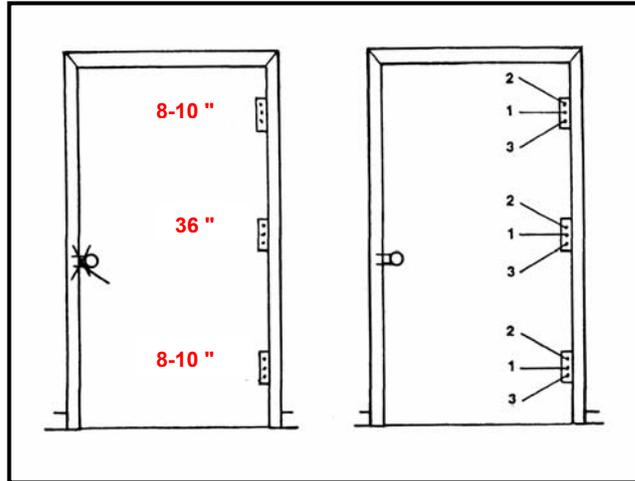
An integral part of precision room clearing is the ability to gain access quickly to the rooms to be cleared. Breaching techniques vary based on the type of construction encountered and the types of munitions available to the breaching element. Techniques range from simple mechanical breaching to complex, specialized demolitions.

a. A useful method of breaching is the *shotgun ballistic* breach for forced entry of standard doors. A 12-gauge shotgun loaded with buckshot or slugs can be used to breach most standard doors quickly. Number 9 shot works equally well with reduced collateral damage on the other side of the door. When done properly, the shotgun breach requires only a few seconds. The two standard techniques of shotgun breaching are the *doorknob breach* and the *hinge breach*. When attempting either technique, the gunner is announcing his presence by using the shotgun and is completely exposed to fire through the door. Therefore, exposure time must be minimized and the number 1 man must be ready to gain entry and return fire as soon as possible. While holding the stock of the shotgun in the pocket of his shoulder, the gunner places the muzzle tightly against the door, and aims down at a 45-degree angle.

**NOTE:** If the shotgun muzzle is not held tightly against the door, splatter may occur that could affect friendly troops. Also, buckshot and rifled slugs can overpenetrate doors and may kill or wound occupants in the room.

(1) For the doorknob breach, the aim point is a spot halfway between the doorknob and the frame, not at the doorknob itself. The gunner fires two quick shots in the same location, ensuring the second shot is aimed as carefully as the first. Weak locks may fly apart with the first shot, but the gunner should always fire twice. Some locks that appear to be blown apart have parts still connected that can delay entry. If the lock is not defeated by the second shot, the gunner repeats the procedure. Doors may not always open after firing. The gunner should be prepared to kick the door after firing to ensure opening of the entry point.

(2) The hinge breach technique is performed much the same as the doorknob breach, except the gunner aims at the hinges. He fires three shots per hinge—the first at the middle, then at the top and bottom (Figure 3-26, page 3-26). He fires all shots from less than an inch away from the hinge. Because the hinges are often hidden from view, the hinge breach is more difficult. Hinges are generally 8 to 10 inches from the top and bottom of the door; the center hinge is generally 36 inches from the top, centered on the door. Regardless of which technique the gunner uses, immediately after he fires, he kicks the door in or pulls it out. He then pulls the shotgun barrel sharply upward and quickly turns away from the doorway to signal that the breach point has been cleared. This rapid clearing of the doorway allows the following man in the fire team a clear shot at any enemy who may be blocking the immediate breach site.



**Figure 3-26. Aim points for shotgun breach of a standard door, doorknob target on left and hinge targets on right.**

**NOTE:** The use of small arms (5.56-mm or 7.62-mm) as a ballistic breach on doorknobs and hinges is unsafe and should only be used as a last resort.

b. Demolitions are often needed to defeat more elaborate barriers or to produce a desired effect to aid the initial entry. (See Chapter 8 for a discussion of expedient demolitions for breaching common urban barriers.)

c. Mechanical breaching is planned as a backup to a ballistic or explosive breach. Mechanical breaching is an assumed capability within all units. Taking the time to defeat weak barriers, such as doors or windows, by means of crowbars, saws, sledgehammers, battering rams, axes, or other breaching tools is a decision that must be made based on the conditions of METT-TC.

d. Clearing team members must approach the breach point quickly, quietly, and in standard order. This approach preserves the element of surprise and allows for quick entry and domination of the room. The order of movement to the breach point is determined by the method of breach and intended actions at the breach point. The members of the fire team are assigned numbers 1 through 4, with the team leader normally designated number 2. If one member of the clearing team is armed with the SAW rather than an M16 rifle or carbine, he should be designated number 4.

(1) **Ballistic (Shotgun) Breach.** The order of movement for a shotgun breach has the gunner up front, followed by the number 1 man, number 2 man (team leader), and then the number 3 man. After the door is breached, the gunner moves to the rear of the lineup and assumes the position of the number 4 man.

(2) **Explosive (Demolition) Breach.** The order of movement for an explosive breach without engineer support is number 1, number 2 (team leader), number 3, and then number 4. The number 1 man provides security at the doorway. The number 2 man (team leader) carries the demolition charge and places it. The number 3 man provides security overhead, and the number 4 man provides rear security. After the demolition charge is placed, the team moves to covered positions and prepares to enter in the standard 1, 2, 3, 4 order. (Refer to Chapter 8 for information concerning minimum safe distances.)

## Section VII. PLATOON DEFENSIVE OPERATIONS

In urban areas, buildings provide cover and concealment, limit fields of observation and fire, and restrict the movement of troops and armored vehicles. This section covers the key planning considerations, weapons selection, preparations, and the construction of a platoon defensive position on urbanized terrain.

### 5-29. PLANNING THE DEFENSE

Planning the defense begins when the leader receives a mission or determines a requirement to defend such as during consolidation and reorganization after an assault. The leader must use terrain wisely and designate a point of main effort. He chooses defensive positions that force the enemy to make costly attacks or conduct time-consuming maneuvers to avoid them. A position that the enemy can readily avoid has no defensive value unless the enemy can be induced to attack it. The defense, no less than the offense, should achieve surprise. As platoon leaders conduct their troop-leading procedures, they also have to consider civilians, ROE, limited collateral damage, and coordination with adjacent units to eliminate the probability of fratricide. Maneuver, methods, and courses of action in establishing defensive positions in and around urbanized terrain are METT-TC intensive.

a. **Focus.** The squad's and platoon's focus for defending in an urban area is the retention of terrain. As with most defensive scenarios, the squad and platoon will defend as part of the company. The platoon will either be given a sector to defend or a battle position to occupy and the platoon leader must construct his defense within the constraints given to him. See Sections II and III for other planning considerations.

b. **Strongpoint.** One of the most common defensive tasks a platoon will be given during urban operations is to conduct a strongpoint defense of a building, part of a building, or a group of small buildings (see paragraph 5-27 and Figure 5-21). The platoon's defense is normally integrated into the company's mission. The platoon leader organizes the strongpoint defense by positioning personnel and their weapons systems to maximize their capabilities. Supporting fires are incorporated into the overall defensive plan to provide depth to the engagement area.

(1) The platoon leader organizes the defense into a series of individual, team, and squad fighting positions located to cover avenues of approach and obstacles, and to provide mutual support in order to repel the enemy advance. Snipers should be positioned to support the commander's intent and to allow for the opportunity to engage C2 and key targets.

(2) Depending on the length of the mission, the platoon should stockpile munitions (especially grenades), food and water, medical supplies, and fire-fighting equipment.

### 5-30. PRIORITIES OF WORK AND DEFENSIVE CONSIDERATIONS

A critical platoon- and squad-level defensive task during defensive urban operations is the preparation of fighting positions. General defensive considerations in urban terrain are similar to any other defensive operations. Fighting positions in urban areas are usually constructed inside buildings and are selected based on an analysis of the area in which the building is located, the individual characteristics of the building, and the characteristics of the weapons system.

a. **Priorities of Work.** The priorities of work are the same as those listed in paragraph 5-13. Specific considerations at platoon level are discussed below.

(1) Select key weapons and crew-served weapon positions to cover likely mounted and dismounted avenues of approach. To cover armored avenues of approach, position antiarmor weapons inside buildings with adequate space and ventilation for backblast (on upper floors, if possible, for long-range shots). Position machine guns/M249s to cover dismounted avenues of approach. Place them near ground level to increase grazing fires. If ground rubble obstructs grazing fires, place machine guns/M249s in the upper stories of the building. Ensure weapons are mutually supporting and are tied in with adjacent units.

(2) Ensure the position is free of noncombatants. Remove them from the area of operations before occupying the position.

(3) Clear fields of fire. Prepare loopholes, aiming stakes, sector stakes, and TRP markings. Construct positions with overhead cover and camouflage (inside and outside).

(4) Identify and secure subsurface avenues of approach (sewers, basements, stairwells, and rooftops).

(5) Stockpile ammunition, food, fire-fighting equipment, and drinking water.

(6) Construct barriers and emplace obstacles to deny the enemy any access to streets, underground passages, and buildings, and to slow his movement. Integrate barriers and or obstacles with key weapons. Cover all barriers and obstacles by fire (both direct and indirect) and or observation. (See Chapter 8 for more information concerning obstacles.)

(7) Improve and mark movement routes between positions as well as to alternate and supplementary positions. Improve routes by digging trenches, if possible; using sewers and tunnels; creating entry holes; and positioning ropes and ladders for ascending and descending.

b. **Considerations.** The following must be considered when establishing a defensive position.

(1) **Security.** The first priority is establishing all-around security. Each position should have at least one soldier providing security during all preparations.

(2) **Protection.** Select buildings that provide protection from direct and indirect fires. Reinforced concrete buildings with three or more floors provide suitable protection while buildings constructed of wood, paneling, or other light material must be reinforced to provide sufficient protection. One- and two-story buildings without a strongly constructed cellar are vulnerable to indirect fires and require construction of overhead protection for each fighting position. If possible, use materials gathered from the immediate area to build the overhead cover.

(3) **Dispersion.** A platoon position should not be established in a single building when it is possible to occupy two or more buildings that permit mutually supporting fires. A position without mutual support in one building is vulnerable to bypass, isolation, and subsequent destruction from any direction.

(4) **Concealment.** Do not select buildings that are obvious defensive positions (easily targeted by the enemy). If the requirements for security and fields of fire dictate the occupation of exposed buildings, the platoon will be required to add reinforcement materials to the building to provide suitable protection to the troops inside.

(5) **Fields of Fire.** To prevent isolation, individual and crew-served weapons positions should be mutually supporting and have fields of fire in all directions. When

clearing fields of fire, try to maintain the natural appearance of the surrounding area if possible. Removing objects that interfere with the gunner's field of vision may be necessary.

(6) **Covered Routes.** Defensive positions should have at least one covered and concealed route that allows resupply, medical evacuation, reinforcement, or withdrawal from the building without being detected, or at least provides protection from direct fire weapons. The route can be established using underground systems, communications trenches, or walls and buildings that allow covered movement.

(7) **Observation.** Positions in buildings should permit observation of enemy avenues of approach and adjacent defensive sectors. Upper stories offer the best observation but also attract enemy fire.

(8) **Fire Hazard.** If possible, avoid selecting positions in buildings that are obvious fire hazards. If these flammable structures must be occupied, reduce the danger of fire by wetting down the immediate area, laying an inch of sand on the floors, and providing fire extinguishers and fire fighting equipment. Ensure that each defender is familiar with the withdrawal routes and that they have the opportunity to rehearse their withdrawal using these planned routes in the event of fire.

(9) **Tag Lines.** Tag lines are a flexible handhold used to guide individuals along a route. Tag lines aid in navigation and movement when operating in confined spaces such as buildings, tunnel systems and caverns where visibility is limited and sense of direction can be lost. When preparing defensive positions inside buildings, tag lines can be run from each fighting position back to the command post, or along an egress route. These lines can be made of rope, string, cable, wire and so forth. The most effective item to be used as a tag line is WD-1A communications wire. Along with serving as a tag line it can be used as a primary means of communication between individual fighting positions and leader's positions.

(10) **Time.** Time is the one element in METT-TC that the platoon and its leaders have no control over. The most important factor to consider when planning the use of time is to provide subordinate leaders with two-thirds of all available time. The unit TACSOP provides the leaders with their priorities when time does not allow for detailed planning. The platoon will complete defensive preparation IAW the TACSOP and the commander's operational priorities.

c. **Preparation.** Preparation of the platoon's individual fighting positions will normally be conducted inside the buildings the platoon has been assigned to defend. As with all defensive positions, the leader's first task is to establish security. This will normally be in the form of an observation post located within the protection of the platoon's direct fire weapons. The OP should be manned with at least two personnel. Leaders then assign individual or two-man positions to adequately cover his sector. The squad leader will position himself to best control his squad. The platoon leader will designate the level of security to be maintained. The remaining personnel will continue to work preparing the defense. The leaders will continue to make improvements to the defense as time permits. (The preparation of fighting positions is discussed in detail in Chapter 3.)

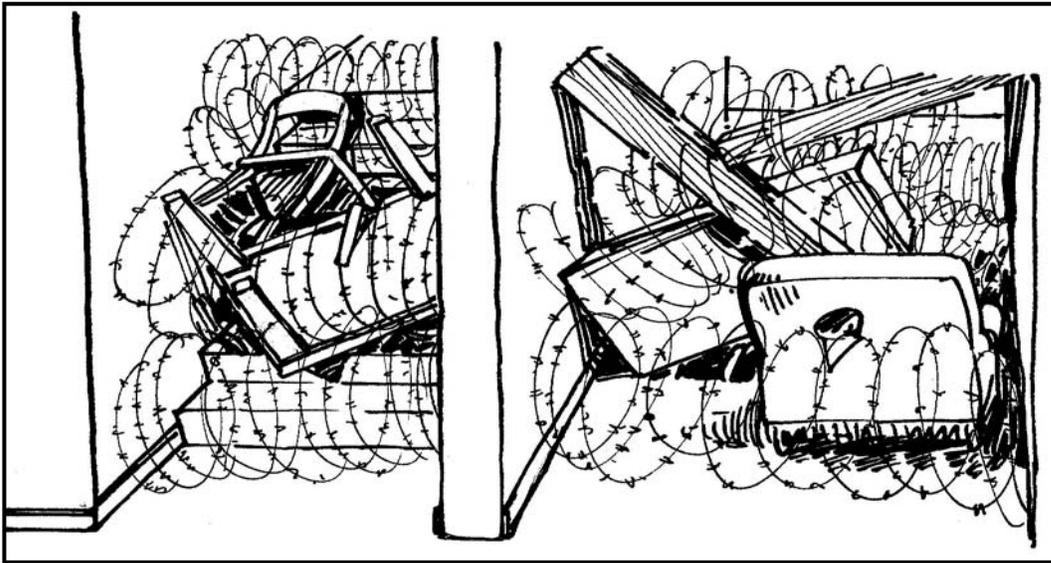
d. **Other Typical Tasks.** Additional defensive preparation tasks may be required in basements, on ground floors, and on upper floors.

(1) **Basements and Ground Floors.** Basements require preparation similar to that of the ground floor. Any underground system not used by the defender that could provide enemy access to the position must be blocked.

(a) **Doors.** Unused doors should be locked or nailed shut, as well as blocked and reinforced with furniture, sandbags, or other field expedients.

(b) **Hallways.** If not required for the defender's movement, hallways should be blocked with furniture and tactical wire (Figure 5-23).

(c) **Stairs.** Unused stairs should be blocked with furniture and tactical wire, or removed. If possible, all stairs should be blocked (Figure 5-23), and ladders should be used to move from floor to floor and then removed.



**Figure 5-23. Blocking stairs and doorways.**

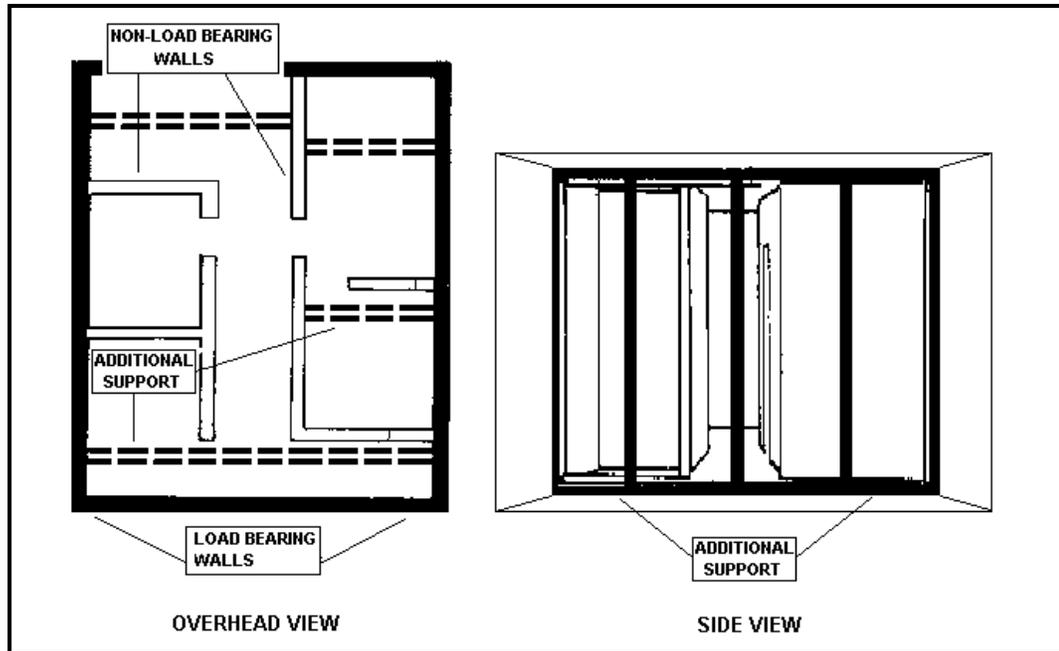
(d) **Windows.** Remove all glass. Block unused windows with boards or sandbags to prevent observation and access.

(e) **Floors.** Make fighting positions in the floors. If there is no basement, fighting positions can give additional protection from heavy direct-fire weapons.

(f) **Ceilings.** Erect support for ceilings that otherwise would not withstand the weight of fortified positions or rubble from upper floors (Figure 5-24).

(g) **Unoccupied Rooms.** Block rooms not required for defense with tactical wire.

(2) **Upper Floors.** Upper floors require the same preparation as ground floors. Windows need not be blocked, but should be covered with wire mesh, canvas, ponchos, or other heavy material, to prevent grenades from being thrown in from the outside. The covering should be loose at the bottom to permit the defender to drop grenades.



**Figure 5-24. Reinforcing ceilings.**

(3) **Interior Routes.** Routes are required that permit defending fire teams and squads to move within the building (Figure 5-25) to engage enemy forces from any direction. Plan and construct escape routes to permit rapid evacuation of a room or a building. Mouseholes should be made through interior walls to permit movement between rooms. Such holes should be marked to enable defenders to easily locate them during day and night conditions. Brief all personnel as to where the various routes are located. Conduct rehearsals so that everyone becomes familiar with the routes.



**Figure 5-25. Movement routes within building.**

(4) **Fire Prevention.** Buildings that have wooden floors and rafter ceilings require extensive fire prevention measures. Cover the attic and other wooden floors with about one to two inches of sand or dirt, and position buckets of water for immediate use. Place fire-fighting materials (dirt, sand, fire extinguishers, and blankets) on each floor for immediate use. Fill water basins and bathtubs as a reserve for fire fighting. Turn off all electricity and gas. If available, use any existing fire extinguishers found in buildings.

(5) **Communications.** Conceal radio antennas by placing them among civilian television antennas, along the sides of chimneys and steeples, or out of windows that would direct FM communications away from enemy early-warning sources and ground observation. Lay wire through adjacent buildings or underground systems or bury them in shallow trenches. Lay wire communications within the building through walls and floors.

(6) **Rubbling.** See paragraph 5-12c(8).

(7) **Rooftops.** Platoons must position obstacles on the roofs of flat-topped buildings to prevent helicopters from landing and to deny troops from gaining access to the building from the roof. Cover rooftops that are accessible from adjacent structures with tactical wire or other expedients and guard them. Block entrances to buildings from rooftops if compatible with the overall defensive plan. Remove or block the structure on the outside of a building that could aid the attacker in scaling the building to gain access to upper floors or to the rooftop.

(8) **Obstacles.** Position obstacles adjacent to buildings to stop or delay vehicles and infantry. To save time and resources in preparing the defense, platoon leaders must allow the use of all available materials, such as automobiles, railcars, and rubble, to create obstacles. Vehicles can be tied together by running poles through their windows. Leaders must supervise the construction of obstacles to ensure they are tied to buildings and rubble areas to increase effectiveness, and to canalize the enemy into engagement areas selected by the leader. Direct support engineers can provide advice and resources as to the employment of obstacles and mines.

(9) **Fields of Fire.** The field of fire is the area a weapon or group of weapons may cover effectively with fire from a given position. After the defensive positions are selected and the individuals have occupied their assigned positions, they will determine what clearance is necessary to maximize their field of fire. Leaders and individuals must view fields of fire from the fighting position and from the view of the enemy. Only selective clearing will be done to improve the field of fire. If necessary, the position will be relocated to attain the desired field of fire. Within the field of fire leaders will designate for each weapons system a primary and an alternate sector of fire. Each weapons system has unique requirements for its field of fire, and the platoon and squad leaders must ensure these requirements are met. Each position is checked to ensure that the fields of fire provide the maximum opportunity for target engagement and to determine any dead space within the sector of fire.

e. **Antitank Weapons Positions.** Employ antitank weapons in areas that maximize their capabilities in the urban area. The lack of a protective transport could require the weapon to be fired from inside a building, from behind the cover of a building, or from behind the cover of protective terrain. Leaders should make every effort to employ antitank weapons in pairs so that the same target can be engaged from different positions. Another consideration is security for the crew and system. This is necessary to allow the gunner to concentrate on locating and engaging enemy armor.

f. **Sniper Positions.** Snipers give the platoon a force multiplier by providing an overwatch capability and by engaging enemy C2 targets. Snipers normally operate in two-man teams, which provides the shooter with security and another set of eyes for observation and to locate and identify targets. Leaders should allow the snipers to select their own positions for supporting the defense. An effective sniper organization can trouble the enemy far more than its cost in the number of friendly soldiers employed. Snipers deploy in positions where they are not easily detected, and where they can provide the most benefit. (See Chapter 6.)

### 5-31. CONDUCT OF THE DEFENSE

The conduct of the defense in an urban area is similar to the conduct of the defense in any other environments.

a. **Occupy Positions.** After planning and preparing for the defense, the platoon moves to the defensive positions using prescribed movement techniques. To establish the defense the platoon will stop short of the actual site and conduct a reconnaissance to ensure the area is free of enemy or noncombatants, and to identify individual and crew served weapons positions. The platoon then establishes security and begins to occupy positions. Once the platoon has occupied, the priorities of work will be performed as established by the platoon leader.

b. **Locate the Enemy.** The platoon establishes and maintains OPs and conducts security patrols as directed by the commander. OPs, patrols, and individual soldiers look and listen using night vision devices, binoculars, and early warning systems to detect the enemy's approach.

c. **Action on Contact.** Once the enemy is detected, the platoon leader—

- Alerts the platoon sergeant, squad leaders and forward observer.
- Reports the situation to the company commander.
- If possible, calls in OP's.
- Initiates indirect fire mission when enemy is at maximum range.
- Initiates long-range direct fires on command.

d. **Fight the Defense.** Determining that the platoon can destroy the enemy from their current positions, the platoon leader—

- Continues with indirect and direct fire engagements.
- Controls fires using standard commands, pyrotechnics, and other prearranged signals.
- Initiates FPF as the enemy closes on the protective wire.

The platoon continues to defend until the enemy is repelled or ordered to disengage.

### 5-32. CONSOLIDATION AND REORGANIZATION

Once the enemy has been repelled, the order to consolidate and reorganize will be given by the platoon leader.

a. The platoon will—

- Reestablish security.
- Reman key weapons.
- Provide first aid and prepare to evacuate casualties.
- Repair damaged obstacles and replace mines and early warning devices.
- Redistribute ammunition and supplies.

(3) **Mechanical Breach.** A suggested order of movement for a mechanical breach is the initial assault team in order, followed by the breach man or element. At the breach point, the assault team leader brings the breach team forward while the assault team provides local security. After the breach is conducted, the breach team moves aside and provides local security as the assault team enters the breach.

### 3-21. CONSIDERATIONS FOR ENTRY

The entire team enters the room as quickly and smoothly as possible and clears the doorway immediately. If possible, the team moves from a covered or concealed position already in their entry order. Ideally, the team arrives and passes through the entry point without having to stop.

a. The door is the focal point of anyone in the room. It is known as the *fatal funnel*, because it focuses attention at the precise point where the individual team members are the most vulnerable. Moving into the room quickly reduces the chance anyone being hit by enemy fire directed at the doorway.

b. On the signal to go, the clearing team moves from covered or concealed positions through the door quickly and takes up positions inside the room that allow it to completely dominate the room and eliminate the threat. Team members stop movement only after they have cleared the door and reached their designated point of domination. The first man's position is deep into the near corner of the room. The depth of his movement is determined by the size of the room, any obstacles in the room, such as furniture, and by the number and location of enemy and noncombatants in the room.

c. To make precision room clearing techniques work, each member of the team must know his sector of fire and how his sector overlaps and links with the sectors of the other team members. Team members do not move to the point of domination and then engage their targets. They engage targets as they move to their designated point. However, engagements must not slow movement to their points of domination. Team members may shoot from as short a range as 1 to 2 inches. They engage the most immediate enemy threats first. Examples of immediate threats are enemy personnel who—

- Are armed and prepared to return fire immediately.
- Block movement to the position of domination.
- Are within arm's reach of a clearing team member.
- Are within 3 to 5 feet of the breach point.

d. Each clearing team member has a designated sector of fire unique to him initially and expands to overlap sectors of the other team members.

(1) The number 1 and number 2 men are initially concerned with the area directly to their front, then along the wall on either side of the door or entry point. This area is in their path of movement, and it is their primary sector of fire. Their alternate sector of fire is from the wall they are moving toward, back to the opposite far corner.

(2) The number 3 and number 4 men start at the center of the wall opposite their point of entry and clear to the left if moving toward the left, or to the right if moving toward the right. They stop short of their respective team member (either the number 1 man or the number 2 man).

e. The team members move toward their points of domination, engaging all targets in their sector. Team members must exercise fire control and discriminate between hostile and noncombatant room occupants. Shooting is done without stopping, using

### Student Handout 3

#### Extracted Material from FM 6-22.5

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This student handout contains 19 pages of extracted material from the following publication:

FM 6-22.5, Combat Stress, 23 Jun 2000

Chapter 4

Pages 57 thru 75

**Disclaimer:** The training developer downloaded the extracted material from the General Dennis J. Reimer Training and Doctrine Digital Library. The text may contain passive voice, misspellings, grammatical errors, etc., and may not be in compliance with the army Writing Style Program.

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## Chapter 4

# Sleep Deprivation

### 4001. CHALLENGES OF SLEEP DEPRIVATION

People accumulate a “sleep debt” (cumulative loss of sleep over time) when they perform under limited sleep conditions. The only corrective measure for satisfying this sleep debt is sleep itself. Military operations, by their demanding nature, create situations where obtaining needed sleep will be difficult or impossible for more than short periods.

**Continuous operations** are military operations with many pulses of action every day and night, continuing for several days to weeks, which require careful planning and resource allocation to give everyone a minimum of 4 hours sleep in 24. (FM 22-51)

**Sustained operations** are continuous operations or combat with opportunity for less than 4 hours sleep per 24 hours for significant personnel, which may be brief or fragmented. (FM 22-51)

Accordingly, service members may have opportunities for only limited or fragmented sleep over an extended period. As a result of these periods of sleep loss, several combat tasks are likely to show decreased performance. These tasks include the following:

- 1 Orientation with friendly and enemy forces (knowledge of the squad's location and maintaining camouflage, cover, and concealment).

- | Coordination and information processing (coordinating firing with other vehicles and dismounted elements, reporting vehicle readiness, and communicating with the headquarters).
- | Combat activity (firing from bounding vehicle, checking the condition of weapons, observing the terrain for enemy presence).
- | Force preservation and regrouping (covering disengaging squads, marking the routes between locations, and conducting reconnaissance).
- | Command and control activity (directing location repositioning, directing mounted defense, assigning fire zones and targets).

Continuous operations will potentially be more commonplace on the battlefield. In offensive operations, darkness is the time to retain or gain the initiative; while in defensive operations, obstacles can be employed with greater security during darkness. Forces can disengage undetected and threats to close air support lessen. The physical environment changes at night. As the air cools below ground temperature, inversions reduce visibility and hamper radar and radio signals. Conditions are optimal for using chemical weapons. Visual changes also occur. Without the aid of white light, there is no color perception. There is also a decrease in visual clarity, field of view, and depth perception. Targets take longer to engage. Preparation time increases two-fold to six-fold. Simple actions, such as the departure and return of patrols, become more complex and dangerous. Nighttime planning and coordination require greater attention. Navigation, adjusting fire, and munitions and/or target matching are more difficult. Precision is essential, but accuracy has a price. Service members tend to maintain accuracy at the sacrifice of speed. The adverse conditions associated with or generated by continuous ground combat at night will degrade the fighting performance of Service members, teams, and units. The almost complete mechanization of

land combat forces and technological advances that permit effective movement at night, during poor weather conditions, and under conditions of limited visibility have largely overcome the reasons for “traditional” pauses in battle, such as darkness, resupply, and regrouping. New technologies have significantly increased the range, reduced the time, and changed the conditions over which battles are fought. For example, day/night-capable vehicles can operate for extended periods without re-supply, but they are limited by a crew’s need to sleep. A Service member is not a machine and is, therefore, the weak link in the chain. The equipment can operate longer than the Service member who operates it, as the Service member must have sleep.

Commanders and leaders must ensure that all Service members obtain enough rest to counteract the effects of rapidly shifting from daytime to nighttime duty hours, or to extended work schedules. Implementing countermeasures that are designed to help Service members adapt to continuous operations conditions can satisfy this requirement. Neither leaders nor their subordinates can perform without rest or sleep. The Service member, the unit, and the leader are all affected by continuous operations. Generally at night, the cognitive and physiological resources of Service members are not at their peak, especially after a rapid shift from daytime to nighttime duty hours. Fatigue, fear, feelings of isolation, and loss of confidence may increase.

Non-stop, unrelieved combat operations (sustained operations) with little or no sleep degrade performance and erode mental abilities more rapidly than physical strength and endurance. Information gained from the Army Unit Resiliency Analysis Model shows that even healthy young Service members who eat and drink properly experience a 25 percent loss in mental performance for each successive 24-hour period without sleep. The mental parameters include decisionmaking, reasoning, memory

tasks, and computational tasks. The loss may be greater for Service members who are older, less physically fit, or who do not eat and drink properly.

The effects of sustained operations are sometimes hidden and difficult to detect. Units are obviously impaired when Service members are killed or wounded in action or become noncombatant losses. They are further impaired when their troops are too tired to perform their tasks. Unlike individual performance, unit performance does not deteriorate gradually. Units fail catastrophically, with little warning.

A priority for fighting units is to assure that commanders and leaders are rested and able to think clearly. While this is obvious, it is a most difficult lesson for leaders to learn. During combat, commanders must focus on the human factor. They must assess and strengthen their units as they plan and fight battles. They must accurately decipher which units must lead, which must be replaced, where the effort must be reinforced, and where tenacity or audacity and subsequent success can be exploited. When leaders begin to fail, control and direction become ineffective, and the organization disintegrates. No fighting unit can endure when its primary objectives are no longer coordinated. Leaders must also prepare and precondition Service members to survive. It is particularly important that leaders conscientiously plan and implement effective sleep plans, because activities that are most dependent on reasoning, thinking, problem solving, and decision-making are those that suffer most when sleep and rest are neglected.

Some leaders wrongly believe that their round-the-clock presence during an operation is mandatory; they are unwilling to recognize that they, too, are subject to the effects of sleep deprivation. If the unit has been regularly trained according to the mission command philosophy, two benefits accrue. Not only will a leader be confident that in his absence his subordinates will adhere to his intent,

but the trust he shows in his subordinates will continue to maintain unit morale and help ease some of the stress of the situation.

In future operations, the battlefield will become increasingly lethal. The threat of nuclear, biological, and chemical weapons will maximize confusion, uncertainty, and stress, which adversely impact our ability to move, shoot, communicate, and sustain. Sleep loss in this type of environment increases an already stressful situation.

#### **4002. EFFECTS OF SUSTAINED OPERATIONS ON PERFORMANCE**

A basic rule for continuous operations is planning ahead to avoid sustained operations, and provide members 5 to 6 hours sleep in 24. However, missions or enemy actions sometimes require exceptional exertion for several days with only unpredictable, fragmented sleep—as required in sustained operations. Sustained combat leads to exhaustion and reduction in effective task performance. Even during the first night of combat, normal sleeping habits and routines are abnormal. The Service member feels the effects of fatigue and the pressure of stress from noise, disrupted sleep time, and threat to life. While essential for endurance, sheer determination cannot offset the mounting effects of adverse conditions. Cognitive degradation involving poor decisionmaking begins during and after the first 24 hours of sleep deprivation.

Individual and unit military effectiveness is dependent upon initiative, motivation, physical strength, endurance, and the ability to think clearly, accurately, and quickly. The longer a Service member goes without sleep, the more his thinking slows and becomes confused. Lapses in attention occur, and speed is sacrificed to maintain accuracy. Continuous work declines more rapidly than intermittent work.

Tasks such as requesting fire, integrating range cards, establishing positions, and coordinating squad tactics become more difficult than well-practiced, routine physical tasks, such as loading magazines and marching. Without sleep, Service members can perform the simpler and/or clearer tasks—lifting, digging, and marching—longer than the more complicated or ambiguous tasks such as a fine hand-eye coordination sequence; i.e., tracking a target through a scope.

Sleep loss affects memory, reasoning, mental assessments, decision-making, problem-solving, subsequent actions, and overall effectiveness. While comprehension is accurate, reading speed slows and recall fails. For example, Service members may understand orders when reading them in documents, yet they are forgotten later when required. Individuals will forget or omit assigned tasks more often than they will make errors in carrying them out.

Leaders can expect declining moods, motivation, initiative, planning ability, and preventive maintenance. High motivation will only increase risk, due to impaired performance. Leaders must recognize erratic or unreliable task performance in subordinates, as well as in themselves. Alertness and performance decline gradually with partial sleep deprivation; that is, when sleep is limited to 4 to 5 hours per night. After 5 to 7 days of partial sleep deprivation, alertness and performance decline to the same low levels as those following 2 days of total sleep deprivation. After 48 to 72 hours without sleep, personnel become militarily ineffective.

### **Adverse Conditions**

Continuous combat forces Service members to perform under adverse conditions that cause degradation in performance. Examples of adverse conditions follow.

***Low Light Level***

The amount of light available for seeing landmarks, targets, and maps is greatly reduced at twilight and night.

***Limited Visibility***

Smoke, fog, rain, snow, ice, and glare degrade a Service member's ability to see his environment and objects within it, as opposed to situations free of such conditions.

***Disrupted Sleep Routines***

People are accustomed to being awake or asleep during certain hours of the day or night. Disruption of the normal sleeping schedule causes degraded performance.

***Physical Fatigue***

Working the muscles faster than they can be supplied with oxygen and fuel rapidly creates "oxygen debt," eventually making these muscles unable to function until the deficits are made up during brief rests.

***Sleep Loss***

The muscles can continue to function adequately without sleep, but the brain cannot. Increasing sleep debt leads to subtle, but potentially critical, performance failures.

**Sleep Loss Indicators**

Indications of degraded performance symptoms become more prevalent as sleep debt accumulates. Performance is affected by the hours of wakefulness, tolerance to sleep loss, and the types of mental or physical work. Both mental and physical changes occur, with symptoms varying among individuals. Leaders must observe Service members for the following indications of sleep loss and degraded performance:

- | Physical changes in appearance, including vacant stares, bloodshot eyes, pale skin, and poor personal hygiene. Other physical signs of sleep loss include the body swaying when standing, sudden dropping of the chin when sitting, occasional loss of hand-grip strength, walking into obstacles or ditches, low body temperature, slowed heart rate, and slurred speech.
- | Mood changes, decreased willingness to work, and diminished performance go hand-in-hand. Service members may experience decreasing levels of energy, alertness, interest in their surroundings, and cheerfulness with a concurrent increase in irritability, negativity, and sleepiness. Some become depressed and apathetic. Others, for a time, can become energized by sleep loss, talk more, and may be more assertive without necessarily maintaining good judgment. Sleepiness and mood changes are not signs of weakness. After long periods of sleep loss, Service members go from being irritable and negative to dull and weary.
- | Service members may feel more effort is needed to perform a physical task in the morning than in the afternoon. Exaggerated feelings of physical exertion may lead to work stoppage, especially between 0400 and 0700. During that time, the tendency to fall asleep is considerably more noticeable than other times.
- | Both bickering and irritability increase with sleep loss. When Service members argue, it shows that they are still talking to each other and exchanging orders and messages. When arguments cease, especially after a period of increased bickering, Service members may be in a state of mental exhaustion.
- | Comprehension and perception slow considerably. Individuals require extended time to understand oral, written or coded information; to find a location on a map and/or chart coordinates; to interpret changes in enemy fire patterns; and to make sense of things seen or heard, especially patterns. They may

have difficulty with spot status or damage reports, and may be unable to assess simple tactical situations.

### **Loss of Concentration**

Sleep deprivation causes the attention span to shorten. There is a loss of concentration on the job as dream-like thoughts cause lapses in attention. Leaders should watch for the following:

- | Decreased vigilance. Personnel are less alert and fail to detect the appearance of targets, especially in monotonous environments. They may doze off at the wheel of moving vehicles.
  
- | Distorted attention. Service members may imagine seeing things that are not there, e.g., “moving” bushes when in reality there is no such movement. The sleep-deprived brain can also misperceive bushes, rocks, people, vehicles or anything else and see them as something different, in very precise detail. Often the tired brain “sees” what it wishes were there (food, a bed); at other times, these illusions may be animals or other more bizarre things. But when the mind is alert for an enemy, the brain may generate a very convincing, detailed image of the enemy. Sometimes, but not usually, sounds or other sensations may accompany these illusions. They usually last only seconds, but can persist for minutes if not challenged, and rarely have even been “seen” by equally sleep-deprived comrades when told of them. It is essential for sleep-deprived unit members to check out any questionable things they see with their comrades, and to faithfully follow reporting and challenge procedures.
  
- | Inability to concentrate; easily confused. Service members cannot keep their minds on what they are doing. They cannot follow multiple directions nor perform numerical calculations.

- | Failure to complete routine tasks. Sleep loss interferes with completing routine individual tasks, such as drying the feet, changing socks or filling canteens when water is available. Tasks such as performing weapons checks may be skipped.

When a Service member cannot recall what he just saw, read, heard or was told by another individual, he is exhibiting a common sign of sleep loss. His memory loss is limited to recent events. For example, a sleep-deprived Service member may forget recent target data elements or recall them incorrectly and have difficulty learning new information.

### **4003. ACHIEVING SLEEP IN COMBAT**

Sleep deprivation produces stress and, therefore, sleep management is important. Sleep management is a combat multiplier. Planned sleep routines are important for keeping the unit, the individual Service members, and the leader himself functioning as required while reducing sleepiness during continuous combat. Since leaders are responsible for planning sleep routines, they need a basic understanding of the physiological and behavioral aspects of sleep and their impact on performance. The following paragraphs provide this information.

#### **Rhythmic Variations**

There are rhythmic variations in individual performance based on a predictable physiological and behavioral cycle that comprises about 24 hours. The 24-hour, day-night/work-rest cycle is called the *circadian rhythm*. Because traveling across a half-dozen time zones disrupts the usual relationship in the day-night/work-rest cycle, for a few days Service members are not sleepiest at their usual sleep period of 2400 to 0600, new-locale time. Allowing

sleep about 1200 to 1800, new-locale time, will only delay their adaptation to their new locale. Leaders must instruct troops to go to bed between 2400 and 0600 new-local time to establish a new circadian rhythm.

Another example of circadian rhythm is body temperature. Although one's "normal" temperature is 98.6 degrees, this is really an average or midpoint of a daily swing from 96.8 to 100.8 degrees. For someone accustomed to working days and sleeping nights, body temperature would fluctuate approximately as indicated. There is a well-established link between body temperature and sleepiness and/or performance slumps. Performance parallels body temperature. The higher the body temperature, the better the performance. As body temperature decreases, mood and motivation decline with a concurrent increase in sleepiness and fatigue.

Impact upon performance is most pronounced during the *circadian lull*, which is roughly 0200 to 0600 hours. During this time, performance declines about 10 to 15 percent. In sleep-deprived Service members, this decline may reach 35 to 40 percent. If the day-night/work-rest cycle is disrupted, performance suffers because the Service member is sleepy during the new work period and awake during the new sleep period. The body needs several days to adjust to the new schedule. Critical hours for sleep are between 0200 and 0600 when *anchor sleep* (the most beneficial sleep) is taken. The body is at its lowest temperature during this period. This is the best time for sleeping, but not for napping. To prevent sleep inertia, naps should always be taken at times other than the lowest point in body temperature.

Leaders need to calculate the difference in time zones and make the necessary schedule changes. Leaders will need day-and night-fighting teams. Members acclimated to working days and sleeping nights should be scheduled to work nights and sleep days.

Their performance slump/optimal time to sleep would be 2400 to 0600, new-locale time. Deployment, pre-combat, and combat are not usual circumstances. If certain Service members must have an offset circadian timing from the rest of the unit, a special effort must be made to establish their sleeping time. Obviously, troops must sleep whenever possible. If a planned sleep schedule cannot be followed, however, performance is enhanced if sleep coincides with the low point in body temperature.

Adjusting to new circadian rhythms is a slow process, taking 3 to 6 days to come “in phase” with a new schedule. Leaders should devise a sleep schedule that provides for sleep at the same time of day or night every 24 hours. Sleep schedules that provide for sleep at different times of day or night are less valuable and are detrimental to quality sleep and optimal performance.

### **Sleep Shifts**

Staggered work schedules can be set up for two shifts working 4 hours on/4 hours off, 6 hours on/6 hours off, and 12 hours on/12 hours off. See Table 4-1. Each shift follows the same schedule daily. It is better to maintain regular shift schedules than schedules that continually change.

### **Sleep/Rest Guidelines**

Leaders should use the following sleep and/or rest guidelines in this section to enhance individual and the unit performance in continuous operations.

- 1 Know personal tolerance for sleep loss and those under your command; major individual differences are not easily changed. Individuals who are unable to sleep during pre-deployment and deployment stages should be encouraged to practice relaxation exercises (see paragraph 2005).

**Table 4-1. Sleep Shifts.**

4 HOURS ON/4 HOURS OFF						
Shift	2400-0400	0400-0800	0800-1200	1200-1600	1600-2000	2000-2400
1	SLEEP	DUTY	SLEEP	DUTY	SLEEP	DUTY
2	DUTY	SLEEP	DUTY	SLEEP	DUTY	SLEEP
6 HOURS ON/6 HOURS OFF						
Shift	2400-0600	0600-1200	1200-1800	1800-2400		
1	SLEEP	DUTY	SLEEP	DUTY		
2	DUTY	SLEEP	DUTY	SLEEP		
12 HOURS ON/12 HOURS OFF						
Shift	2400-1200	1200-2400				
1	SLEEP	DUTY				
2	DUTY	SLEEP				

- | Ensure that Service members fully use their breaks and other opportunities for rest. Encourage them to waste no time in getting to sleep. Undisturbed, prolonged sleep is the most desirable use of rest opportunities. When there has been sleep loss but little physical exertion (e.g., manning communications, operating a radio), mild physical exercise such as walking around when conditions permit, can help maintain alertness.
- | Encourage Service members to sleep, not just rest, by creating the most conducive environment possible for sleep: quiet, without interruptions (or earplugs); dimness or darkness (or with eye cover); not overly warm or cold.

- 1 Do not allow personnel to sleep in unsafe conditions. Enforce strict rules designating sleep areas and requiring perimeter guards. Require day and night guides for all vehicles to prevent Service members from being accidentally run over.
- 1 Ensure that Service members follow sleep schedules or routines. The field commander who does not enforce a sleep schedule or routine leads his troops into an environment that increases the opportunity for hazardous conditions to be encountered while in continuous combat. Taking naps is not a sign of low fighting spirit or weakness; it is a sign of foresight.

### **Measuring Sleep Loss**

Sleep loss can be measured by:

- 1 Keeping a sleep and/or activity log. From pre-deployment to post-deployment, log sleep and nap periods. Service members need 4 to 5 hours per 24-hour period; 6 or 7 hours is optimum. If they receive less, the first chance for a long rest period must be used for sleep.
- 1 Observing performance and asking questions. Look for the indications of sleep loss—such as increase in error occurrence, irritability, difficulty understanding information, and attention lapses—with concurrent decreases in initiative, short-term memory, and attention to personal hygiene. Confirm sleep loss by asking the obvious question: “When did you sleep last and how long did you sleep?”

### **Sleep Loss Alternatives**

Ways to overcome performance degradation include:

- 1 Upon signs of diminished performance, find time for members to nap, change routines or rotate jobs (if cross-trained).

- | Have the Service members most affected by sleep loss execute a self-paced task.
- | Have Service members execute a task as a team, using the buddy system.
- | Do not allow Service members to be awakened for meals while in flight to a new location, especially if the time zone of the destination is several hours different than that of point of departure.
- | Insist that Service members empty their bladder before going to bed. Awakening to urinate interrupts sleep, and getting in and out of bed may disturb others and interrupt their sleep.
- | Allocate sleep by priority. Leaders, on whose decisions mission success and unit survival depend, must get the highest priority and largest allocation of sleep. Second priority is given to Service members that have guard duty and to those whose jobs require them to perform calculations, make judgments, sustain attention, evaluate information, and perform tasks that require a degree of precision and alertness.

#### **4004. SLEEP/REST PLANNING**

Sleep/rest planning applies to the pre-deployment, deployment, pre-combat, combat, and post-combat stages of battle.

##### **Pre-Deployment Stage**

Using mission-scenario operation guidelines, determine periods available for sleep and the total number of sleep hours possible. Because continuous operations requirements may change, alternate sleep routines should be planned. Become familiar with the area where the combat unit will sleep; For example, some may

have to sleep in mission-oriented protective posture (MOPP) IV. If sleeping in MOPP IV is anticipated in combat, practice it during the pre-deployment stage. Prior experience reduces stress, so practice anticipated sleep routines before continuous operations.

### **Deployment Stage**

Since sleep will be reduced during deployment, follow pre-planned sleep routines. The prudent commander will choose a 4-hour on/4-hour off, 6-hour on/6-hour off, or 12-hour on/12-hour off shifts from the start. Take into account that Service members on night duty will need to sleep during the daytime. Provide night-shift personnel with separate sleeping quarters to avoid disruption of their sleep period.

### **Pre-Combat Stage**

In general, people are most effective during the afternoon and are least effective just before dawn. Without prior adjustment to the new time zone, which naturally occurs in 3 to 5 days, leaders can expect degraded daytime performance. The reason is that 0200 to 0600 hours home-base time is the low point in performance efficiency and should be considered when planning workloads.

### **Combat Stage**

Every effort should be made to avoid situations where all personnel are physically and mentally exhausted simultaneously. Make the most of any lull during the combat phase by sleeping briefly. Complete recovery from sleep loss may not be possible during intense combat, but limited sleep is helpful. Uninterrupted short sleeps of 15 minutes or longer are beneficial to partially recovering alertness. Sleep during the combat stage may be risky, how-

ever, because a Service member may wake up feeling groggy, confused, sluggish, and uncoordinated. It may take his brain from several seconds to 15 minutes to “warm up.” Individuals differ in how quickly they take to wake up, but it tends to be worse when the body expected to go into deep sleep, and to get worse with increasing sleep loss. Activities that increase circulation of warm blood to the brain, like moderate exercise or drinking a hot beverage, may shorten the start-up time.

### **Post-Combat Stage**

It is important to make up sleep debt, but experts disagree about the amount of recovery time needed. Some say the hours of sleep needed for recovery after sleep deprivation are less than the amount lost. It is well known and documented that lost sleep is not made up hour-for-hour. Most experts agree that immediately following continuous combat, Service members should be allowed to sleep up to 10 hours. Longer sleep periods are not desirable because they cause “sleep drunkenness” and delay in getting back to a normal schedule. After the first sleep period of up to 10 hours, Service members should return to the regular sleep routine. Sleep inertia lasting longer than 5 to 15 minutes and increased sleepiness may occur for as long as a week following sustained combat. Some experts recommend that 4 of the first 8 hours of recovery sleep should be at the 0200 to 0600 sleep time, and they suggest the following guidelines for complete recovery from the effects of sleep loss:

- 1 12 hours for sleep and rest after 36 to 48 hours of complete sleep loss with light to moderate work load (fatigue may linger for 3 days).
- 1 24 hours for sleep and rest after 36 to 48 hours of sleep loss with high workload (12 to 16 hours per day).

- | 2 to 3 days time off after 72 hours or more of acute sleep loss.
- | As much as 5 days for sleep and rest following 96 hours or more of complete sleep loss.

Most experts agree that 10 hours of sleep is the maximum needed, with the additional 2 hours used for rest. It is doubtful that a Service member could continue past 72 hours of wakefulness. Should this occur, a couple of nights with 10 hours of sleep are more beneficial than an excess of 10 hours during one sleep period. If Service members have not slept for 36 to 48 hours or more, they should avoid sleep of less than 2 hours, especially between 0400 and 0600. A too-short sleep period at the wrong time may cause a long period of sleep inertia. After 96 hours of total wakefulness, 4 hours of sleep may provide substantial recovery for the simpler, less-vulnerable tasks. Recovery continues with additional days of 4 hours of sleep per 24 hours. Complex leadership tasks may require longer recovery sleep, but sleep until fully satisfied is not necessary.

Sleep loss alone does not cause permanent health problems, nor does it cause mentally healthy people to become mentally ill. Reduced sleep (from 8 to 4 hours) does not cause physical harm. Hallucinations may occur, but they disappear after recovery sleep. Clinical laboratory tests show that total sleep loss of over a week does not pose serious health problems. It is doubtful that Service members could stay awake for such an extended period, and it is not suggested that Service members try to endure long periods without rest. However, the effects of sleep loss, such as inattentiveness and poor judgment, may be harmful (such as falling asleep at the wheel of a vehicle).

Sleep cannot be stored in our bodies for emergency use. Sleep of more than 7 to 8 hours before deployment does not “store up”

excess sleep, but sleep taken immediately before a deployment can prolong activity. Therefore, it is important to begin continuous operations in a rested state. During daytime or early morning naps, many Service members experience vivid dreams as they fall asleep and often wake up frightened. Leaders should inform their troops that this occurrence is both common and normal during daytime sleep. If a single, unbroken period of 4 to 5 hours is not available for sleep, “power naps” of 15 to 30 minutes, although less recuperative, can be taken. Leaders must capitalize on every opportunity for a “power nap.” Merely resting by stretching out does not take the place of sleep. Only sleep can satisfy the need for sleep.

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## Student Handout 4

### Extracted Material from FM 7-7

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This student handout contains 8 pages of extracted material from the following publication:

FM 7-7, The Mechanized Infantry Platoon and Squad (APC), 15 Mar 1985

Appendix Q      Pages Q-1 thru Q-8

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APPENDIX Q

**TACTICAL ROAD MARCHES  
AND ASSEMBLY AREAS**

**Section I. TACTICAL ROAD MARCHES**

**Q-1. GENERAL**

The ground movement of troops can be accomplished by administrative marches, tactical movements, and tactical marches.

Although administrative marches may break up unit integrity they are used in rear areas where speed and best use of transportation assets expedite movement.

Tactical movements, as described in chapter 4, are used when contact with enemy forces is a possibility.

Tactical marches are normally used to move units from rear areas to assembly areas in preparation for the conduct of a mission. Although a company may be required to conduct a tactical march, the platoon and company normally move as part of the battalion.

The tactical march is conducted when speed is essential, unit integrity must be maintained, road nets are available, and enemy contact is limited.

The following definitions apply to tactical road marches and foot marches:

**ARRIVAL TIME.** The time the head of a column reaches a designated point or line.

**CLEARANCE TIME.** The time the tail of a column passes a designated point or line.

**COLUMN (TIME) GAP.** The space between two consecutive ele-

ments calculated in units of length (meters) or units of time (minutes), measured from the rear of one element to the front of the following element.

**COMPLETION TIME.** The time the tail of a column passes the release point.

**CRITICAL POINT.** A selected point along the route of march used for reference in giving instructions; any point along the route where interference with the troop movement may occur.

**MARCH UNIT.** A unit that moves and halts at the command of a single commander — normally one of the smaller troop units such as a platoon or company.

**PACE SETTER (VEHICLE).** A vehicle in the lead element and responsible for regulating speed.

**PASS TIME.** The time between the movement of the first element past a given point and the movement of the last element past the same point.

**RATE OF MARCH.** The average kilometers-per-hour traveled.

CONTENTS		PAGE
Section I.	Tactical Road Marches . . . . .	Q-1
II.	Assembly Areas . . . . .	Q-6

**RELEASE POINT.** A well-defined point on a route at which the elements composing a column return to the authority of their respective commanders.

**SERIAL.** A grouping of march units under a single commander. It is usually a battalion, brigade, or larger unit. For convenience in planning, scheduling, and control, it is given a numerical or alphabetical designation.

**START POINT.** A well-defined point on a route where the elements of the move come under the control of the movement commander. It is at this point that the column is formed by the successive passing of each of the elements in the column.

**VEHICLE DISTANCE.** The space between two consecutive vehicles of an element in the column.

**ORGANIZATION OF A MARCH COLUMN.** Depending on the size and number of units conducting the move, the battalion is normally formed as a serial with companies and elements of headquarters and headquarters company formed into march units. The entire column is organized into an advance party, main body, and trail party. The advance party consists of a reconnaissance element and a quartering party the trail party is made up of maintenance, recovery, and medical elements; and the main body is made up of the rest of the force.

**VEHICLE DISPERSION.** The move can be conducted with vehicles traveling in close column, in open column, or by infiltration. Which method to use is determined by the degree of control required to maintain a cohe-

sive unit, and by the terrain that is being traveled — for example, open terrain requires more dispersion than close terrain.

In close column, vehicles are spaced approximately 25 meters apart during daylight. At night, and during reduced visibility vehicles are spaced so that the driver and TL can see the two lights in the blackout marker of the vehicle ahead, if not the vehicle itself. This method takes maximum advantage of traffic capacity of routes but provides little dispersion. Close column is normally used for marches during darkness, and under blackout conditions, and to move rapidly through urban areas to insure integrity and control of the column.

In open columns, the distance between vehicles is increased to provide greater dispersion. Vehicle distance varies from 50 to 100 meters. The increased distance provides greater protection against air and artillery fires, and ground attack by small enemy forces. It also allows the command vehicle and other vehicles not restricted by march orders to pass the column without disrupting its organization.

During a move by infiltration, vehicles are dispatched individually as small groups, or at irregular intervals at a rate that will keep traffic density down and prevent undue massing of vehicles. Infiltration provides the best possible defense against enemy observation and attack. It is suited for tactical road marches when enough time and road space are available and when maximum security, deception, and dispersion are desired.

When vehicles are farther apart than prescribed in open/closed column, they close up by traveling at a prescribed higher speed. This catch-up speed is normally fast enough to allow the column to close up over a long road distance, thus reducing the accordion effect produced by rapid changes in speed. A fixed catch-up

speed also provides an additional satiety factor for the march.

## **Q-2. CONDUCT OF THE TACTICAL ROAD MARCH**

The movement order issued by the company commander includes information on the enemy and friendly situations, destination, route, rate-of-march, catch-up speed, order of march, start point, location and time, vehicle distances, release points, critical points, combat service support, communications, and location of the commander during the march. Many items of a movement order are SOP. Along with the order, the commander normally issues strip maps of the route. A strip map is a sketch of the route of march and contains as a minimum a start point, a release point, and critical points and distances between them. Strip maps should be issued to each squad leader or TL.

Before starting, each march unit has a designated team reconnoiter its route to the start point and determine the amount of time needed to reach it. The company also forms a quartering party element. It links up with the battalion quartering party before moving to the new assembly area. The company quartering party is normally headed by the executive officer or first sergeant and consists of representatives from platoons, company headquarters, and attached elements as necessary. The platoon sergeant and other designated persons may be assigned this duty. The battalion and company quartering parties move to the new assembly area before the main body moves. The quartering parties normally move by infiltration. Quartering party activities are a matter of SOP but should include:

**Securing the new assembly area.**

**Searching for indications of enemy activity.**

**Looking for mines and booby traps.**

**Selecting routes to platoon locations.**

**Selecting initial vehicle positions.**

**Selecting initial machine gun and Dragon positions.**

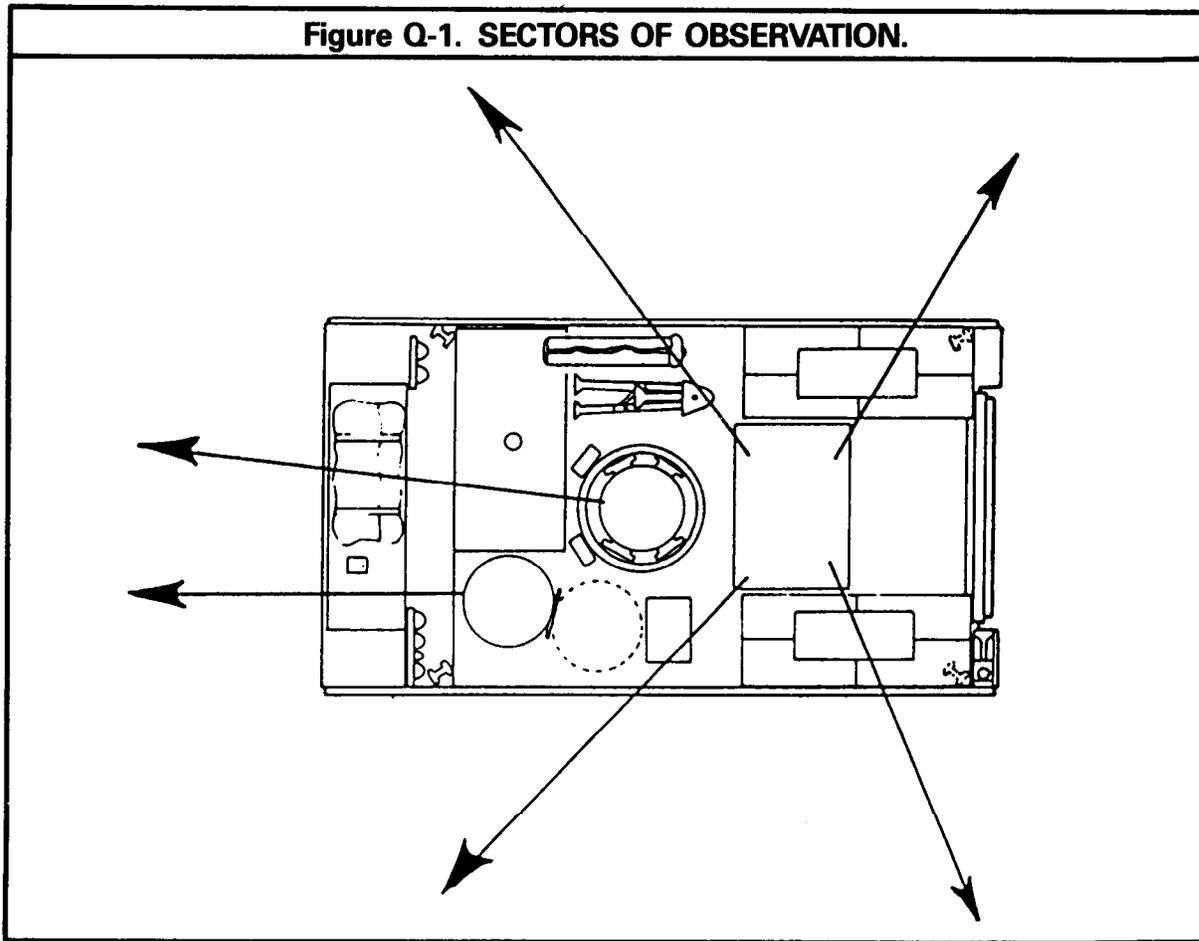
**Meeting platoons at the company release point and guiding vehicles into position.**

Although some movement and lining up may be required before starting the move to the start point, ideally vehicles move from their positions directly into their proper place in the march unit. The march unit should proceed to the start point

without stopping, arrive there on time, and pass through the start point at the proper speed and interval between vehicles.

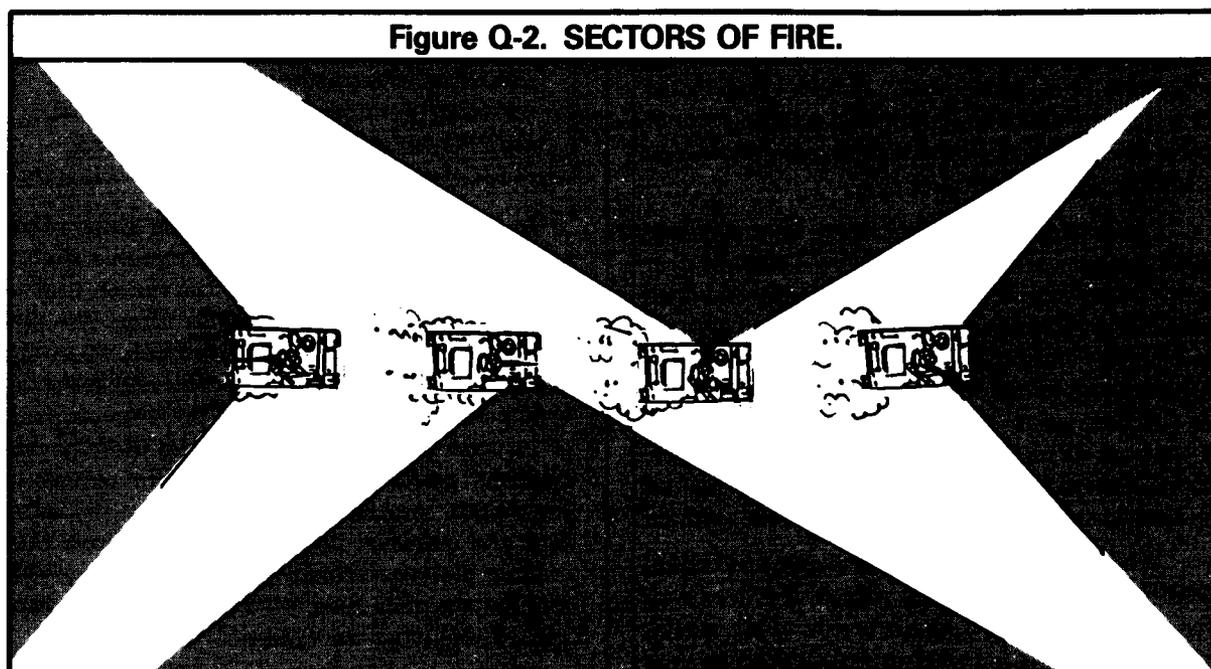
During the move, the crew of each carrier maintains 360-degree observation around the vehicle. The driver observes forward, the squad leader observes to the left of the caliber .50 machine gun, and the gunner observes to the right of the caliber .50 machine gun. Troops inside the cargo hatch observe to the left, right, and rear depending on their location.

**Figure Q-1. SECTORS OF OBSERVATION.**



Within the platoon column, each vehicle is assigned a sector of fire for the move. Each vehicle orients its caliber .50 machine gun and/or Dragon so that they can rapidly fire on targets within

their sector. The assignment of sectors of fire, coupled with the capability of firing from the cargo hatch, provides the platoon with 360-degree security while on the move.



During the move, the platoon must be prepared to take action if attacked by enemy air, artillery, or ground forces. Passive measures against enemy air include:

**Maintaining proper interval between vehicles.**

**Staggering vehicle positions within the column to avoid linear patterns.**

**Camouflaging vehicles.**

**Maintaining air observation.**

If attacked by enemy air, vehicles in the column move from the axis of attack, either occupying covered and concealed positions or continuing to move, maintaining an evasive course. The unit also engages the aircraft with all available weapons.

If the column receives indirect fire during the move, button-up the vehicle, mask, and move rapidly out of the impact area. Masking is necessary because the enemy can use a mix of HE and chemical ammunition to disrupt movement and achieve maximum casualties. After the company team is through the impact area,

the march unit commander will start unmasking procedures.

If engaged by enemy ground forces while on a tactical road march, vehicles attempt to continue movement, or the platoon leader may elect to assault the enemy or fix the enemy for other forces to attack.

Because the primary mission of the unit is to move to a new location in preparation for future operations, additional actions against ground forces depend on the size of the enemy force and instructions from the company team/march unit commanders. If the enemy force consists of snipers or other disruptive forces equipped with small arms, the commander may pass through the force or dispatch a platoon to eliminate it. If the force is larger and presents a danger to the task force as a whole, fragmentary orders may be issued for march unit to leave the route of march, move to covered and concealed positions, and conduct a hasty attack as if conducting a movement to contact.

A march unit can conduct the kinds of halts: scheduled, unscheduled, and vehicle breakdown.

Scheduled halts are planned for maintenance and rest, or to comply with higher level time schedules. At scheduled halts, vehicles pull to the aids of the road but still maintain march distance between vehicles. Dismount teams dismount and establish local security.

Unscheduled halts are caused by unforeseen developments such as obstacles, ambushes, or other enemy activity forward of the platoon which prohibits further movement. If off-road movement is possible, the company team forms a coil for hasty perimeter defense. Platoons occupy a sector of the coil using the clock system. If off-road movement is not possible, the company team forms a herringbone. Dismount teams dismount in heavily wooded areas to improve local security.

When a vehicle becomes disabled and cannot continue the move, the TL directs the driver off the road, so as not to impede traffic. If the vehicle blocks the road, it is towed or pushed away to clear the road. Once the vehicle is clear of the road, the carrier team attempts to repair the vehicle while the dismount team establishes security provides guides, and directs traffic. The platoon to which the disabled vehicle belongs normally continues to move. If the crew gets the vehicle repaired and if the march unit has not passed completely the crew and vehicle rejoin the march unit at the tail end. If the march column has passed, or the crew could not repair the vehicle, the vehicle waits for the serial's trail party. The trail party repairs the vehicle or it tows the vehicle to the battalion assembly area (location of battalion trains). (On occasion, when fighting strength is critical, the platoon will crossload the disabled vehicle's dismount teams and squad leader.)

**NOTE: If the platoon leader's carrier is disabled, the platoon leader moves to another vehicle. If space is available, the FO team should be crossloaded.**

On arrival at the battalion RP, the leader of the company team's quartering party moves from a concealed position and guides the march unit to the company RP. Platoon guides direct the platoon's vehicle to their general locations, where the squad leaders (TLs) assume control and select vehicle positions. Vehicles should not stop on roads or in open fields, but should move directly into concealed positions. Normally the first platoon in the column is guided to positions farthest away from the entrance into the assembly area. Succeeding platoons should move as far as possible into the assembly area, with the last platoon closing and securing the entrance.

If the company team must move into an unprepared assembly area, the clock system can be used to rapidly establish a perimeter defense and road security. Normally direction of movement is 12 o'clock. The lead platoon usually takes up a third of the perimeter in the sector from 10 o'clock to 2 o'clock with succeeding platoons breaking off left and right, according to the company's SOP.

When movement into an assembly area is conducted at night, platoon guides must use easily recognizable visual signals to insure that the vehicles follow the proper guides. Use of different colored flashlight lenses is one method of identifying platoon guides.

## Section II. ASSEMBLY AREAS

### Q-3. GENERAL

An assembly area (AA) is occupied by a unit to prepare for future operations. The mechanized infantry platoon normally occupies a portion of the company team AA. The AA is on defensible ground. It should provide concealment, room for dispersion, and good internal routes, as well as

provide access to routes forward. Even though an AA is not expected to be a battle position, an all-round defense is organized with men and equipment positioned or dug into provide security from ground and air attack. The amount of preparation at an AA depends on the unit's intended stay

Leaders insure that personnel continue to improve positions until the unit moves.

Priority of work at an AA is normally a matter of SOP, but it may be part of the movement or operation order. Although commanders may have differing priorities, the following are normally included, in the order listed:

**(1) Establish local security by dispatching OPs, which should have wire communications with the platoon and be equipped with the M8 chemical-agent alarm. At platoon positions, local security is further achieved by alternating troops from work to watching, thus keeping roughly half the force providing security.**

**(2) Position vehicles and crew-served weapons where they can best be employed. If Dragons cannot be employed because of terrain restrictions, they should not be dismounted.**

**(3) Establish communications within the platoon and to the company CP. The platoon sets up a hot loop, connecting the squads to the platoon leader's vehicle by telephone (TA1). To speed the establishment of telephone communications, the platoon leader can take a member of the platoon headquarters element with him to the company CP. As he returns to the platoon AA, a land telephone line can be reeled out from the company CP back to his vehicle. Also, the platoon leader has a person who knows where the company CP is should a messenger be needed. In the AA, radio use at platoon and squad level should be restricted to radio listening silence.**

**(4) Position remaining squad members. As in the defense, the remaining squad members are positioned to provide security for crew-served weapons, to cover dead space,**

**and to cover avenues of approach. Dismounted troops should prepare hasty fighting positions initially. The following is required:**

**Clear fields of fire.**

**Tie in fires between squads and platoons so that uncovered gaps do not exist in the defense.**

**Prepare range cards for vehicle-mounted weapons and dismounted crew-served weapons. Prepare a platoon sector sketch and forward a copy to the company CP.**

**Camouflage positions by using the appropriate camouflage screens for vehicles and natural material for infantry fighting positions.**

**(5) Once the basics are accomplished, alternate squad rest periods while working to improve the defense. Improve the defense by digging fighting positions and providing overhead cover, setting out remote sensors, and establishing security patrols.**

#### **Q-4. ACTIONS IN ASSEMBLY AREAS**

Assembly areas provide the unit a secure defensible position where the unit can prepare for future operations. During and after the establishment of the defense, the following activities may take place:

**Leaders receive and issue orders.**

**The unit maintains its equipment and weapons.**

**Personnel conduct personal hygiene.**

**Leaders inspect.**

**The unit is resupplied to include distribution of ammunition and refueling of vehicles.**

**The unit rehearses critical aspects of the upcoming operation.**

**Weapon systems are checked and small arms are test fired, if possible.**

**Troops eat and rest.**

**The unit continues to improve its defenses.**

## Student Handout 5

### Extracted Material from FM 7-8

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This student handout contains 36 pages of extracted material from the following publication:

FM 7-8, The Infantry Rifle Platoon and Squad, 22 Apr 1992, w/C1, 1 Mar 2001

Chapter 1	Pages 1-10 thru 1-20
Chapter 2	Pages 2-38 thru 2-70
Chapter 2	Pages 2-84 and 2-85

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advance. FM 101-5-1 discusses these control measures in detail and provides examples of their use.

f. **Attacks During Limited Visibility.** Attacks during limited visibility achieve surprise, avoid heavy losses, cause panic in a weak and disorganized enemy, exploit success, maintain momentum, and keep pressure on the enemy. Platoons and squads attack whenever possible during limited visibility. Darkness, fog, heavy rain, falling snow, and the smoke and dust of combat create limited visibility conditions that allow infantry platoons and squads to move undetected.

(1) **Fundamentals.** The fundamentals for a daylight attack apply to limited visibility attacks. Limited visibility attacks require-

- Well-trained squads.
- Natural light sufficient to employ night vision devices.
- A simple concept with sufficient control measures.
- Detailed, successful reconnaissance of the objective, routes, passage points, support-by-fire positions, and other key locations.

(2) **Considerations** Leaders must consider the increased difficulty during limited visibility operations in performing the following:

- Controlling the movement of individuals and squads.
- Identifying targets and controlling direct and indirect fires.
- Navigating and moving.
- Identifying friendly and enemy soldiers.
- Locating, treating, and evacuating casualties.
- Locating and bypassing or breaching enemy obstacles.

## **1-8. DEFENSE**

This paragraph describes the characteristics of defensive operations, the role of the commander's concept in focusing the efforts of platoons and squads in the defense, and other considerations for planning defensive operations. Defensive operations are characterized by preparation, disruption, concentration, and flexibility. Platoons and squads normally defend as part of a larger force to disrupt, disorganize, delay, or defeat an attacking enemy, deny an area to an enemy, or protect a flank. They may also defend as a part of a larger unit in a retrograde operation. The challenge to the defender is to retain the initiative, that is, to keep the enemy reacting and unable to execute his own plan.

a. **Initiative in the Defense.** Since the enemy decides the time and place of the attack, leaders seize and retain the initiative in the defense through careful planning, preparation, coordination, and rehearsal. Leaders plan and establish the defense to find the enemy first, without being found; fix the enemy with obstacles and fires; locate or create a

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weakness in the enemy's attack plan; and maneuver to exploit that weakness with quick violent counterattack.

(1) **Plan and prepare.** Leaders use the troop-leading procedure to make sure that all necessary steps are taken to prepare for an operation. They analyze the factors of METT-T to determine the best course of action. In the defense, they determine where best to kill the enemy with fires. They position key weapons to concentrate fires into that area, tie in fires with obstacles, position the remaining platoon and squad weapons to support and protect the key weapons, and reconnoiter and rehearse counterattacks.

(2) **Find the enemy.** Platoon leaders find the enemy by knowing how he fights, by analyzing the terrain in light of this knowledge, by positioning OPs along likely avenues of approach, and by actively patrolling to locate him.

(3) **Avoid detection.** Platoons avoid detection by securing their defensive positions or sectors early and continuously, by positioning squads and weapons away from natural lines of drift or obvious terrain features, and by employing effective camouflage and noise and light discipline.

(4) **Fix the enemy.** Platoons use a combination of tactical obstacles and direct and indirect fires to disrupt the enemy attack and fix the enemy in a place where the platoon can destroy him with fires.

(5) **Find or create a weakness.** Platoons create a weakness by destroying the enemy's command and control nodes, by isolating an attacking or assaulting enemy formation from its support, by causing mounted forces to dismount and thereby slowing the attack and making the enemy vehicles more vulnerable, by use of night vision devices to gain a visibility advantage, or by the effective use of illumination to blind or expose the enemy during his attack.

(6) **Maneuver to exploit the weakness.** Having created a weakness, platoons must exploit it with counterattacks against the flank or rear of the enemy attack by fire or maneuver. Platoons must carefully coordinate and rehearse all counterattacks to ensure the proper synchronization in lifting and shifting of direct and indirect fires. They must also consider the threat of follow-on enemy forces against their counterattack.

(7) **Reorganize.** Platoons and squads must be able to reorganize quickly to continue the defense against follow-on forces.

b. **Defense on a Reverse Slope.** An infantry company or platoon can organize a defense on the reverse slope of a hill (Figure 1-1, page 1-12). This defense is on the part of the hill or ridge that is masked by the crest from enemy direct fire and ground observation. The platoon must control the crest by fire.

- (1) The advantages of defending from a reverse slope are—
- Enemy ground observation of the position is masked.
  - There is more freedom of movement in the position due to the enemy's lack of ground observation.
  - Enemy direct-fire weapons cannot hit the position.
  - Enemy indirect fire is less effective due to the lack of enemy ground observation.
  - The defender gains surprise.
  - If the enemy attacks over the crest, he will isolate himself from his supporting element(s).

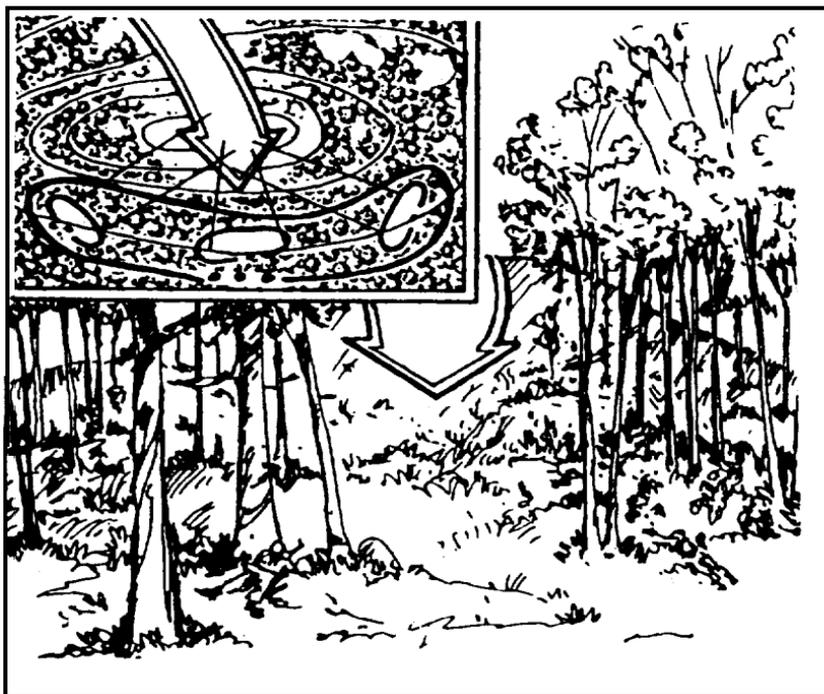


Figure 1-1. Defending from the reverse slope.

- (2) The disadvantages of defending from a reverse slope may include the following:
- It is more difficult to observe the enemy. Soldiers can see no farther forward than the crest, making it difficult to determine just where the enemy is as he advances. This is especially true during limited visibility conditions. OPs must be placed well forward of the crest for early warning and long-range observation.
  - Moving out of the position under pressure may be more difficult.

- Fields of fire are normally short. Grazing fire maybe less than 600 meters.
- ǂ Obstacles on the forward slope can only be covered with indirect fire or by units on the flanks-unless some weapons are initially placed forward.
- ǂ If the enemy gets to the crest, he can assault down the hill. This may give him a psychological advantage.
- If enough OPs are not put out or if they are not put in the right positions, the enemy may suddenly appear at close range without enough warning.

(3) The forward platoons are from 200 to 500 meters from the crest of the hills where they can have the best fields of fire and still have the advantages of the reverse slope.

(4) If it places them in supporting distance, the overmatching platoon is positioned on the forward slope of the next high ground to the rear (counterslope). Tasks assigned to the overmatching platoon include—

- Protect the flanks and rear of the forward positions.
- Reinforce the fires of the forward elements.
- ǂ Block penetrations of the forward positions.
- ǂ Cover the withdrawal of forward units.
- Counterattack.

(5) Platoon leaders plan indirect fire FPFs on or short of the crest of the hill to deny that area to the enemy and to help breakup his assault as he crosses the crest.

(6) Platoons position OPs on, or just forward of the crest to watch the entire platoon sector of fire. The OPs can vary in size from two soldiers to a squad reinforced with machine guns and antiarmor weapons.

(7) Leaders place obstacles below the crest of the hill on the friendly side. Tied in with an FPF, this can be effective in stopping or slowing an assault.

(8) The conduct of the defense from a reverse slope is the same as from a forward slope. However, the OPs forward of the position not only warn of the enemy's advance but also delay, deceive, and disorganize him by fire. OPs withdraw before they become engaged by the enemy. If machine guns are with the OPs, they withdraw first so they can occupy their primary fighting positions before the enemy reaches the crest. As the OPs withdraw, indirect fire is placed on the forward slope and on the crest of the hill to slow the enemy's advance. Soldiers in primary positions hold their fire until the enemy crosses the crest. As the enemy moves over the crest of the hill, the defenders hit him with all available fire.

(9) When the enemy assaults across the crest and is defeated, he will try to turn, bypass, or envelop the defense. To counter this, the overwatch element orients its fires to the flanks of the forward slope. Also, the defense must have appropriate supplementary positions and obstacles, as well as security elements, to warn if the enemy tries to envelop or bypass the position. Against armored, motorized, or road-bound attack, commanders and leaders should position antiarmor weapons and machine guns so their primary sectors are to the flanks of the reverse slope.

c. **Perimeter Defense.** The major advantage of the perimeter defense (Figure 1-2) is the preparedness of the platoon to defend against an attack from any direction. The main disadvantage is that combat power is not concentrated at first against an enemy avenue of approach. A perimeter defense differs from other defenses in that—

- The trace of the platoon is circular or triangular rather than linear.
- Unoccupied areas between squads are smaller.
- The flanks of the squads are bent back to conform to the plan.
- The bulk of combat power is on the perimeter.
- The reserve is centrally located.

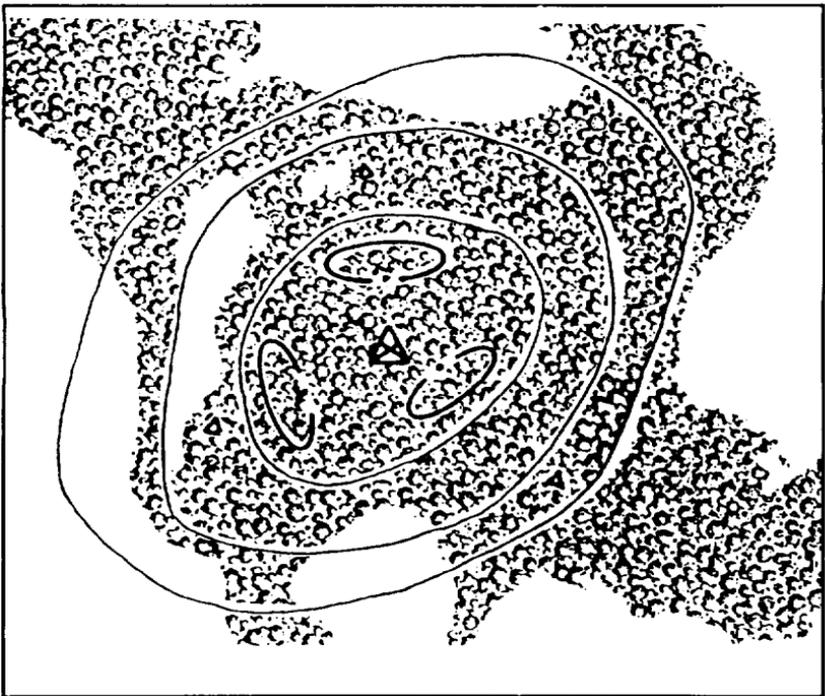


Figure 1-2. Perimeter defense.

d. **Defense in Sector.** Defense in sector maximizes the combat abilities of the infantry. It allows the platoon to fight throughout the depth of the sector using dispersed small-unit tactics.

(1) The platoon is usually assigned a sector within the company sector (Figure 1-3). The platoon leader may in turn assign sectors to individual squads to permit maximum freedom of action for the squad to defend. The platoon leader must remember that the squad has no way to call for fire support other than through the platoon net. FOs may be attached, or as a minimum leaders must be prepared to assist in calls for supporting fires.

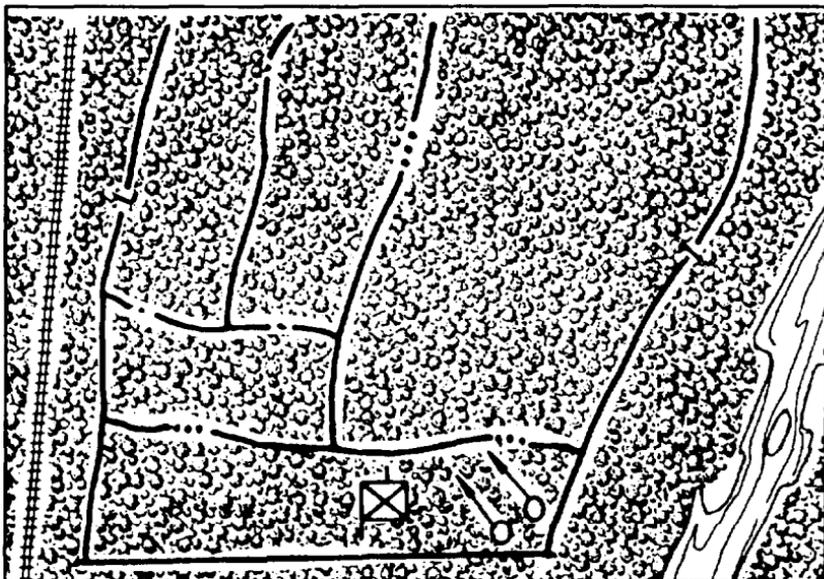


Figure 1-3 Assigned sectors.

(2) Each squad conducts detailed reconnaissance of its sector and identifies all likely enemy avenues of approach, choke points, kill zones, obstacles, patrol bases, and cache sites. They also identify all tentative positions.

(3) The platoon leader confirms the selected tentative sites and incorporates them into his concept (Figure 1-4, page 1-16). He designates initial positions and the sequence in which successive positions are to be occupied. He gives each squad specific guidance concerning contingency plans, rally points, and other coordinating instructions.

(4) Squads then prepare the defense in the sequence designated by the platoon leader. They initially prepare the primary position and then

a hasty supplementary position, and then they select the alternate position. Squads improve (he positions as time permits.

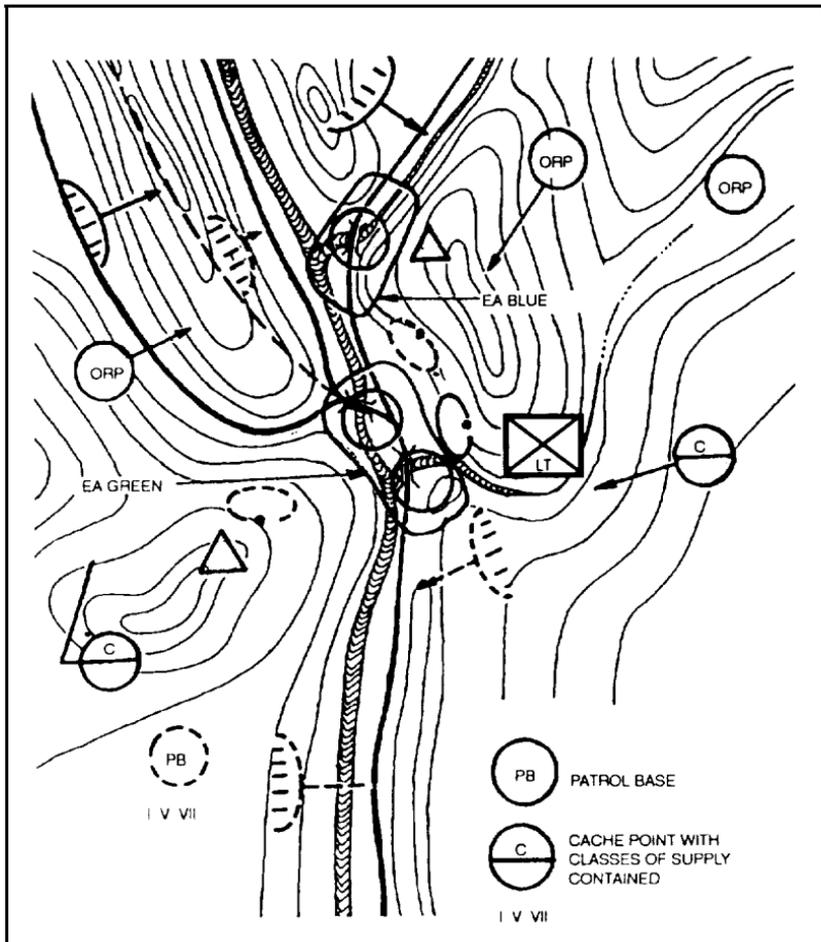


Figure 1-4. Concept of the operation for a defense in a sector.

(5) When Security warns of approaching enemy, the squad occupies its primary positions and prepares to engage the enemy. As the enemy moves into the choke point or kill zone, the squad initiates an ambush. It engages the enemy targets only as long as squads do not become decisively engaged. Squads then move to their next position and repeat the same process. The leader must plan the disengagement Supporting positions, the use of smoke, and rehearsals are key to effective disengagements.

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Depending on METT-T factors, the entire battle maybe fought this way. Some variations of this technique include the following:

(a) Allowing the enemy to exhaust himself reacting to numerous ambushes, then conduct a violent counterattack along previously rehearsed routes to complete the destruction of the enemy. The platoon leader can do (his by retaining direct control over a large portion of the platoon and committing it at the decisive moment. An alternative is to use prearranged signals to consolidate the platoon at a rally point; then to conduct the counterattack.

(b) Having the forward ambush teams hold their fire until the lead elements of the enemy formation hit another ambush deeper in the sector. Then ambush the the next enemy element as it passes through the kill zone. This technique destroys the cohesion of the enemy and is especially effective if the ambush eliminates the command group of the enemy unit.

(c) Planning indirect fires to cause more enemy casualties at ambush sites along a well-defined route.

(6) Casualty evacuation and resupply of ammunition and water are particularly difficult when defending this way.

**e. Mutually Supporting Battle Positions.** Platoons and squads use this technique to concentrate firepower into a given engagement area. This technique prevents the attacker from focusing on the entire defensive scheme.

(1) Leaders must ensure that the position is organized in depth, that all likely avenues of approach arc covered by fire, and that all positions have interlocking fires. Each position must be supported by another position that can deliver fires into the flank or rear of the enemy attacking it. Leaders must include obstacles in the fire plan to slow and stop the enemy in the engagement area-to include extensive use of mines. Squads patrol forward of the BP to provide security. They harass the enemy to disorganize and confuse him as to the location of the main defenses.

NOTE: Fighting positions are not located on likely avenues of approach.

(2) The positioning of squads, organization of the engagement area, and fire control measures arc critical to the succcss of this technique. Leaders position their squads in relation to the avenue of approach. Platoon leaders use essential control measures to mass fires against the enemy within their sectors.

(3) variations of this technique include—

- Opening fire at the some time and withdrawing on command.
- Opening fire one element at a time. As the enemy orients on each element firing at them and begins to maneuver

against it, other elements open fire and the original element withdraws once it is no longer receiving enemy fire. It either moves to a new position or to a rally point.

Ž Maneuvering to prevent the enemy from withdrawing or reinforcing.

- Designating more than one engagement area. Leaders use supplementary and on-order positions and secondary sectors of fire to mass fire into engagement areas as required.

f. **Control Measures.** Leaders use control measures to assign responsibilities, coordinate fires and maneuver, control combat operations, and clarify their concept of the operation. Additionally, control measures ensure the distribution of fires throughout the platoon's area of responsibility and the initial positioning and subsequent maneuver of squads.

(1) Graphic control measures used in the defense include sectors, battle positions, boundaries, contact points, coordination points, forward edge of the battle area (FEBA), strongpoints, target reference points (TRP), assembly areas, phase lines, passage points and lanes, release points, and engagement areas. FM 101- 5-1 discusses these control measures in detail and provides examples of their use.

(2) Fire commands and control measures for individual and key weapons also constitute a type of control measure available to leaders. Weapons control measures include range cards, sectors of fire, principle direction of fire, final protective line, final protective fires, and target reference points. Most of these appear on the range card. Chapter 2 describes the requirements for weapons range cards and provides examples. In addition, antiarmor gunners, machine gun [cures, fire teams, squads, and platoons can be given engagement priorities and fire commands.

g. **Obstacles.** Obstacles give strength to a defense when properly employed. Platoons and squads incorporate existing and reinforcing obstacles into their defense and construct other obstacles systems with mines and wire.

(1) **Considerations.** Leaders must integrate their obstacle plans with direct and indirect fire plans and with their scheme of maneuver. Platoons and squads always cover obstacles by fire and observation. They protect obstacles with antipersonnel mines, trip flares, and warning devices. They camouflage wire or hide it in natural terrain features. Chapter 2 discusses the techniques of obstacle employment most common to infantry platoons and squads.

(2) **Classification.** Wire obstacles have three classifications based on their use and location. Priority for emplacement normally goes to tactical

**wire. Additionally, leaders can organize their obstacles so that one obstacle can serve both tactical and protective functions.**

(a) *Tactical.* Platoons site tactical wire parallel to and along the friendly side of the FPLs of their major weapons. Tactical wire holds the enemy where he can be killed or wounded by automatic rifle fire, Claymores, hand grenades, and machine gun fire.

(b) *Protective.* Squads locate protective wire to prevent surprise assaults from points close to the defense area. It normally lies just outside of hand-grenade range and well within both day and night observation.

(c) *Supplementary.* Platoons and squads use supplementary wire to disguise the exact line of tactical wire and to give continuity to the company obstacle plan.

## 1-9. SECURITY

Security includes any measure taken by platoons and squads against actions that may reduce their effectiveness. It involves avoiding detection by the enemy or deceiving the enemy about friendly positions and intentions. It also includes finding the enemy and knowing as much about his positions and intentions as possible. Security allows units to retain freedom of action and is an important part of maintaining the initiative. The requirement for security is an inherent part of all platoon operations. Platoons and squads secure themselves when they move, attack, and defend. As part of a larger formation, they may undertake security operations that involve patrolling; establishing squad-sized OPs on a screen line; or executing advance, flank, or rear guard missions for the main body in a movement to contact.

a. **Security During Movement.** Platoons and squads enhance security during movement by—

- Using the proper movement formation and technique.
- Moving as fast as the situation will allow. This may degrade the enemy's ability to detect the platoon or squad and the effectiveness of his fires once detected.
- Moving along terrain that offers cover and concealment.
- Enforcing noise and light discipline.
- Using proper camouflage techniques.

b. **Security in the Offense.** Security in the offense includes reconnaissance and security missions to locate the enemy and protect friendly forces from surprise while leaving them free to deploy when contact is made with the enemy. All platoons and squads are responsible for their own local security. They may also be given specific reconnaissance and security tasks as part of the company or battalion plan. Platoons and squads conduct patrols, establish OPs, and move using appropriate

movement formations and techniques to accomplish both reconnaissance and security tasks.

c. **Security in the Defense.** In the defense, platoons and squads use both active and passive measures to enhance security. Platoons also add to their security by actions taken to deny enemy reconnaissance elements accurate information on friendly positions. This includes the destruction of enemy reconnaissance elements and the use of deception measures.

(1) Active measures include—

- The use of OPs and patrols.
- The establishment of specific levels of alert within the platoon. The level can be adjusted based on the METT-T situation.
- Establishment of stand-to times. The platoon's SOP should detail the platoon's activities for stand-to.

(2) Passive measures include camouflage; movement control; noise and light discipline; proper radiotelephone procedures; and ground sensors, night vision devices, and antiarmor weapons' day and nightsights.

## 2-10. MOVEMENT TECHNIQUES

A movement technique is the manner a platoon uses to traverse terrain. There are three movement techniques: traveling, traveling overwatch, and bounding overwatch. The selection of a movement technique is based on the likelihood of enemy contact and the need for speed. Factors to consider for each technique are control, dispersion, speed, and security (Figure 2-18). Movement techniques are not fixed formations. They refer to the distances between soldiers, teams, and squads that vary based on mission, enemy, terrain, visibility, and any other factor that affects control. Soldiers must be able to see their fire team leader. The squad leader must be able to see his fire team leaders. The platoon leader should be able to see his lead squad leader. Leaders control movement with arm-and-hand signals. They use radios only when needed. Any of the three movement techniques (traveling, traveling overwatch, bounding overwatch) can be used with any formation.

MOVEMENT TECHNIQUES	WHEN NORMALLY USED	CHARACTERISTICS			
		CONTROL	DISPERSION	SPEED	SECURITY
TRAVELING	CONTACT NOT LIKELY	MORE	LESS	FASTEST	LEAST
TRAVELING OVERWATCH	CONTACT POSSIBLE	LESS	MORE	SLOWER	MORE
BOUNDING OVERWATCH	CONTACT EXPECTED	MOST	MOST	SLOWEST	MOST

Figure 2-18. Movement techniques and characteristics.

a. **Techniques of Squad Movement.** The platoon leader determines and directs which movement technique the squad will use.

(1) **Traveling.** Traveling is used when contact with the enemy is not likely and speed is needed (Figure 2-19).

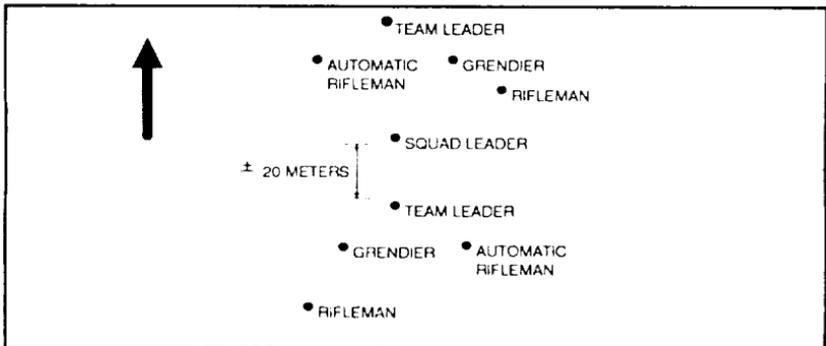


Figure 2-19. Squad traveling.

(2) **Traveling overwatch.** Traveling overwatch is used when contact is possible (Figure 2-20). Attached weapons move near the squad leader and under his control so he can employ them quickly.

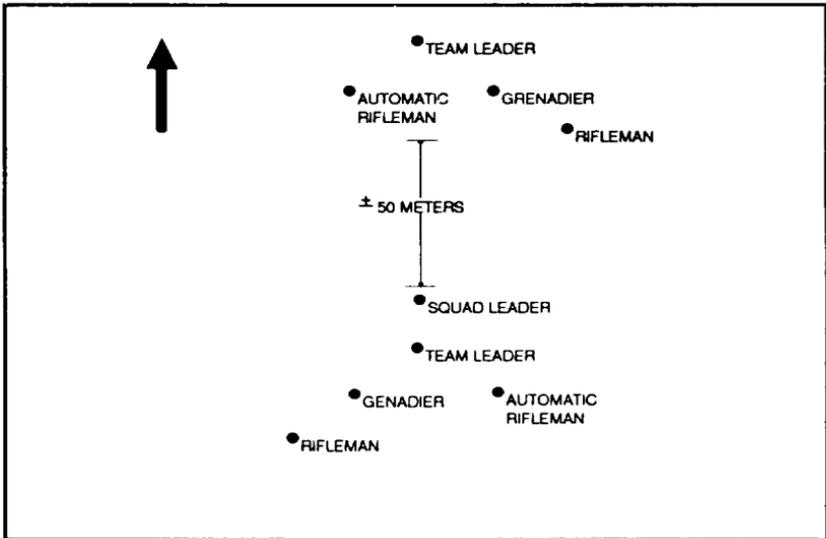


Figure 2-20. Squad traveling overwatch.

(3) **Bounding overwatch.** Bounding overwatch is used when contact is expected, when the squad leader feels the enemy is near (movement, noise, reflection, trash, fresh tracks, or even a hunch), or when a large open danger area must be crossed.

(a) The lead fire team overwatches first. Soldiers scan for enemy positions. The squad leader usually stays with the overwatch team. (Figure 2-21).

(b) The trail fire team bounds and signals the squad leader when his team completes its bound and is prepared to overwatch the movement of the other team.

(c) Both team leaders must know if successive or alternate bounds will be used and which team the squad leader will be with. The overwatching team leader must know the route and destination of the bounding team. The bounding team leader must know his team's destination and route, possible enemy locations, and actions to take when he arrives there. He must also know where the overwatching team will be, and how he will receive his instructions. The cover and concealment on the bounding team's route dictates how its soldiers move.

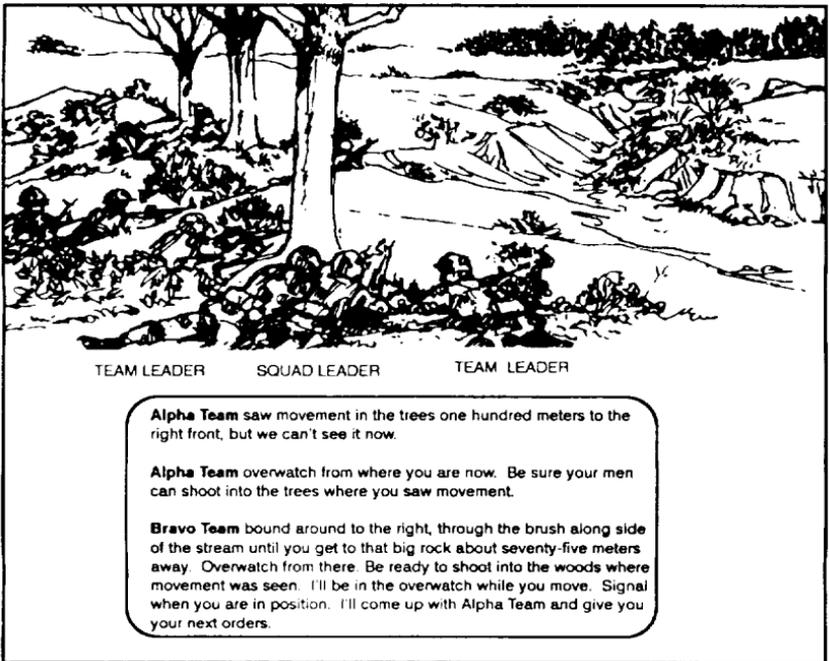


Figure 2-21. Example of squad leader's order to bound.

(d) Teams can bound successively or alternately. Successive bounds are easier to control; alternate bounds can be faster. (Figure 2-22.)

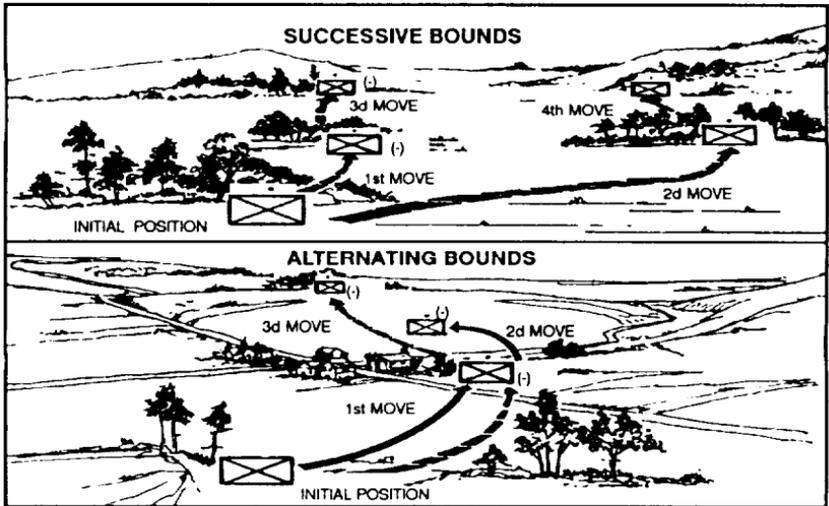


Figure 2-22. Squad successive and alternate bounds.

b. **Techniques of Platoon Movement.** The platoon leader determines and directs which movement technique the platoon will use.

(1) **Traveling.** Traveling is used when enemy contact is not likely and speed is needed (Figure 2-23).

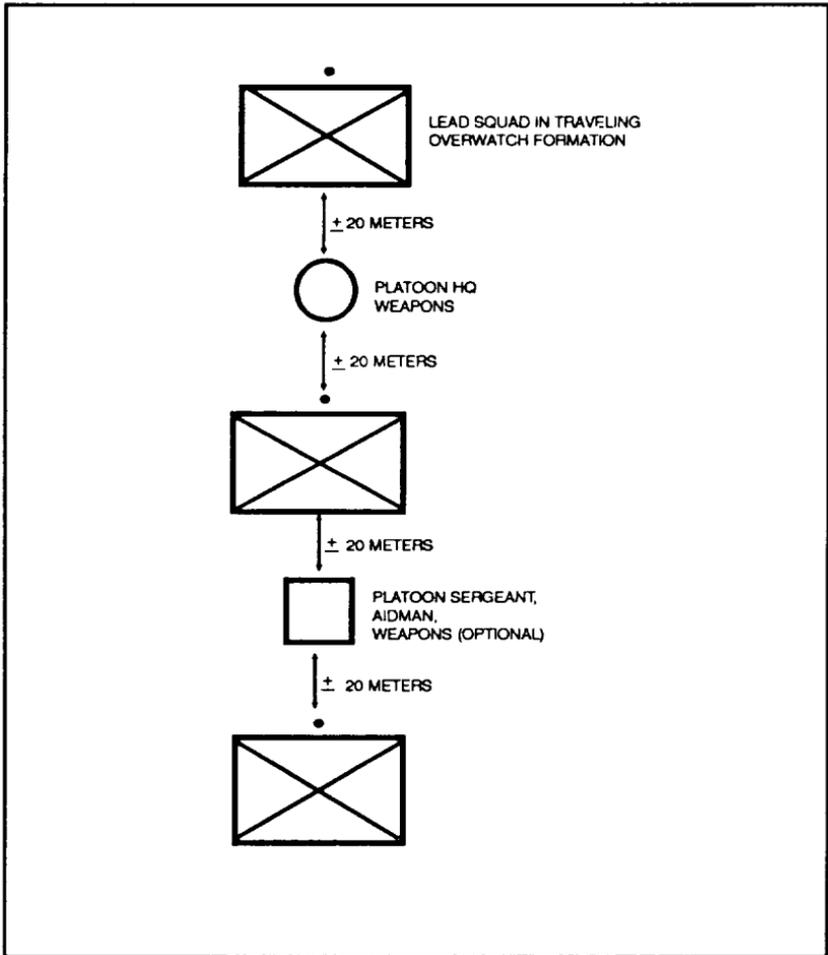


Figure 2-23. Platoon traveling.

(2) **Traveling overwatch.** Traveling overwatch is used when contact is possible but speed is needed (Figure 2-24). The platoon leader moves where he can best control the platoon. The platoon sergeant travels with the trailing squad, though he is free to move throughout the formation to

enforce security, noise and light discipline, and distances. between squads. The lead squad uses traveling overwatch, and the trailing squads use traveling.

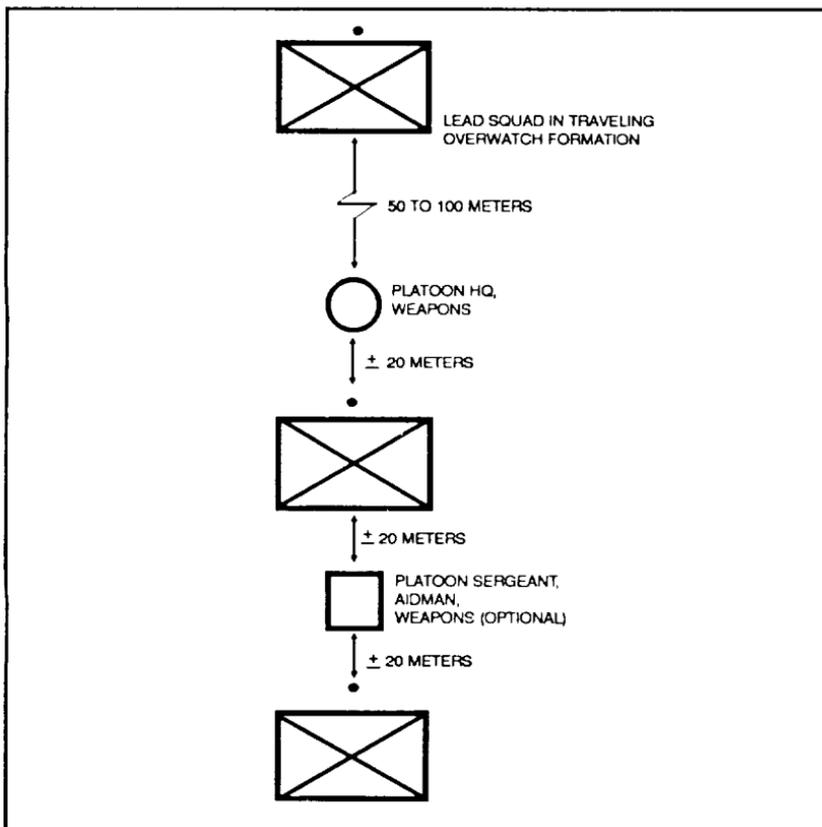


Figure 2-24. Platoon traveling overwatch.

(3) **Bounding overwatch.** Bounding overwatch is used when contact is expected (Figure 2-25). Platoons conduct bounding overwatch using successive or alternate bounds.

(a) **One squad bounding.** One squad bounds forward to a chosen position, then it becomes the overwatching element unless contact is made en route. The bounding squad can use either traveling overwatch, bounding overmatch, or individual movement techniques (low and high crawl, and short rushes by tire team or pairs).

(b) **One squad overwatching.** One squad overwatches the bounding squad from covered positions from which it can see and suppress likely enemy positions. Soldiers use sunning techniques to view their assigned

sector. The platoon leader remains with the overwatching squad. Normally, the platoon's machine guns are located with the overwatching squad also.

(c) *One squad awaiting orders.* One squad is uncommitted and ready for employment as directed by the platoon leader. The platoon sergeant and the leader of the squad awaiting orders position themselves close to the platoon leader.

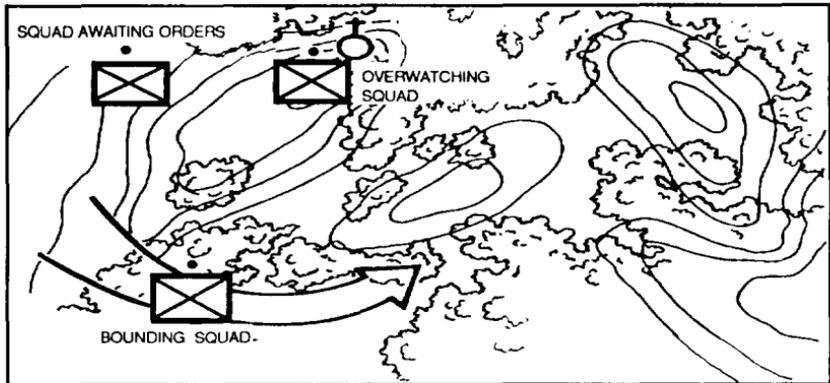


Figure 2-25. Platoon bounding overwatch

(d) *Considerations.* When deciding where to have his bounding squad go, a platoon leader considers—

- The requirements of the mission.
- Where the enemy is likely to be.
- The routes to the next overwatch position.
- The ability of an overwatching element's weapons to cover the bound.
- The responsiveness of the rest of the platoon.
- The fields of fire at the next overwatch position.

(e) *Instructions.* Before a bound, the platoon leader gives an order to his squad leaders from the overwatch position (Figure 2-26). He tells and shows them the following:

- The direction or location of the enemy (if known).
- The positions of the overwatching squad.
- The next overwatch position.
- The route of the bounding squad.
- What to do after the bounding squad reaches the next position.
- What signal the bounding squad will use to announce it is prepared to overwatch.
- How the squad will receive their next orders.

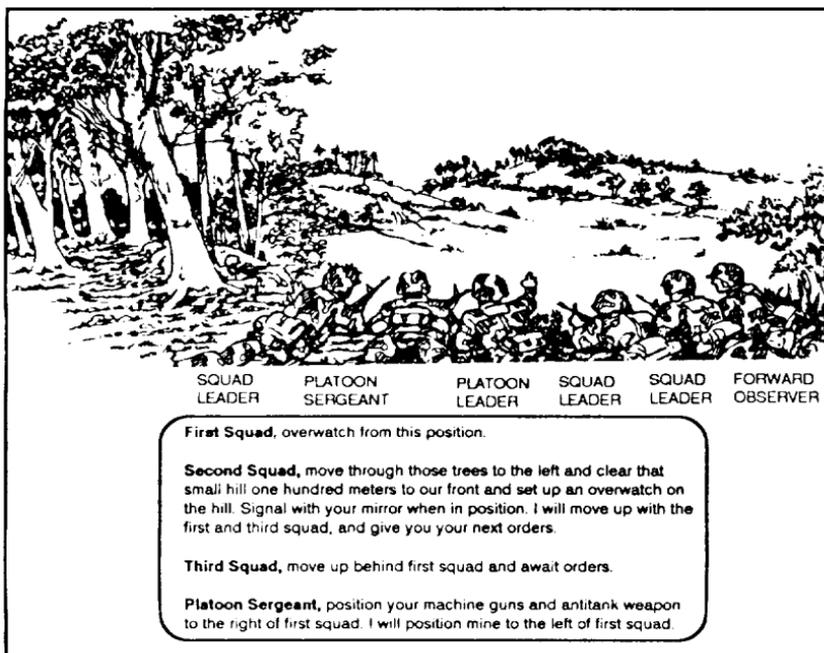


Figure 2-26. Example of platoon leader's order for bounding overwatch.

(f) *Machine guns.* The machine guns are normally employed in one of two ways:

☒ Attach both guns to the overwatch squad(s).

☒ One machine gun with the overwatch squad and the other with the bounding squad. This technique requires the guns to move between squads as they leave the overwatch to join the bounding squad.

c. **Individual Movement Techniques.** Individual movement techniques include the high and low crawl and short rushes (three to five seconds) from one covered position to another. (See FM 21-75.)

d. **Other Movement Situations.** The platoon can use other formations for movement.

(1) **Movement with armored vehicles.** For a detailed discussion of working with armored vehicles, see Section IX.

(2) **Movement by water.** The platoon avoids crossing water obstacles when possible. Leaders should identify weak or nonswimmers and pair them with a good swimmer in their squad.

(a) When platoons or squads must move into, through, or out of rivers, lakes, streams, or other bodies of water, they treat the water

obstacle as a danger area. While on the water, the platoon is exposed and vulnerable. To offset the disadvantages, the platoon—

- Ž Moves during limited visibility.
  - Ž Disperses.
  - Ž Camouflages thoroughly.
  - Ž Moves near the shore to reduce the chances of detection.
- (b) When moving in more than one boat, the platoon—
- Ž Maintains tactical integrity and self-sufficiency.
  - Ž Cross loads key soldiers and equipment.
  - Ž Makes sure that the radio is with the leader.

(c) If boats are not available, several other techniques can be used such as—

- Ž Swimming.
- Ž Poncho rafts.
- Ž Air mattresses.
- Ž Waterproof bags.
- Ž A 7/16-inch rope used as a semisubmersible one-rope bridge or safety line.
- Ž Water wings (made from a set of trousers).

(3) **Tactical marches.** Platoons conduct two types of tactical marches with the company. They are foot marches and motor marches.

(a) *Foot marches.* See FM 21-18.

(b) *Motor marches.* The platoon conducts motor marches like any other tactical movement. Special requirements may include—

- Ž Protection. Sandbagging the bottom of the truck to protect the soldiers from mines.
- Ž Observation. Removing bows and canvas to allow 360-degree observation and rapid dismount.
- Ž Inspection. Inspecting vehicle and driver to ensure they are ready. Checking fuel level and driver's knowledge of the route, speed, and distance between vehicles.
- Ž Loading. The platoon should load vehicles keeping fire team, squad, and platoon integrity. For example, fire teams and squads intact on the same vehicle and platoons in the same serial. Additionally, key leaders, weapons, and equipment should be cross loaded.
- Ž Rehearsals. Rehearsing immediate action to enemy contact (near and far ambush, air attack) ensuring the driver knows what to do.
- Ž Air guards. Posting air guards for each vehicle.

(4) **Movement during limited visibility conditions.** At night or when visibility is poor, a platoon must be able to function the same as during

day. It must be able to control, navigate, maintain security, move, and stalk at night or during limited visibility.

(a) *Control*. When visibility is poor, the following methods aid in control:

- Ž Selected personnel use of night vision devices.
- Ž Leaders move closer to the front.
- Ž The platoon reduces speed.
- Ž Each soldier uses two small strips of luminous tape on the rear of his helmet to allow the soldier behind him to see.
- Ž Leaders reduce the interval between soldiers and between units to make sure they can see each other.
- Ž Leaders conduct headcounts at regular intervals and after each halt to ensure personnel accountability.

(b) *Navigation*. To assist in navigation during limited visibility, leaders use—

- Ž Terrain association (general direction of travel coupled with recognition of prominent map and ground features).
- Ž Dead reckoning (compass direction and specific distances or legs). At the end of each leg, leaders should verify their location.
- Ž Movement routes that parallel identifiable terrain features.
- Ž Guides or marked routes.
- Ž GSRs to vector units to the proper location.
- Position-location devices.

(c) *Security*. For stealth and security in night moves, squads and platoons—

- Ž Designate a point man to maintain alertness, the lead team leader to navigate, and a pace man to count the distance traveled. Alternate compass and pace men are designated.
- Ž Allow no smoking, no lights, and no noise.
- Ž Use radio-listening silence.
- Ž Camouflage soldiers and equipment.
- Ž Use terrain to avoid detection by enemy surveillance or night vision devices.
- Ž Make frequent listening halts.
- Ž Mask the sounds of movement with artillery tires.

(d) *Night walking*. Proficiency in night walking is gained through practice. A soldier walking at night looks ahead, then slowly lifting his right foot, he cases it forward about 6 inches to the front of the left foot. While easing his foot forward and keeping his toes pointed downward, the soldier feels for twigs and trip wires. He slowly places his foot on the

ground. Confident of solid, quiet footing, the soldier slowly moves his weight forward, hesitates, then repeats the process with the other foot. This technique is slow and time-consuming.

(e) *Stalking*. Soldiers stalk to get as close as they can to an enemy sentry, patrol, or base. This is best described as a slow, crouching night walk. The soldier watches the enemy continuously. When close to the enemy, the soldier squints to help conceal light reflected by his eyes. He breathes slowly through his nose. If the enemy looks in his direction, the soldier freezes. He takes advantage of the background to blend with shadows and to prevent glare or contrast. Soldiers move during distractions such as gusts of wind, vehicle movement, loud talking, or nearby weapons fire.

## 2-11. ACTIONS AT DANGER AREAS

A danger area is any place on a route where the leader's estimate process tells him that his platoon might be exposed to enemy observation, fire, or both. Platoons try to avoid danger areas. If a platoon must cross a danger area, it does so with great caution and as quickly as possible.

a. **Types of Danger Areas.** The following are some examples of danger areas and crossing procedures.

(1) *Open areas*. Conceal the platoon on the nearside and observe the area. Post security to give early warning. Send an element across to clear the far side. When cleared, cross the remainder of the platoon at the shortest exposed distance and as quickly as possible.

(2) *Roads and trails*. Cross roads or trails at or near a bend, a narrow spot, or on low ground.

(3) *Villages*. Pass villages on the downwind side and well away from them. Avoid animals, especially dogs, which might reveal the presence of the platoon.

(4) *Enemy positions*. Pass on the downwind side (the enemy might have scout dogs). Be alert for trip wires and warning devices.

(5) *Minefields*. Bypass minefields if at all possible—even if it requires changing the route by a great distance. Clear a path through minefields only if necessary.

(6) *Streams*. Select a narrow spot in the stream that offers concealment on both banks. Observe the far side carefully. Emplace near and far-side security for early warning. Clear the far side, then cross rapidly but quietly.

(7) *Wire obstacles*. Avoid wire obstacles (the enemy covers obstacles with observation and fire).

**b. Crossing of Danger Areas.** When the platoon crosses a danger area independently or as the lead element of a larger force, it must—

Ž Designate near- and far-side rally points.

Ž Secure the near side (right, left flanks, and rear security).

Ž Reconnoiter and secure the far side.

Ž Execute crossing the danger area.

(1) The platoon leader or squad leader decides how the unit will cross based on the time he has, the size of the unit, the size of the danger area, the fields of fire into the area, and the amount of security he can post. A small unit may cross all at once, in buddy teams, or one soldier at a time. A large unit normally crosses its elements one at a time. As each element crosses, it moves to an overwatch position or to the far-side rally point until told to continue movement.

(2) To maintain momentum, mailing platoons normally cross the danger area without conducting their own reconnaissance or establishing far-side security. The lead platoon conducts reconnaissance and maintains far-side security for the whole force.

**NOTE:** The secured area must be large enough to allow the full deployment of the remainder of the unit.

**c. Crossing of linear Danger Areas (Platoon).** The platoon crosses the danger area in the formation and location specified by the platoon leader. On the far side of the danger area, platoon personnel and equipment are accounted for. The platoon continues the mission. (Figure 2-27.)

(1) When the lead team signals "danger area" (relayed throughout the platoon), the platoon halts.

(2) The platoon leader moves forward, confirms the danger area, and determines what technique the platoon will use to cross. The platoon sergeant also moves forward to the platoon leader.

(3) The platoon leader informs all squad leaders of the situation and the near-side and far-side rally points.

(4) The platoon sergeant directs positioning of the near-side security (usually conducted by the trail squad). These two security teams may follow him forward when the platoon halts and a danger area signal is passed back.

(5) The platoon leader reconnoiters the danger area and selects the crossing point that provides the best cover and concealment.

(6) Near-side security observes to the flanks and overmatches the crossing.

(7) When the near-side security is in place, the platoon leader directs the far-side security team to cross the danger area.

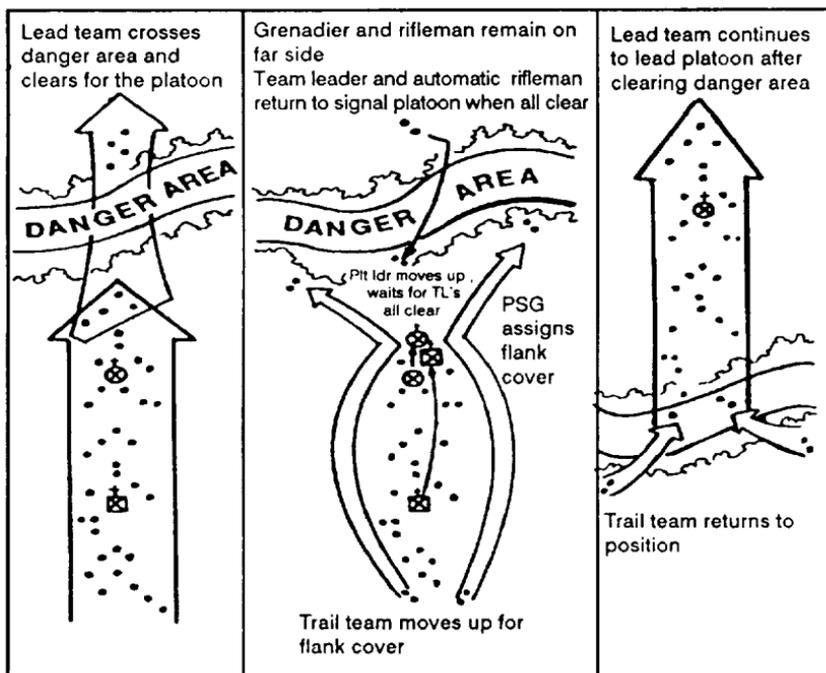


Figure 2-27. Crossing a danger area.

- (8) The far-side security team clears the far side.
- (9) The far-side security team leader establishes an OP forward of the cleared area.
- (10) The far-side security team signals to the squad leader that the area is clear, The squad leader relays the message to the platoon leader.
- (11) The platoon leader selects the method the platoon will use to cross the danger area.
- (12) The platoon quickly and quietly crosses the danger area.
- (13) Once across the danger area, the main body begins moving slowly on the required azimuth.
- (14) The near-side security element, controlled by the platoon sergeant, crosses the danger area where the platoon crossed. They may attempt to cover any tracks left by the platoon.
- (15) The platoon sergeant ensures everyone crosses and sends up the report.
- (16) The platoon leader ensures accountability and resumes movement at normal speed.

NOTE: The same principles stated above are used when crossing a smaller unit across a danger area.

d. **Crossing of Large Open Areas.** This is an area so large (hat the platoon cannot bypass due to the time to accomplish the mission (Figure 2- 28). A combination of (raveling overwatch and bounding overwatch is used to cross the open area. The traveling overwatch technique is used to save time. At any point in the open area where contact may be expected or once the squad or platoon comes within range of small-arms fire of the far side (about 250 meters), the squad or platoon moves using the bounding overwatch technique. Once beyond the open area, the squad or platoon reforms and continues the mission.

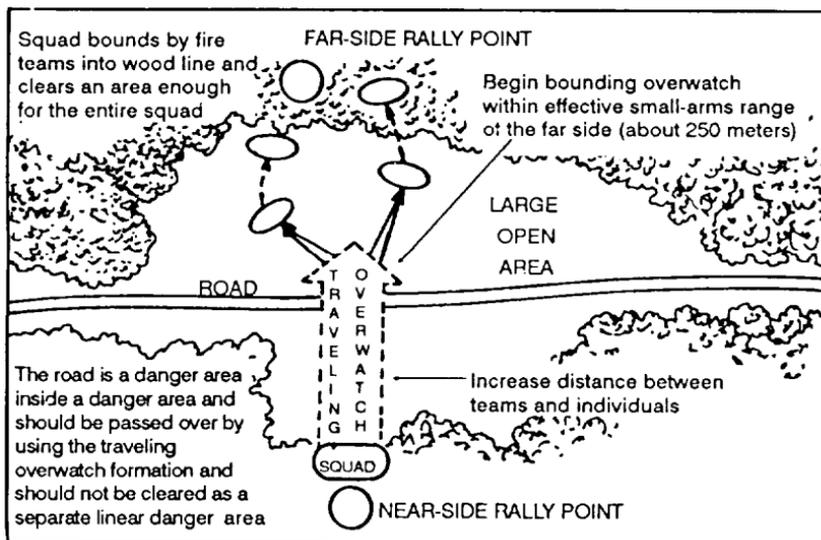


Figure 2-28. Crossing large open area.

e. **Crossing of Small Open Areas.** This is an open area small enough so that it may be bypassed in the time allowed for the mission. Two techniques can be used:

(1) **Detour bypass method.** By the use of 90-degree turns to the right or left, the squad or platoon moves around the open area until the far side is reached, then continues the mission. The pace count of the offset and return legs is not added to the distance of the planned route.

(2) **Contouring around the open area.** The leader designates a rally point on the far side with the movement azimuth, decides which side of the open area to contour around (after considering the distance, terrain, cover and concealment), and moves around the open area. He uses the wood line and vegetation for cover and concealment. When the squad or platoon arrives at the rally point on the far side, the leader reassumes the azimuth to the objective area and continues the mission (Figure 2-29).



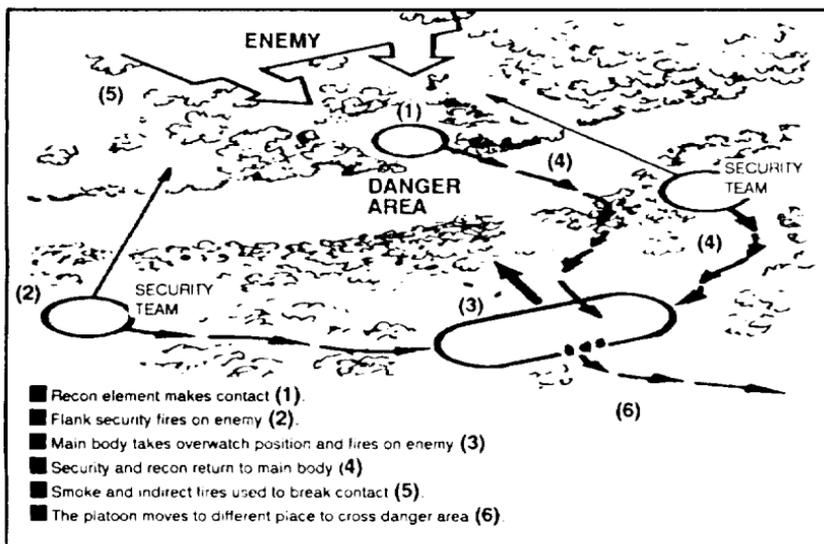


Figure 2-30. Enemy contact on far side.

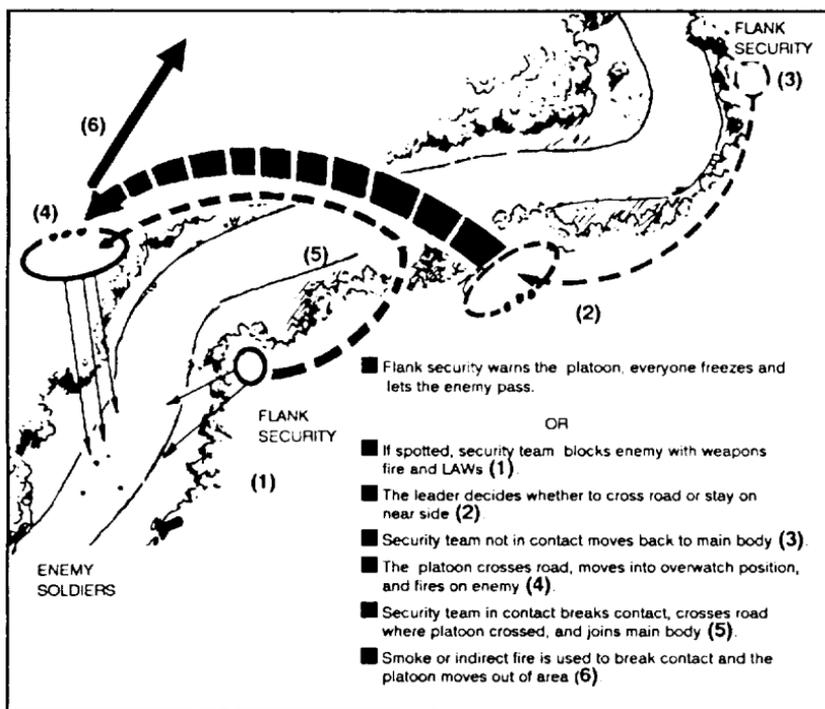


Figure 2-31. Enemy contact on road or trail.

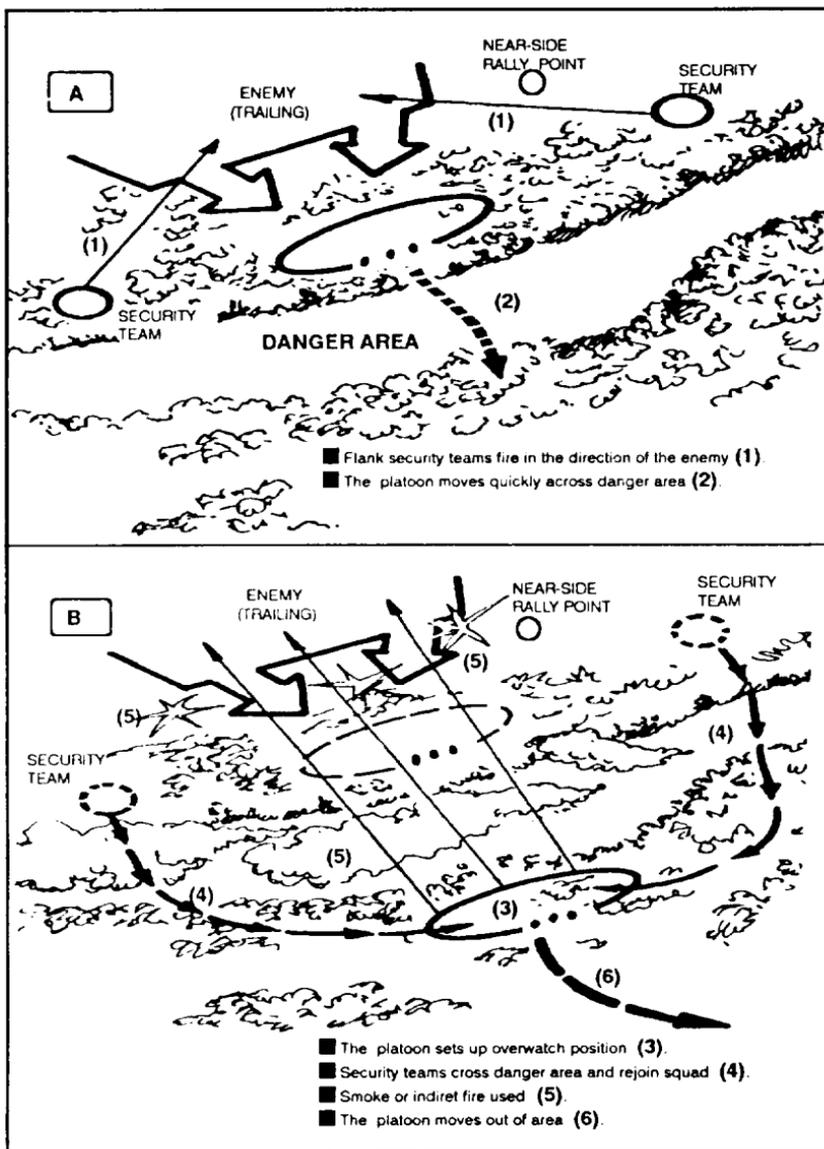


Figure 2-32. Enemy contact on near side.

## Section IV. OFFENSE

This section provides techniques and procedures for offensive missions. It includes movement to contact, deliberate attack, and consolidation and reorganization on the objective.

### 2-12. MOVEMENT TO CONTACT

Infantry units use two techniques for conducting a movement to contact—search and attack or approach march. The platoon leader selects the technique based on the expected enemy situation. Search and attack is used when the enemy is dispersed, when the enemy is expected to avoid contact or quickly disengage and withdraw, or to deny him movement in an area. The approach march maybe used when the enemy is expected to deploy using relatively fixed offensive or defensive formations.

a. **Search and Attack Technique.** The search and attack technique involves the use of multiple squads and fire teams coordinating their actions to make contact with the enemy. Platoons attempt to find the enemy, and then fix and finish him. They combine patrolling techniques with the requirement to conduct hasty or deliberate attacks once the enemy has been found. Planning considerations include—

- Ž The factors of METT-T.
- Ž The requirement for decentralized execution. (The platoon leader coordinates the actions of squads.)
- Ž The requirement for mutual support. (The platoon leader must be able to respond to contact with his other squads not in contact.)
- Ž The length of operations. (The plan may need to address continuous operations.)
- Ž The soldier's load. (Search and attack requires stealth.)
- Ž Resupply and MEDEVAC.
- Ž The positioning of key leaders and personnel.
- Ž The employment of key weapons.
- Ž The requirement for patrol bases.
- Ž The concept for entering the zone of action.
- Ž The concept for linkups. (All leaders must know how they will linkup once contact is made.)

b. **Approach March Technique.** The concept behind the approach march is to make contact with the smallest element, allowing the commander the flexibility of maneuvering or bypassing the enemy force. As part of a larger unit using the approach march technique, platoons may act as the advance, flank, or rear guard. They may also receive on-order missions as part of the main body.

(1) *Advance guard.* As the advance guard, the platoon finds the enemy and locates gaps, flanks, and weaknesses in his defense. The advance guard attempts to make contact on ground of its own choosing, to gain the advantage of surprise, and to develop the situation (either fight through or support the assault of all or part of the main body). The advance guard operates within the range of the main body's indirect fire support weapons.

(a) One rifle squad leads the advance guard.

(b) The platoon uses appropriate formations and movement techniques. (See Figure 2-33.)

(c) The leader rotates the lead squad as necessary to keep soldier fresh.

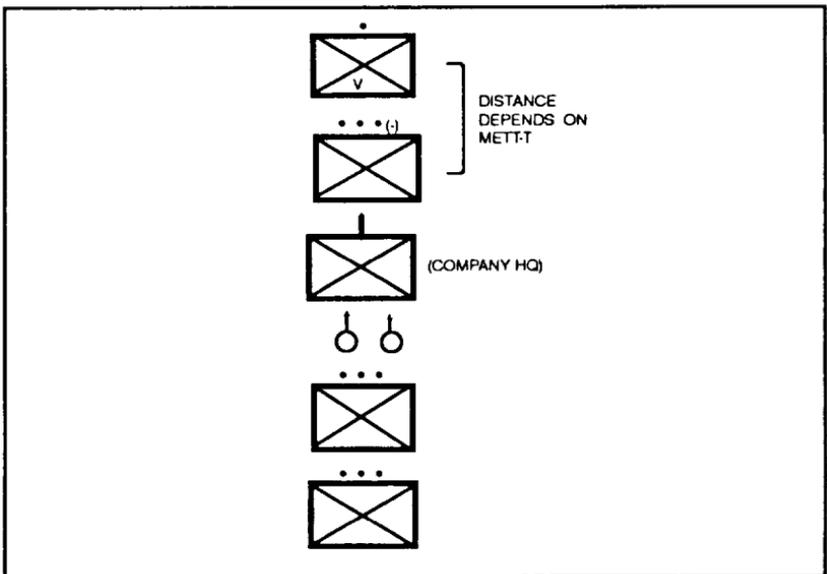


Figure 2-33. Lead element, using traveling overwatch.

(2) *Flank or rear guard.* The entire platoon may act as the flank or rear guard for a battalion conducting a movement to contact using this technique. The platoon—

- Ž Moves using the appropriate formation and movement technique. It must maintain the same momentum as the main body.
- Ž Provides early warning.
- Ž Destroys enemy reconnaissance units.
- Ž Prevents direct fires or observation of the main body.

(3) **Main body.** When moving as part of the main body, platoons may be tasked to assault, bypass, or fix an enemy force; or seize, secure, or clear an assigned area. The platoon may also be detailed to provide squads as flank guards, stay-behind ambushes, rear security, or additional security (o the front. These squads may come under the direct control of the company commander. Platoons and squads use appropriate formations and movement techniques, assault techniques, and ambush techniques.

## **2-13. DELIBERATE ATTACK**

Platoons and squads conduct deliberate attacks as part of a larger force.

a. **Planning Considerations.** The leader uses the troop-leading procedure and the estimate of the situation to develop his plan (see Section I).

(1) The platoon can expect to be a base-of-fire element or an assault element. If the platoon receives the mission to conduct a supporting attack for the company, or to attack a separate objective, the platoon leader should constitute a base-of-fire element and an assault element. The platoon leader's decision to employ his squads depends on the ability to achieve suppressive fires against the objective, the need for firepower in the assault, and the requirement for a reserve to retain the freedom to maneuver. If the platoon is the company main effort, the platoon leader can retain less of his platoon as a reserve. If the platoon is the supporting effort, the platoon leader may require up to a squad as a reserve. The platoon leader may employ his squads in one of the following ways:

(a) Two squads and one or both machine guns as the base-of-fire element and one squad (with the remaining machine gun) as the assault element.

(b) One squad and one or both machine guns as the base-of-fire element and two squads (with the remaining machine gun) as the assault element.

(c) One squad and one or both machine guns as the base-of-fire element, one squad as the assault element, and one squad (with the remaining machine gun) to follow and support the assault element. This method generally supports the organization of the platoon for breaching obstacles during the assault.

(2) Additionally, if the company commander's concept calls for decentralized execution, the platoon leader must consider his objective, a vulnerable flank or exploitable weakness, routes, movement and fire control measures, and formations and movement techniques. The platoon leader considers these along with the factors of METT-T and the commander's intent to develop a scheme of maneuver and a fire support plan.

b. **Movement to the Objective.** Platoons and squads use the appropriate formations and movement techniques to avoid contact and achieve

surprise (see Section III). The platoon must remain undetected. If detected early, the platoon concentrates direct and indirect fires, establishes a base of fire, and maneuvers to regain the initiative.

(1) ***Movement from the assembly area to the line of departure.*** The platoon moves forward from the assembly area under company control. When the platoon leader is already forward with the company commander, the platoon sergeant moves the platoon forward. Machine guns and antiarmor weapons can precede the rest of the platoon by moving to an overwatch position on or near the LD. Leaders time the move from the assembly area during reconnaissance or rehearsals to ensure that the lead squad crosses the LD on time and at the right place. The platoon attempts to cross the LD without halting in an attack position. If the platoon must halt in the attack position, it deploys into the initial attack formation, posts security, and takes care of last-minute coordination. Whether or not the platoon halts in the attack position, it must deploy into the attack formation and fix bayonets before crossing the LD.

(2) ***Movement from the line of departure to the assault position or support position.*** The platoon moves using the appropriate technique. If it has its own support and assault elements, it may move them together for security, or along separate routes to their respective positions, for speed. The base-of-fire element must be in place and ready before the assault element continues beyond the assault position.

(a) The platoon leader's plan must address actions on chance contact. The lead squad executes the battle drill to react to contact (see Chapter 4, Battle Drill 2). The platoon leader makes an assessment and reports. The company commander may direct the platoon to fight through, fix, and bypass the enemy, or establish a hasty defense.

(b) If the platoon encounters an obstacle that it cannot bypass, it attempts a breach (see Section X and Chapter 4, Battle Drill 8).

(c) If the company concept calls for decentralized execution, the platoon leader must consider when to initiate his supporting fires.

Ž Surprise. If the attack is not detected, the base-of-fire element may hold fires until the assault element approaches the assault position. This will enhance surprise. The base-of-fire element may initiate fires early to keep the enemy's attention off the assault element as it moves to a flanking or rear position.

Ž Suppression. The leader must consider the length of time needed to suppress the enemy position and destroy as many of his weapons and bunkers as possible before the assault.

(3) Movement from the assault position to the objective. The assault position is normally the last covered and concealed position before reaching the objective.

(a) As it passes through the assault position, the platoon deploys into its assault formation; that is, its squads and fire teams deploy to place the bulk of their firepower to the front as they assault the objective. A platoon sometimes must halt to complete its deployment and to ensure synchronization so that all squads assault at the designated time.

**NOTE:** Platoons should avoid halting in the assault position, because it is dangerous and may cause the loss of momentum.

(b) The assaulting squads move from the assault position and onto the objective. The platoon must be prepared to breach the enemy's protective obstacles.

(c) As the platoon moves beyond the obstacle, supporting fires should begin lifting and shifting away from the objective. Both direct and indirect fires shift to suppress areas adjacent to the objective, to destroy enemy forces retreating, or to prevent enemy reinforcement of the objective.

c. **Assaulting the Objective.** As the platoon or its assault element moves onto the objective, it must increase the volume and accuracy of fires. Squad leaders assign specific targets or objectives for their fire teams. Only when these discreet fires keep the enemy suppressed can the rest of the unit maneuver. As the assault element gets closer to the enemy, there is more emphasis on suppression and less on maneuver. Ultimately, all but one fire team may be suppressing to allow that one fire team to break in to the enemy position. Throughout the assault, soldiers use proper individual movement techniques, and fire teams retain their basic shallow wedge formation. The platoon does not get "on-line" to sweep across the objective.

d. **Consolidation and Reorganization.** Once enemy resistance on the objective has ceased, the platoon must quickly take steps to consolidate and prepare to defend against a counterattack.

(1) **Consolidation techniques.** Platoons use either the clock technique or the terrain feature technique in consolidating on the objective.

**NOTE:** All-round security is critical. The enemy might counterattack from any direction. The platoon leader must evaluate the terrain thoroughly.

(a) *Clock technique.* In using this method, the platoon leader designates either a compass direction or the direction of attack as 12 o'clock. He then uses clock positions to identify the left and right boundaries for squads. The platoon leader positions key weapons along the most likely avenue of approach based on his assessment of the terrain. (See Figure 2-34.)

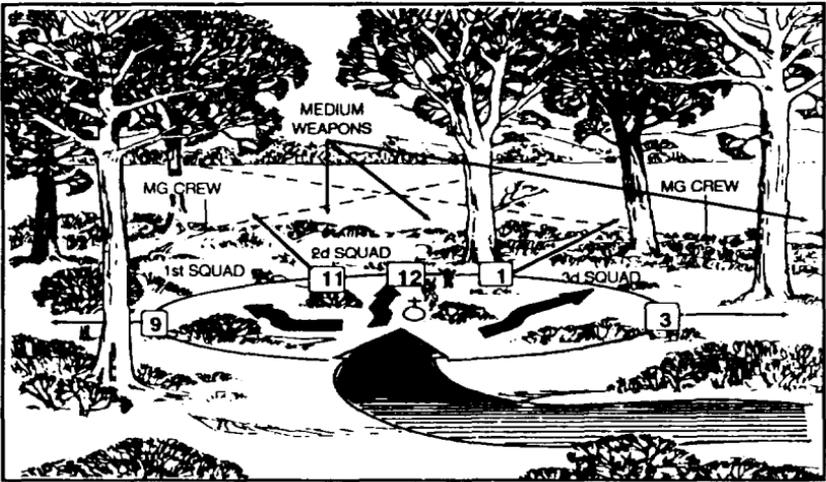


Figure 2-34. Clock technique.

(b) *Terrain feature technique.* In a similar manner, the platoon leader identifies obvious terrain features as the left and right limits for squads. In both techniques, he ensures that squad sectors of fire overlap each other and provide mutual support for adjacent units. (Figure 2-35.)

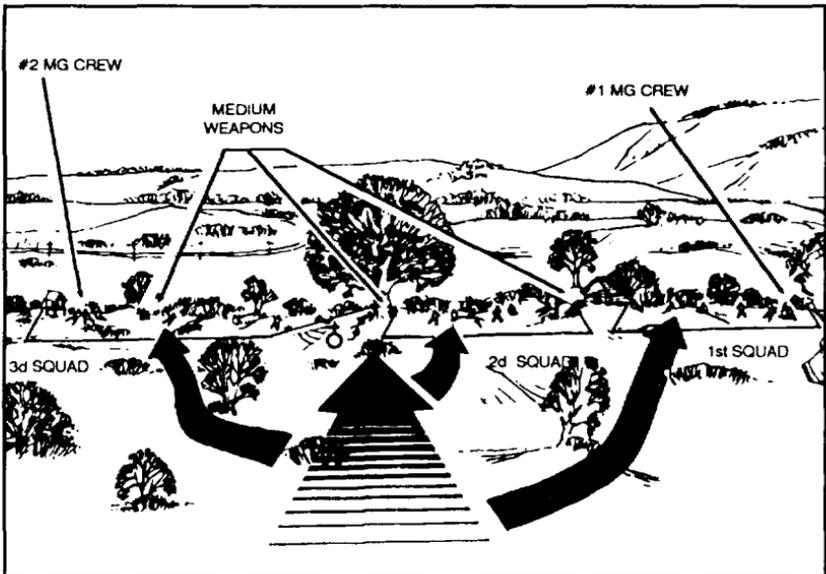


Figure 2-35. Terrain feature technique.

(2) **Reorganization.** Once platoons have consolidated on the objective, they begin to reorganize. Platoons reorganize to continue the attack. Reorganization involves—

- Ž Reestablishing command and control.
- Ž Remanning key weapons, redistributing ammunition and equipment.
- Ž Clearing the objective of casualties and EPWs
- Ž Assessing and reporting the platoon status of personnel, ammunition, supplies, and essential equipment.

## **2-14. ATTACKS DURING LIMITED VISIBILITY**

Attacks during limited visibility achieve surprise, avoid heavy losses, cause panic in a weak and disorganized enemy, exploit success and maintain momentum, and keep pressure on the enemy. Limited visibility operations are one of the main missions of infantry forces. Whenever possible, US infantry will use limited visibility to conduct attacks.

a. **Planning.** The planning considerations for daylight attacks are the same as for limited visibility attacks. However, limited visibility attacks require additional control measures to prevent fratricide and keep the attack focused on the objective. Leaders may use boundaries, restrictive fire lines, and limits of advance to assist in control.

b. **Reconnaissance.** Reconnaissance is key to successful night attacks. It should be conducted during daylight down to the lowest level possible. The platoon should reconnoiter the routes on which they will move, the positions that they will occupy, and the assigned objective. The need for detailed information about the enemy must be balanced against the risk of being detected and the loss of surprise.

(1) The reconnaissance plan should also establish surveillance on the objective in case the enemy repositions units and weapons or prepares additional obstacles. Surveillance and security forces should also secure critical locations, such as assault and support positions, LD and PLD, routes, and RPs, to protect the platoon from enemy ambushes and spoiling attacks. These security forces may become part of the isolation element during the attack.

(2) When reconnaissance does not succeed due to lack of time, the platoon leader requests a delay in the attack time to allow for further reconnaissance. If this is not possible, an illuminated and supported attack should be considered. A night attack with marginal information of the enemy's defense is risky and difficult to conduct.

c. **Use of Guides.** During limited visibility attacks, the platoon may use guides to provide better control while moving into the assault position and onto the probable line of deployment (PLD).

(1) The company may organize a patrol to place platoon guides from the LD to subsequent RPs, at the entrance to the assault positions and at points along the PDL.

(2) Guides must be fully briefed on the plan and on their specific duties. They must rehearse their actions, to include—

✓ Reconnaissance of their assigned routes and release points.

✓ Pick-up and release of their assigned units. They must be able to identify the leader of the element they will guide (or the lead soldier of that element). They must also know and rehearse recognition signals.

(3) Platoons must rehearse their actions in the same order of march and sequence that they intend to use during the attack in order to make the pick-up and release of guides go smoothly.

d. **Fire Control Techniques.** Fire control techniques for limited visibility include the following.

(1) **Tracer fire.** Leaders in the assault element fire all tracers; their soldiers fire where the leader's tracers impact. The support element positions a machine gun on a tripod on the flank nearest the assault force. This weapon fires a burst of tracers every 15 seconds to indicate the near limit of the supporting fires. All other weapons in the support element keep their fires on the appropriate side of this tracer. The assault force signals to shift fires to the next position or to a set distance. If required, these rounds can be adjusted over the assault element to preclude fratricide.

(2) **Luminous tape or chemical lights.** Leaders mark assault personnel to prevent fratricide. The enemy must not be able to see the marking. Two techniques are to place tape on the back of the helmet or to use small infrared chemical lights (if the enemy has no NVDs). The support element must know where the lead assault element is. If the individual soldier markings do not suffice, large chemical lights (infrared or visible) are used. These lights are placed on the ground or thrown in front of the assault element. When clearing a trench line, soldiers may put chemical lights on a stick and move them with the lead element to ensure the support element shifts fires.

(3) **Weapon control restrictions.** To reduce the risk to the assault element, the leader may assign weapon control restrictions.

(a) The squad on the right in the assault might be given weapons free to the right flank because no friendly soldiers are there. However, weapons tight or hold on the left means that another friendly unit is located there.

(b) No automatic weapons will be fired by the assault force on the objective. This ensures that all automatic weapons are enemy.

(4) **Other techniques.** To increase control during the assault, the leader may use the following.

- Ž No flares, grenades, or smoke used on the objective.
- Ž Only certain personnel with NVDs can engage targets on the objective.
- Ž A magnetic azimuth for maintaining direction.
- Ž Mortar or artillery rounds to orient attacking units.
- Ž Guides.
- Ž A base squad or fire team to pace and guide others.
- Ž Reduced intervals between soldiers and squads.
- Ž Luminous tape on armbands or helmets.

e. **Mortar, Artillery, and Antiarmor Fires.** Mortar, artillery, and antiarmor fires are planned as in a daylight attack. They are not fired, however, unless the platoon is detected or is ready to assault. Some weapons may fire before the attack and maintain a pattern to deceive the enemy or to help cover noise made by the platoon's movement. This is not done if it will disclose the attack.

(1) Indirect fire is hard to adjust when visibility is poor. If doubt exists as to the exact friendly locations, indirect fire is directed first at enemy positions beyond the objective and then moved onto the objective. Illuminating rounds that are fired to burn on the ground can be used to mark objectives. This helps the platoon orient on the objective but also may adversely affect NVDs.

(2) Smoke is planned to further reduce the enemy's visibility, particularly if he has NVDs. The smoke is laid close to or on enemy positions so it does not restrict friendly movement or hinder the breaching of obstacles. Employing smoke on the objective during the assault may make it hard for assaulting soldiers to find enemy fighting positions. If enough thermal sights are available, smoke on the objective may provide a decisive advantage for a well-trained platoon.

(3) Illumination is always planned for limited visibility attacks, giving the leader the option of calling for it. Battalion commanders normally control the use of illumination but may authorize the company commander to do so. If the commander decides to use illumination, illumination should not be called for until the assault is initiated or the attack is detected. It should be placed on several locations over a wide area to confuse the enemy as to the exact place of the attack. Also, it should be placed beyond the objective to help assaulting soldiers see and fire at withdrawing or counterattacking enemy soldiers.

(4) Illumination may also be required if the enemy uses illumination to disrupt the effect of the NVDs. Once used, illumination must be continuous because attacking soldiers will have temporarily lost their

normal night vision. Any interruption in illumination may also reduce the effect of suppressive fire when the attackers need it most. Squad leaders must not use hand flares before the commander has decided to illuminate the objective.

(5) Thermal sights (AN/TAS-5) may be employed strictly for observation if there are no targets for the Dragons to engage. Positioned outside the objective area, these sights can provide current information. They may be used to assist the support element in controlling their fires or to provide the assault element with reports of enemy movements on the objective.

(6) When only a few NVDs are available, they must be employed at the most critical locations. These locations can be with the key soldiers in the breach element, key leaders in the assault element, other members of the assault element and key leaders and weapons in the support element.

**f. Consolidation and Reorganization.** After seizing the objective, the platoon consolidates and reorganizes. Consolidation and reorganization are the same as for a daylight attack with the following exceptions:

(1) The consolidation plan should be as simple as possible. In reorganizing, the platoon should avoid changes to task organization.

(2) Squad positions should be closer to case control and to improve mutual support. Position distances should be adjusted as visibility improves.

(3) Locating and evacuating casualties and EPWs takes longer. EPWs may have to be moved to the rear of the objective and held there until visibility improves.

**g. Communication.** Communication at night calls for the leader to use different methods than during daylight. For instance, arm-and-hand signals used during the day might not be visible at night. Other types of signals are used to pass information, identify locations, control formations, or begin activity. The key to tactical communications is simplicity, understanding, and practice. Signals should be an integral part of the platoon SOP. They should be as simple as possible to avoid confusion. Leaders should also ensure that every soldier understands and practices each basic signal and its alternate if the need arises. A technique to assist leaders and the RATELO with communication at night is to attach a large patch of luminous tape to the handset, or carry it in their pockets. Leaders and the RATELO can write target numbers, call signs, frequencies, code words, checkpoints, and so forth on it with a black grease pencil. This is easy to read at night and quickly removed if needed.

(1) The most common signals relate to the senses—sound, feel, and sight. Audio signals include radio, telephones, messengers, and grating or clicking of objects together. Messengers should carry written messages to avoid confusion and misunderstanding. When this is not possible,

leaders ensure that the messenger understands the message—have him repeat it word for word.

(2) Control at night involves some oral communication but spoken in a whisper. The radio and telephone might not be suitable at night. If either is used, the leader must be careful. Noise travels farther at night; including radio sounds, messages being passed, and the telephone ringing. These violate noise discipline and can be avoided or reduced by planned signals or clicks. Headphones reduce the amount of noise from telephones and radios. If headphones are not available, soldiers use the radio selector switch in the ON rather than SQUELCH ON position and adjust the volume so that only a faint rushing sound can be heard.

(3) Rocks and other objects can be used to send audible signals. They can be tapped or scraped together or against a tree or rifle stock to pass a message. These signals must be rehearsed. For each signal there must be a reply to show receipt of the signal. Other audible signals are whistles, bells, sirens, clackers or “crickets,” and horns. The device or method chosen depends on simplicity and security.

(4) Leaders can use a variety of visual signals as alternatives to audio signals. The signals can be active or passive. Visual signals must be noticeable and identifiable. These signals can be used to identify a critical trail junction, to begin an attack, to mark caches, or to report that a danger area is clear. For example, white powder can be used to show direction at a confusing trail intersection. Star clusters can signal to lift or shift support fires for an attack or raid. Chemical lights can signal a unit cache. The exposed dial of a compass can signal all clear when crossing a danger area. The possibilities are endless, but the leader must ensure that each soldier understands every signal. Some signals are—

- VS-17 panels.
- Ž Sticks showing direction.
- Ž Light-colored paint.
- Tape.
- Ž Rock formations.
- Markings in the ground.
- Ž Foot or talcum powder.
- Luminous tape.
- Flares.
- Flashlights.
- Illumination rounds (grenade launcher, mortar, artillery).
- Chemical lights.
- Infrared strobe lights.
- AN/PVS-5 night vision device.

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Ž Burning fuel (saturated sand in a can).

Ž Luminous compass dial.

(5) Wire is a means of maintaining communications during the attack. The wire net should link the squad leaders, platoon leaders, and the company commander. At times, a security patrol can lay the wire before the attack. If not, the wire can be laid as the units move. The laying of wire before an attack could lead to discovery of the attack if the wire is not properly hidden, or if it is laid too far in advance. The wire net can be used to communicate while moving.

(a) *Platoon net.* Wire is laid from the platoon RP to the squad RP and to each squad leader's position on the PLD.

(b) *Assault wire.* Assault wire can be used as a guide from the company RP to the platoon and squad RPs.

(c) *Radios.* Squad radios can be used for backup communications.

h. **Target Detection.** The ability to detect targets at night depends on patience, alertness, attention to detail, and practice. Nature provides an endless array of patterns. However, man disturbs them or alters them so that they are detectable. Sensing the enemy at night requires leaders and soldiers to be patient, confident, and calm.

(1) Stealthy night movement and successful target engagement depend on knowing how the enemy attacks, defends, and uses terrain. Studying his techniques and established patterns helps in detecting targets.

(2) Patience and confidence are musts for effective target sensing at night. While moving through an area, soldiers must think "patterns." They must look calmly and methodically through the area, not focusing on the surface alone but on patterns—noticing straight lines, strange patterns, and light variations.

(3) Soldiers must look for sentries or positions at the entrances to draws, overlooking bridges and obstacles and on the military crests of prominent terrain (the spots used for best observation). They look for supporting positions, keeping in mind range distances for supporting weapons, NVDs, and LOS needs. Then soldiers search for enemy positions and other signs of enemy activity.

## Section V. DEFENSE

Paragraph 3b of the platoon SOP (Chapter 5) provides a suggested sequence of tasks for establishing a defensive position. This section follows that sequence in describing techniques used in the planning and preparation phases of defensive operations.

### 2-15. CONDUCT OF THE DEFENSE

This paragraph provides a pattern of preparation, decision, and execution for platoons and squads. This pattern links the leader's critical decision points to a standard sequence of actions that a platoon takes in defensive operations. (Figure 2-36, page 2-71.) The standard sequence of actions are—

- Ž Prepare for Combat.
- Ž Move to Defensive Positions.
- Ž Establish Defensive Positions.
- Ž Locate the Enemy.
- Ž Initiate Contact/Actions on Enemy Contact.
- Ž Fight the Defense.
- Ž Reorganize.

a. **Prepare for Combat.** The platoon leader receives the company warning or operation order.

- (1) The platoon leader quickly issues a warning order.
- (2) The platoon leader begins making a tentative plan based on his estimate of the situation and an analysis of METT-T.
- (3) When possible the platoon leader (and squad leaders) reconnoiters the defensive position and the route(s) to it. The leader's reconnaissance party should always include a security team (minimum of two soldiers). The leader's reconnaissance—
  - (a) Maintains security.
  - (b) Checks for enemy positions, or signs of past enemy activities, obstacles, booby traps, and NBC contamination.
  - (c) Confirms/adjusts squad positions and sectors of fire from those in the tentative plan. (Normally the platoon leader assigns and adjusts machine guns and antiarmor positions.) The platoon leader revises his plan as necessary based on a further assessment of METT-T.
  - (d) As the reconnaissance party returns to the platoon, the platoon leader posts guides along the route to maintain security and help the platoon move into the position.
- (4) Based on his reconnaissance, and any additional information, the platoon leader completes and issues his plan.
- (5) All squad leaders check (the platoon sergeant spot checks) weapons, communications equipment and accessories for missing items (squad and individual) and serviceability.

(6) The platoon sergeant makes sure that the platoon has ammunition, food, water, and medical supplies on hand, in quantities prescribed by the platoon leader. (Squads and platoons should plan to prestock an additional basic load of ammunition on the defensive position.)

(7) All soldiers camouflage themselves and their equipment to blend with the terrain.

(8) The platoon rehearses critical tasks first.

(a) The platoon leader makes final inspection of weapons (test fires weapons, if possible), equipment (include communications checks), and personnel (include camouflage). The platoon sergeant closely monitors the soldiers' load to ensure that standard items are packed in accordance with the platoon SOP and that it is not excessive.

(b) If an advance party is used, the platoon leader, platoon sergeant, and advance party leader (normally a squad leader) review advance party activities and redistribute equipment to the advance party (for example, tripods, stakes). (See Chapter 5.)

(9) If not already moving, the platoon leader initiates the movement of his platoon.

**b. Move to Defensive Positions.** The platoon applies fundamentals of movement:

(1) Move on covered and concealed routes.

(2) Avoid likely ambush sites.

(3) Enforce camouflage, noise, and light discipline.

(4) Maintain all-round security, to include air guards.

(5) Use formations and movement techniques based on METT-T.

**c. Establish Defensive Positions.** The platoon halts short of the defensive position in a covered and concealed position, and establishes local security.

(1) The platoon leader and squad leaders and a security team (minimum of two soldiers) move forward to link up with the security team on the position.

(a) The squad leaders return to the platoon and move their squads forward.

(b) The platoon occupies the designated position. Guides control the movement of the platoon into position.

(2) As the platoon occupies its position, the platoon leader ensures that all tasks are performed in the stated priority of work. Additionally, the platoon leader—

Ž Walks forward of positions, if possible to check camouflage and confirm dead space. The most important aspect of infantry fighting positions is that they cannot be observed by the enemy until it is too late.

Ź Checks on wire and mine teams. The platoon leader ensures that protective wire is outside of hand-grenade range from the fighting positions and tactical wire lies along the friendly side of the final protective line (FPL).

Ź Briefs the platoon sergeant on the logistics plan (include resupply and casualty evacuation routes).

Ź Issues finalized platoon order and checks soldier knowledge and understanding. (All soldiers must be aware of friendly units forward of the position [for example, patrols, scouts] and their return routes. They must also know the signals or conditions to initiate, shift, fire final protective, and cease fires, and to reposition to alternate and supplementary positions.)

(3) The platoon improves the position continuously.

d. **Locate the Enemy.** The platoon establishes and maintains OPs and conducts security patrols as directed by the company commander. Patrols, OPs, and individual soldiers look and listen. They use night surveillance devices, binoculars, and PEWS to detect the enemy approach.

e. **Action on Enemy Contact.** Once the enemy is detected, the platoon leader—

Ź Alerts the squad leaders, platoon sergeant, and his forward observer.

Ź Reports the situation to the company commander.

Ź Calls in OPs. (The squad leader or platoon leader may decide to leave the OPs in place if the soldiers manning them can provide effective flanking fires, their positions afford them adequate protection, and or their return will compromise the platoon's position.)

- Calls for and adjusts indirect fire when the enemy is at maximum range.
- Initiates the long-range direct fires of his platoon on command from the company commander.

Leaders and individual soldiers return to their positions and prepare to fire on command from the platoon leader.

f. **Fight the Defense.** The platoon leader determines if the platoon can destroy the enemy from its assigned positions.

(1) If the answer is YES, the platoon continues to tight the defense.

(a) The platoon leader, or FO, continues to call for indirect fires as the enemy approaches. The platoon normally begins engaging the enemy at maximum effective range. It attempts to mass fires and initiate them simultaneously to achieve surprise. Long-range fires tied-in with obstacles should disrupt his formations; channelize him toward engagement areas; prevent, or severely limit his ability to observe the location of

friendly positions; and destroy him as he attempts to breach tactical obstacles.

(b) Leaders control fires using standard commands, pyrotechnics, and other prearranged signals. The platoon increases the intensity of fires as the enemy closes within range of additional weapons. Squad leaders work to achieve a sustained rate of fire from their positions by having buddy teams fire their weapons so that both are not reloading them at the same time.

(c) In controlling and distributing fires, the platoon and squad leaders consider—

- Ž The range to the enemy.
- Ž Priority targets (what to fire at, when to fire, and why).
- Ž Nearest or most dangerous targets.
- Ž Shifting to concentrate fires on their own or as directed by higher headquarters.
- Ž Ability of the platoon to engage dismounted enemy with enfilading, grazing fires.
- Ž Ability of the platoon's antiarmor weapon to achieve flank shots against enemy vehicles.

(d) As the enemy closes on the platoon's protective wire, the platoon leader initiates final protective fires (FPF) (the following actions occur simultaneously):

- Ž Machine guns and automatic weapons fire along interlocking principle direction of fire (PDF), or final protective lines (FPL) as previously designated and planned. Other weapons fire at designated principle direction of fires. M203 grenade launchers engage enemy in dead space or against enemy attempts to breach protective wire.
- Ž The platoon continues to fight with Claymores and hand grenades.
- Ž If applicable, the platoon leader requests indirect final protective fires (FPF) if they have been assigned in support of his positions.

(e) The platoon continues to defend until the enemy is repelled, or the platoon is ordered to disengage.

(2) If the answer is NO, the platoon leader—

(a) Reports the situation to the company commander.

(b) Continues to engage the enemy or repositions the platoon (or squads of the platoon) only when directed by the company commander to—

- Ž Continue fires into the platoon sector (engagement area).
- Ž Occupy supplementary positions.

- Ź Reinforce other parts of the company.
- Ź Counterattack locally to retake lost fighting positions.
- Ź Withdraw from an untenable position using fire and movement to break contact. (The platoon leader does not move his platoon out of position if it will destroy the integrity of the company defense. All movements and actions to reposition squads and platoons must be thoroughly rehearsed.)

NOTE: In any movement out of a defensive position, the platoon **MUST** employ all direct and indirect fire means available to suppress the enemy long enough for the unit to move.

**g. Consolidate and Reorganize.**

(1) The platoon—

- Ź Reestablishes security.
- Ź Remans key weapons.
- Ź Provides first aid and prepares wounded soldiers for MEDEVAC.
- Ź Repairs damaged obstacles and replaces mines (Claymore) and booby traps.
- Ź Redistributes ammunition and supplies.
- Ź Relocates selected weapons to alternate positions if leaders believe that the enemy may have pinpointed them during the attack. Adjusts other positions to maintain mutual support.
- Ź Reestablishes communications.
- Ź Reoccupies and repairs positions, and prepares for renewed enemy attack.

(2) Squad and team leaders provide ammunition, casualty, and equipment (ACE) reports to the platoon leader.

(3) The platoon leader—

- Ź Reestablishes the platoon chain of command.
- Ź Consolidates squad ACE and provides ACE report to the company commander.

(4) The platoon sergeant coordinates for resupply and supervises the execution of the casualty and EPW evacuation plan.

(5) The platoon continues to improve positions. The platoon quickly reestablishes OPs and resumes patrolling as directed.

Ž At armor in the secondary sector.

Ž At armored vehicles beyond 200 meters.

(2) *Machine gun gunner fire*—

Ž The FPL or PDF, if signaled to do so.

Ž At groups of five or more in the primary sector (from farthest to closest).

Ž At crew-served automatic weapons.

Ž At groups of five or more in the secondary sector.

Ž At unarmored vehicles.

(3) *Automatic riflemen fire*—

Ž Along the FPL, if signaled to do so.

Ž At groups of five or more in the primary sector (closest to farthest).

Ž At soldiers in the primary sector.

(4) *Grenadiers fire*—

Ž At light armored vehicles in sector.

Ž At groups of three or more in sector.

Ž At groups of three or more in secondary sector.

Ž At individual soldiers in sector, using M16 rifles.

Ž At dead space in sector (if occupied by the enemy).

Ž At other targets as directed by squad or team leader (illumination or smoke on order).

(5) *Riflemen fire*—

Ž In their primary and secondary sectors.

Ž Nearest to farthest, starting on flank and working toward the center —

Ž At leaders.

Ž At RATELOs.

Ž At individual soldiers.

(6) *LAW gunners fire*—

Ž In two-soldier volleys on direction of the team or squad leaders.

Ž At nearby threatening vehicle.

e. **Rate of Fire.** Some weapon system FMs specify rates of fire by name-others do not. The doctrinal terms should be used when possible; others are addressed by SOP.

## **2-25. PRIORITY OF WORK**

The platoon's priority of work is a list of tasks that the leader uses to control what gets done by whom and in what order in the preparation of the defense. These tasks are normally prescribed in the SOP. An example of priority of work tasks by duty position is in Chapter 5. The leader adjusts the priority of work based on his consideration of the

factors of METT-T and on his and the higher commander's intent. The platoon's normal priority of work is—

- ~ Establish local security
- ~ Position antiarmor weapons, machine guns, and squads and assign sectors of fire.
- ~ Position other assets attached to the platoon.
- ~ Establish the CP and wire communications.
- ~ Designate FPLs and FPFs.
- ~ Clear fields of fire and prepare range cards and sector sketches.
- ~ Coordinate with adjacent units—left, right, forward, and to the rear.
- ~ Prepare primary fighting positions.
- ~ Emplace obstacles and mines.
- ~ Mark or improve marking for TRPs and other fire control measures.
- ~ Improve primary fighting positions such as overhead cover.
- ~ Prepare alternate positions, then supplementary positions.
- ~ Establish a sleep and rest plan.
- ~ Reconnoiter routes.
- ~ Rehearse engagements, disengagements, and any counterattack plans.
- ~ Adjust positions or control measures as required.
- ~ Stockpile ammunition, food, and water.
- ~ Dig trenches to connect positions.
- ~ Continue to improve positions.

## 2-26. COORDINATION

Coordination between adjacent platoons/squads is normally from left to right and from front to rear. Information exchanged includes the following:

- ~ Location(s) of leaders.
- ~ Location of primary, alternate, and supplementary positions and sectors of fire of machine guns, antiarmor weapons, and subunits.
- ~ Route to alternate and supplementary positions.
- ~ Location of dead space between platoons and squads and how to cover it.
- ~ Location of OPs and withdrawal routes back to the platoon's or squad's position.
- ~ Location and types of obstacles and how to cover them
- ~ Patrols to be conducted to include their size, type, times of departure and return, and routes.

- Ž Location, activities, and presage plan for scouts and other units forward of the platoon's position.
- Ž Signals for fire and cease fire and any other signals that may be observed
- Ž Engagement and disengagement criteria.

## 2-27. FIGHTING POSITIONS

This paragraph discusses techniques for the construction of infantry fighting positions. Infantrymen use hasty; one-, two-, and three-soldier; machine gun; medium and light antitank; and 90-mm recoilless rifle positions. Soldiers must construct fighting positions that protect them and allow them to fire into their assigned sectors.

a. **Protection.** Fighting positions protect soldiers by providing **cover** through sturdy construction, and by providing **concealment** through positioning and proper camouflage. The enemy must not be able to identify the position until it is too late and he has been effectively engaged. When possible, soldiers should site positions in nonobvious places, behind natural cover, and in an easy to camouflage location. **The most important step in preparing fighting position is to make sure that it cannot be seen.** In constructing fighting positions, soldiers should always—

- Ž Dig the positions armpit deep.
- Ž Fill sandbags about 75 percent full.
- Ž Revet excavations in sandy soil.
- Ž Check stabilization of wall bases.
- Ž Inspect and test the position daily, after heavy rain, and after receiving direct or indirect fires.
- Ž Maintain, repair, and improve positions as required.
- Ž Use proper materiel. Use it correctly.

NOTE: In sandy soil, vehicles should not be driven within 6 feet of the positions.

b. **Siting to Engage the Enemy.** Soldiers must be able to engage the enemy within their assigned sectors of fire. They should be able to fire out to the maximum effective range of their weapons with maximum grazing fire and minimal dead space. Soldiers and leaders must be able to identify the best location for their positions that meet this criteria. Leaders must also ensure that fighting positions provide interlocking fires. This allows them to cover the platoon's sector from multiple positions and provides a basis for final protective fires.

c. **Prepare by Stages.** Leaders must ensure that their soldiers understand when and how to prepare fighting positions based on the situation. Soldiers normally prepare hasty fighting positions everytime the platoon halts (except for short security halts), and only half of the platoon digs in

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## Student Handout 6

### Extracted Material from FM 7-10

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This student handout contains 12 pages of extracted material from the following publication:

FM 7-10, The Infantry Rifle Company, 14 Dec 1990 w/C1, 31 Oct 2000

Chapter 5

Pages 5-35 thru 5-46

**Disclaimer:** The training developer downloaded the extracted material from the General Dennis J. Reimer Training and Doctrine Digital Library. The text may contain passive voice, misspellings, grammatical errors, etc., and may not be in compliance with the army Writing Style Program.

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**5-20. DEFENSE IN SECTOR**

This disposition may consist of platoon sectors, a series of mutually supporting BPs on armor-restrictive terrain, or a combination of the two (Figure 5-14). Positions are arrayed in depth. The strength of this defense comes from its flexibility. This defense normally orients on the enemy force and not retaining terrain. It is effective because it allows the enemy to expose his flanks and critical C2 and CS assets through his own maneuver into the depth of the defense.

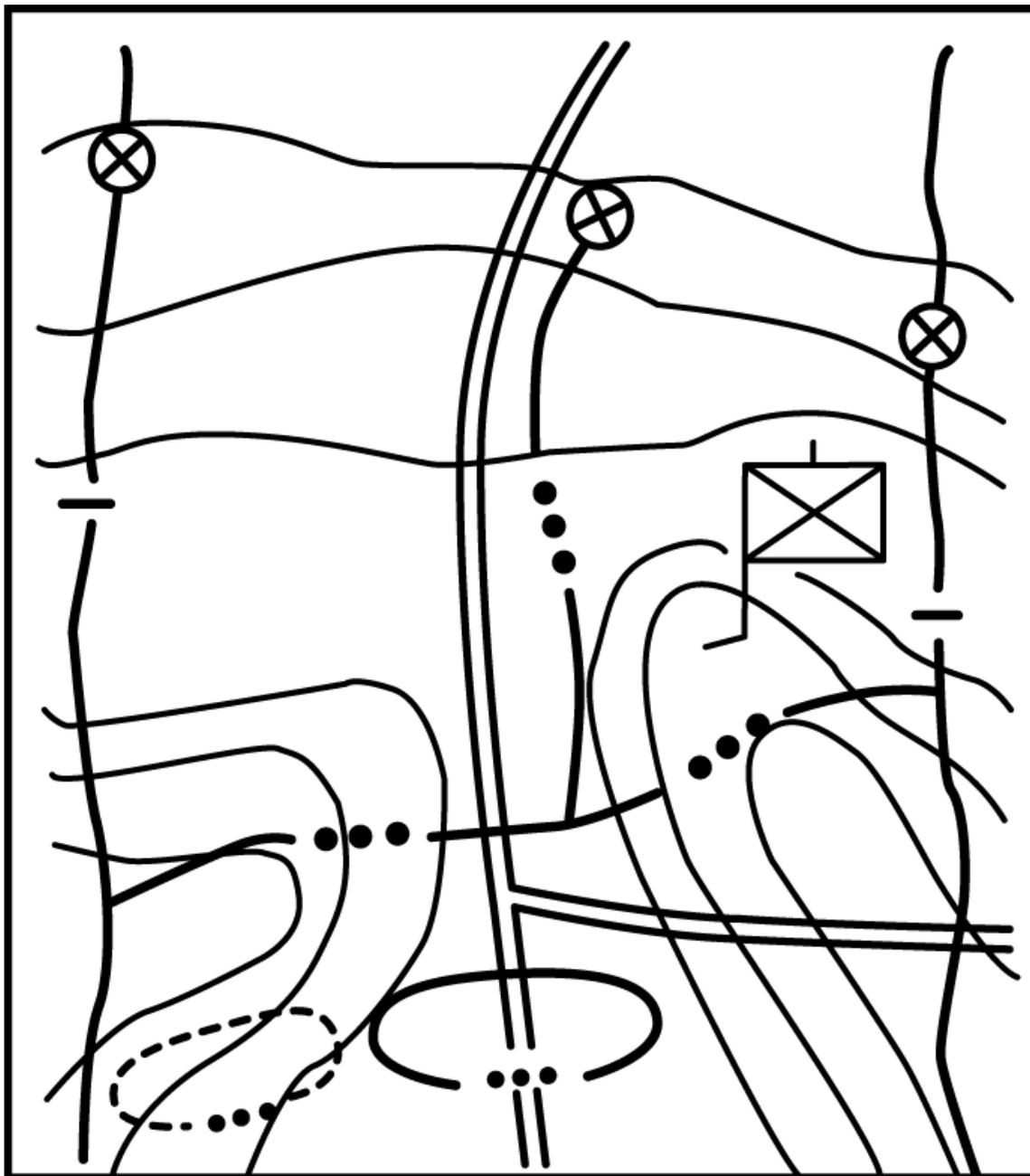


Figure 5-14. Defense in sector.

a. The company defense in sector may be fought very similar to the nonlinear defense. This is done by assigning platoon sectors. This decentralized technique for conducting a defense in sector requires greater initiative and delegates more of the control to subordinate leaders. The small-unit actions are very similar to the nonlinear defense. When required, squads or platoons may disengage independently and move to another location within the sector to continue the fight. Considerations for the company R&S plan and employment of a reserve are also very similar to the nonlinear defense.

b. When fighting a company defense in sector from platoon battle positions, the concept is to defeat the attacker through the depth of his formation, confronting him with effective fires from mutually supporting BPs as he attempts to maneuver around them. Mines, other obstacles, infantry positions, patrols, and PEWs cover gaps that, due to terrain masking or heavy woods, cannot be covered effectively by fire. Units remain in place except for local or internal movement to alternate or supplementary positions. If certain positions become untenable during the battle, the CO may withdraw them according to prepared plans.

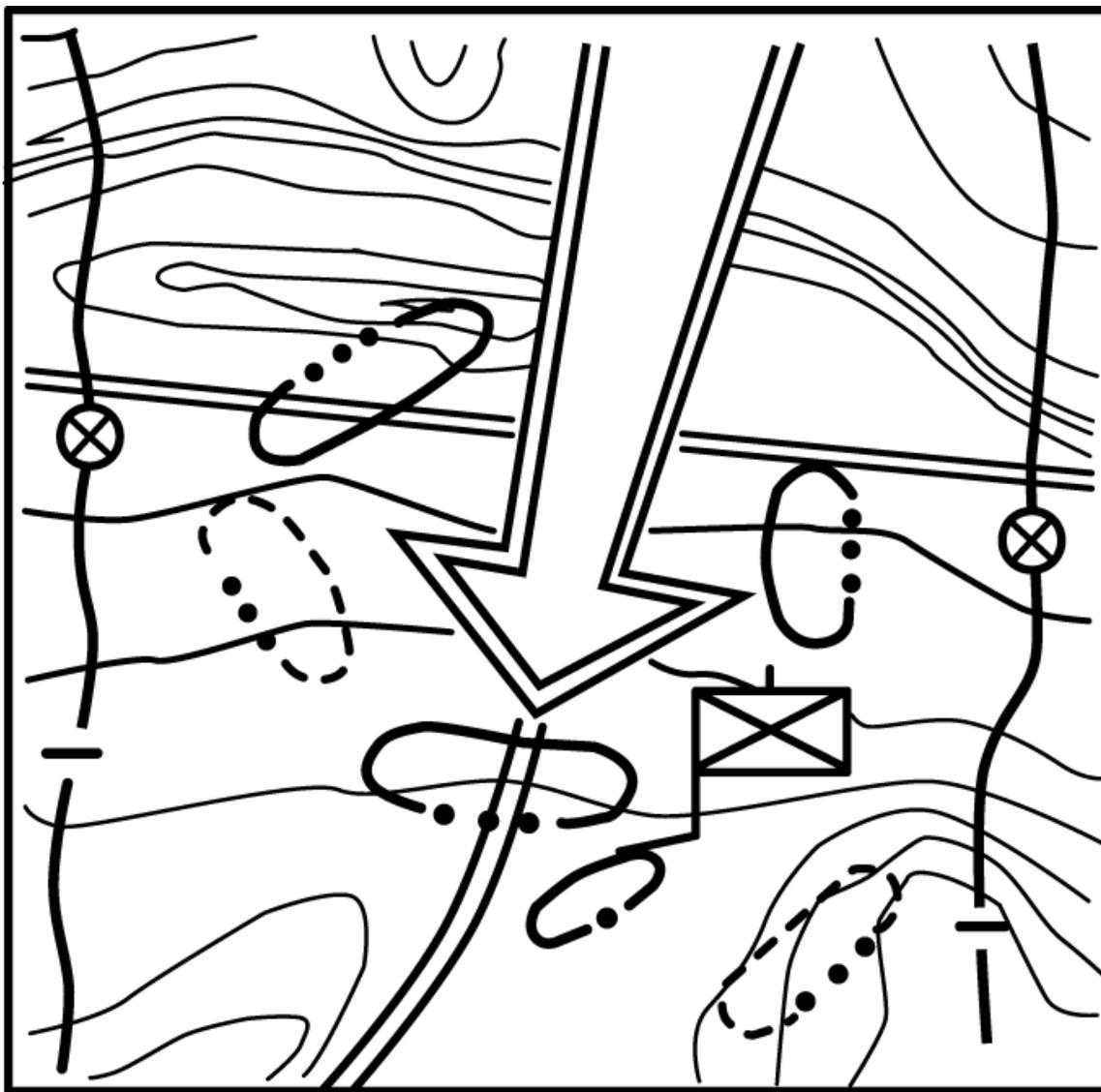
(1) One technique is to allow the enemy to move into the EA and destroy him with massed fires. Another technique is to engage the attacker at maximum range with fires from tactical aircraft, attack helicopters, field artillery, and mortars. Then engage with organic antiarmor weapons positioned to deliver fires at maximum effective ranges from flanks and rear. As the enemy closes, antiarmor weapons may move to alternate and supplementary firing positions within the BP to continue firing and to avoid being bypassed.

(2) The company defense in sector from platoon battle positions generally requires the CO to be able to see and control the battle. It also requires good fields of fire to allow mutual support to be achieved. If the terrain or the expected enemy course of action would prevent this, the defense may be more effective if control was more decentralized and the platoons were fighting in sector.

c. A significant concern, particularly when fighting from BPs, is the enemy's ability to isolate a part of the company, fix, and then destroy them. Without effective mutual support between the BPs, this will likely occur. Even with mutual support, responsive and effective fire support may be critical to defending the BPs. Without immediately available fire support, a capable enemy will quickly concentrate combat power against any BP that is identified.

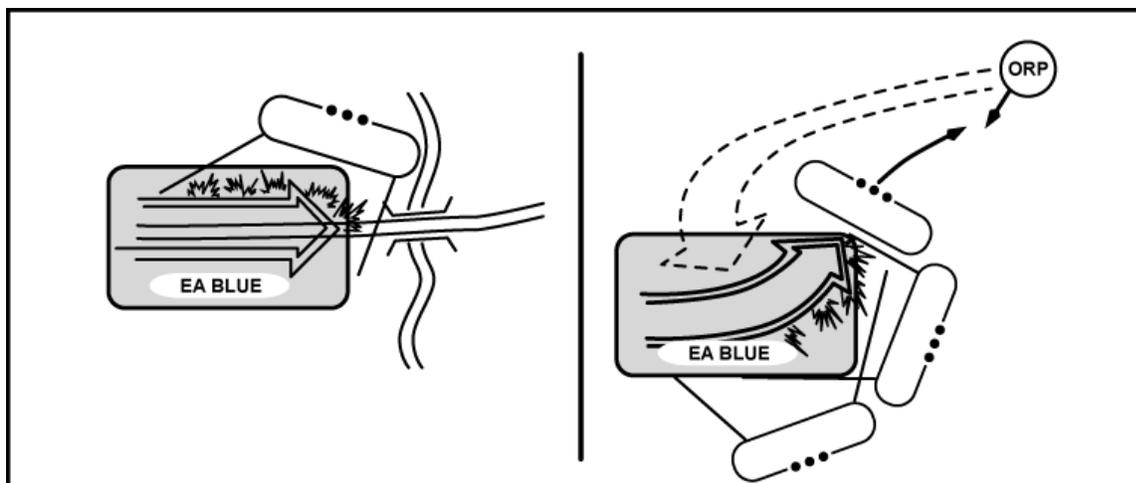
## **5-21. DEFENSE FROM BATTLE POSITIONS**

Fighting from battle positions is a more centralized technique and also more linear at the company level (Figure 5-15). Although this defensive technique tends to be more linear and centralized, it should not be a static defense. Battle positions should be positioned to achieve surprise and to allow maneuver within and between BPs. It is effective in concentrating combat power into an engagement area. It prevents the enemy from isolating one part of the company and concentrating his combat power in this area. Normally, platoons are assigned mutual supporting battle positions that cover the enemy likely avenue of approach. These BPs are located on terrain that provides cover and concealment and restricts vehicular movement.



**Figure 5-15. Mutually supporting BPs.**

a. The commander's concept for fighting this type of defense should concentrate on achieving surprise from each of the BPs. This is accomplished by conducting an effective counterreconnaissance effort to prevent the enemy from locating the BPs and by initiating fires from one BP and waiting for the enemy to react to this engagement prior to engaging from the other BPs (Figure 5-16). Fighting in this manner will cause confusion among the enemy and disrupt his C2 process.



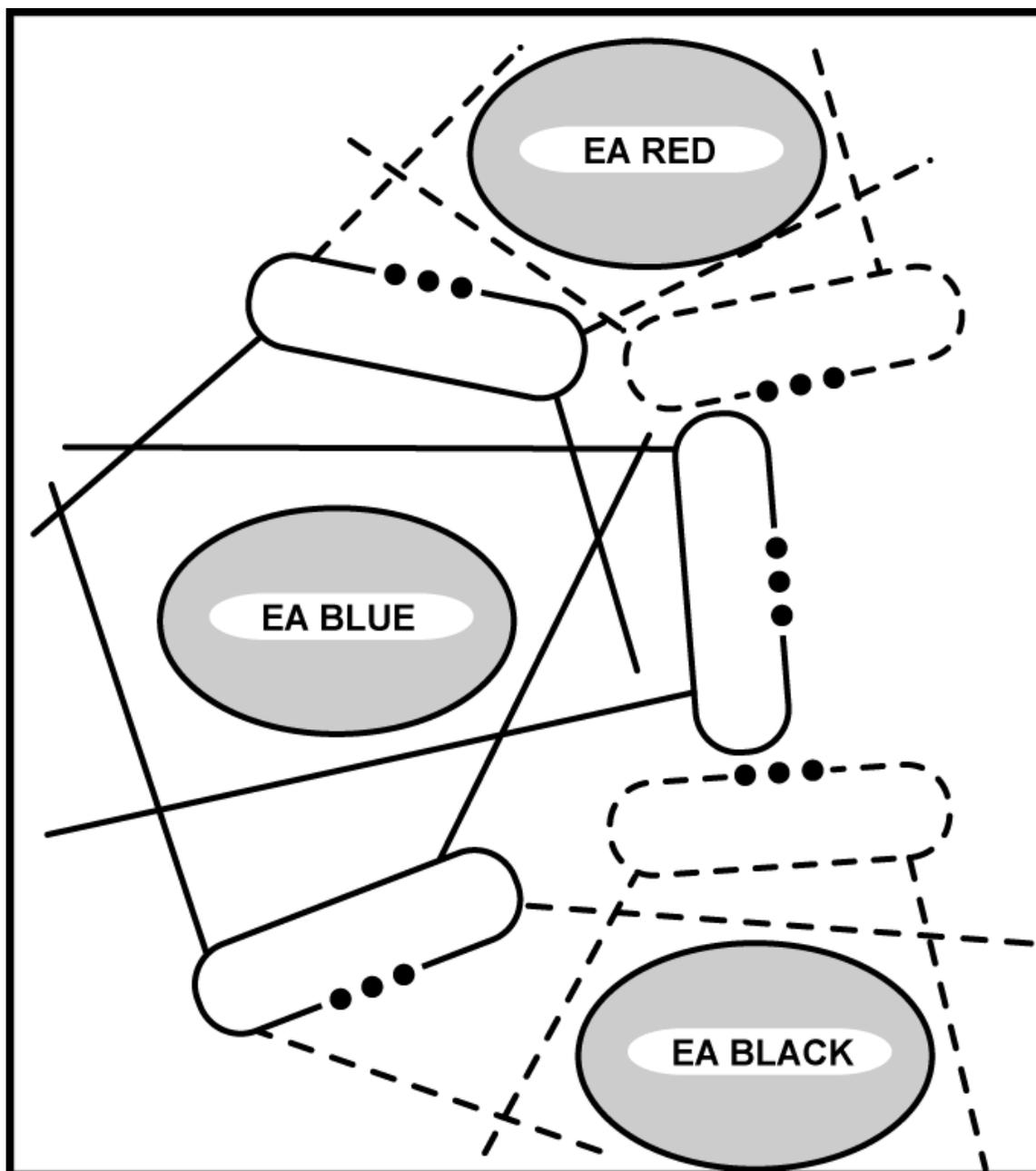
**Figure 5-16. Opening fire to achieve surprise.**

b. When the terrain provides a large EA and the commander's concept allows most of the enemy into the EA, the company may engage with massed fires from all of the platoon BPs. A disadvantage to this technique is that if there are still uncommitted enemy forces outside the EA, they will know the locations of the BPs and will attempt to isolate and concentrate against them. Contingency plans to disengage from these BPs and reorganize to continue the fight must be developed. This may involve displacing to alternate BPs or disengaging to conduct counterattacks/spoiling attacks against identified enemy C2, CS, or CSS assets.

c. Instead of one company EA, multiple EAs may be identified to provide flexibility to the plan (Figure 5-17). The plan must clearly state when platoons must reorient fires into the alternate engagement area.

## **5-22. DEFENSE ON A REVERSE SLOPE**

An alternative to defending on the forward slope of a hill or a ridge is to defend on a reverse slope (Figure 5-18). In such a defense, the company is deployed on terrain that is masked by the crest of a hill from enemy direct fire and ground observation. Although some units and weapons may be positioned on the forward slope, the crest, or the counterslope (a forward slope of a hill to the rear of a reverse slope), most of them are on the reverse slope. The key to this defense is control of the crest by fire.



**Figure 5-17. Multiple engagement areas.**

a. **Considerations.** The following considerations apply when defending on a reverse slope.

(1) The crest protects the company from direct fire. This is a distinct advantage if the attacker has greater weapons range than the defender. The reverse slope defense can eliminate or reduce the "stand off" advantage of the attacker. It also makes enemy adjustment of his indirect fire more difficult since he cannot see his rounds impact. It keeps the enemy's second echelon from supporting the first echelon's assault.

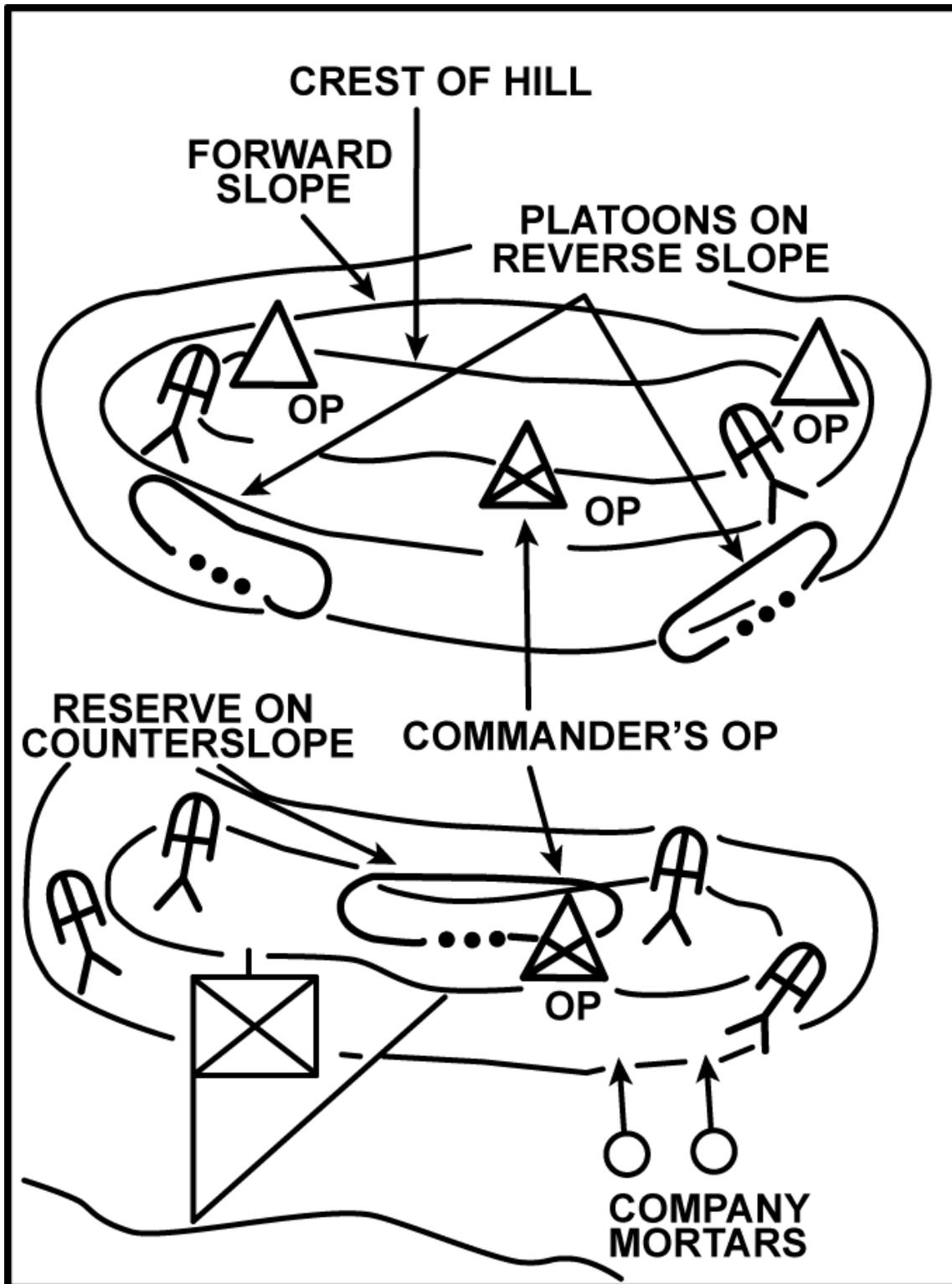


Figure 5-18. Company defense on a reverse slope.

(2) The enemy may be deceived and may advance to close contact before he discovers the defensive position. Therefore, the defender has the advantage of surprise.

(3) The defender can improve positions, build obstacles, and clear fields of fire without disclosing his positions.

(4) The defender may use dummy positions on the forward slope to deceive the enemy.

(5) Resupply and evacuation (when under attack) may be easier when defending on a reverse slope.

(6) Enemy target acquisition and jamming efforts are degraded. Enemy radar, infrared sights, and thermal viewers cannot detect soldiers masked by a hill. Radios with a hill between them and the enemy are less vulnerable to jamming and direction finders.

(7) Enemy use of CAS and attack helicopters is restricted. Enemy aircraft must attack defensive positions from the flank or from the rear, which makes it easier for friendly air defense weapons to hit them.

(8) A counterattacking unit has more freedom of maneuver since it is masked from the enemy's direct fire.

(9) It may allow antiarmor shots at the thinner armor on top of armored vehicles.

(10) The crest can provide protection from the blast effect of a nuclear explosion.

b. **Special Considerations.** The following considerations may apply when defending on a reverse slope.

(1) Observation of the enemy is more difficult. Soldiers in this position see forward no farther than the crest. This makes it hard to determine exactly where the enemy is as he advances, especially when visibility is poor. OPs must be placed forward of the topographic crest for early warning and long-range observation.

(2) Egress from the position may be more difficult.

(3) Fields of fire are normally short.

(4) Obstacles on the forward slope can be covered only with indirect fire or by units on the flanks of the company unless some weapons systems are initially placed forward.

(5) If the enemy gains the crest, he can assault downhill. This may give him a psychological advantage.

(6) If OPs are insufficient or improperly placed, the defenders may have to fight an enemy who suddenly appears in strength at close range.

c. **Feasibility.** A defense on a reverse slope may be effective when—

(1) The enemy has more long-range weapons than the defender.

(2) The forward slope has little cover and concealment.

(3) The forward slope is untenable because of enemy fire.

(4) The forward slope has been lost or not yet gained.

(5) There are better fields of fire on the reverse slope.

(6) It adds to the surprise and deception.

d. **Plans.** The fundamentals of the defense apply to a defense on a reverse slope.

(1) Forward platoon positions should be within 200 to 500 meters of the crest of the defended hill or ridge and sited so they block enemy approaches and exploit existing obstacles. They should permit surprise fire on the crest and the approaches around the crest. Forward fighting positions should have rear and overhead cover to protect friendly soldiers from fratricide.

(2) Post OPs, including FOs, on the crest or the forward slope of the defended hill. At night, OPs and patrol units should be increased to prevent infiltration. Machine guns may be attached to OPs.

(3) Position the company depth platoon/reserve where it can block the most likely penetration, support the forward platoons by fire, protect the flanks and the rear of the company, and, if necessary, counterattack. It may be positioned on the counterslope to the rear of the forward platoons if it can fire and hit the enemy when he reaches the crest of the defended hill.

(4) Position the company CP to the rear where it will not interfere with the reserve or supporting units. The CO may have an OP on the forward slope or crest and another on the reverse slope or counterslope. He uses the OP on the forward slope or crest before the battle starts when he is trying to determine the enemy's intentions. During the fight, he moves to the OP on the reverse slope or counterslope.

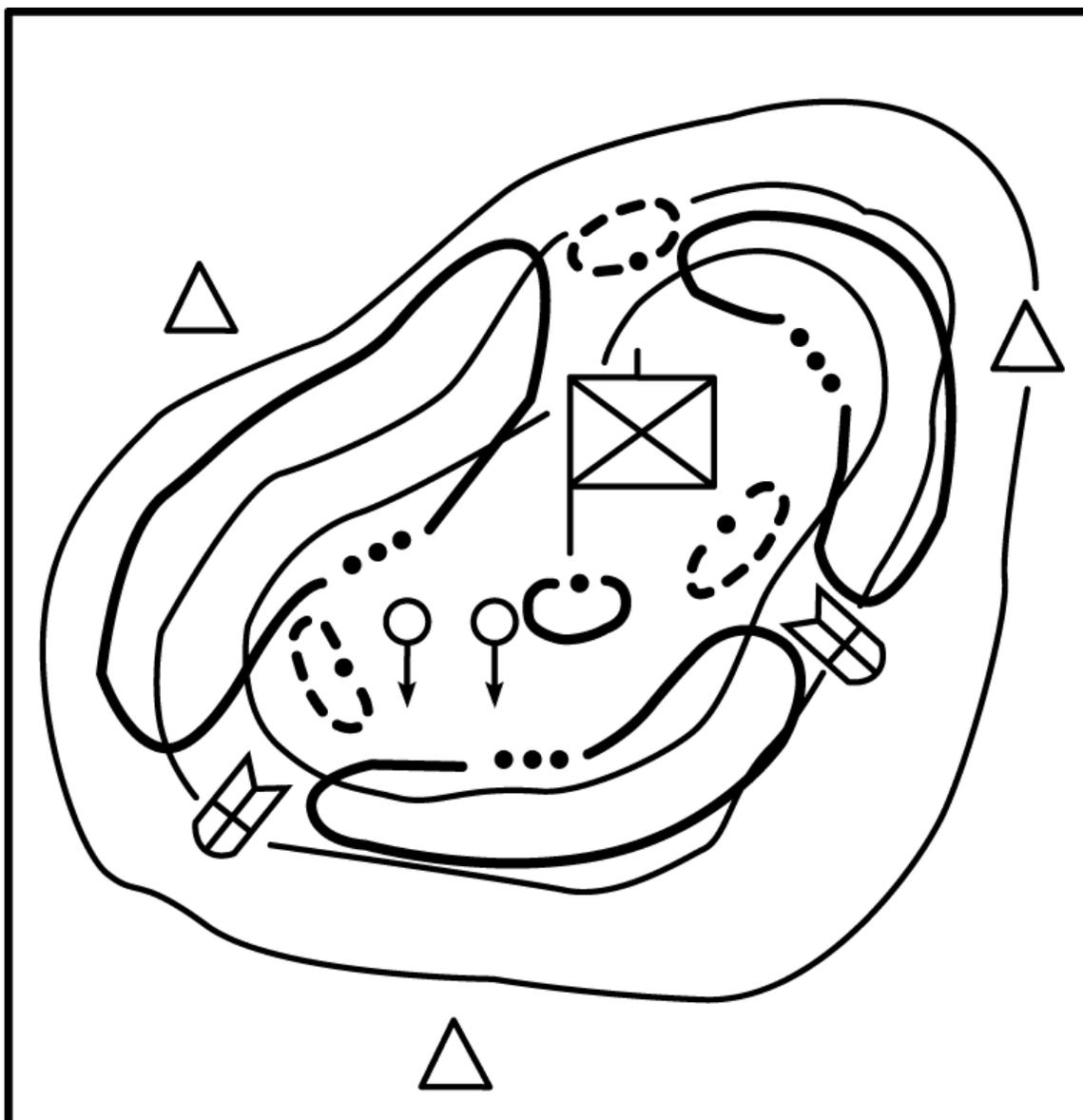
(5) Plan indirect fire well forward of, on, and to the flanks of the forward slope, crest, reverse slope, and counterslope. Plan indirect FPF on the crest of the hill to control the crest and stop assaults. Put the mortar section in defilade to the rear of the counterslope.

(6) Reinforce natural obstacles. A hasty protective minefield on the reverse slope—just down from the crest where it can be covered by fire—can slow the enemy's advance and hold him under friendly fire.

(7) The CO normally plans counterattacks. He plans to drive the enemy off the crest by fire, if possible. But he must also be prepared to drive the enemy off by fire and movement.

### **5-23. PERIMETER DEFENSE**

The rifle company prepares a perimeter defense when there are no friendly units adjacent to it (Figure 5-19). A perimeter defense may be used in a reserve position, in an assembly area or patrol base, on a semi-independent operation, during resupply, or when the company is isolated. The following actions constitute setting up a perimeter defense.



**Figure 5-19. Company perimeter defense.**

a. Prepare a perimeter defense as any position defense, but disperse the company in a circular configuration for all-round security; its actual shape depends on the terrain. The company must be prepared to defend in all directions.

b. The CO assigns the rifle platoon covering the most likely approach a smaller sector than the other platoons. He prepares alternate and supplementary positions within the perimeter.

c. If available, TOWs and tanks cover armor approaches. They may use hide positions and move forward to fire as the enemy appears. TOWs and tanks should be assigned several firing positions. If there are few positions for them, they are assigned a primary position and are dug in.

d. Keep the mortars near the center of the perimeter so their minimum range (70 meters) does not restrict their ability to fire in any direction. They should be dug in and

have covered ammunition storage bunkers. They communicate by phones (the wire should be buried). The FDC is dug in with overhead cover.

e. Hold at least one rifle squad in reserve. The CO assigns a primary position to the rear of the platoon, covering the most dangerous avenue of approach. It may also be assigned supplementary positions since it must be prepared to fight in all directions.

f. Prepare obstacles and mines in depth around the perimeter.

g. Plan direct and indirect fire as for any type of defense. Plan and use fire support from outside the perimeter when available.

h. Counter enemy probing attacks by area fire weapons (artillery, mortars, Claymores, and grenade launchers) to avoid revealing the location of fighting positions. If the enemy continues to advance, have the machine gunners and riflemen fire.

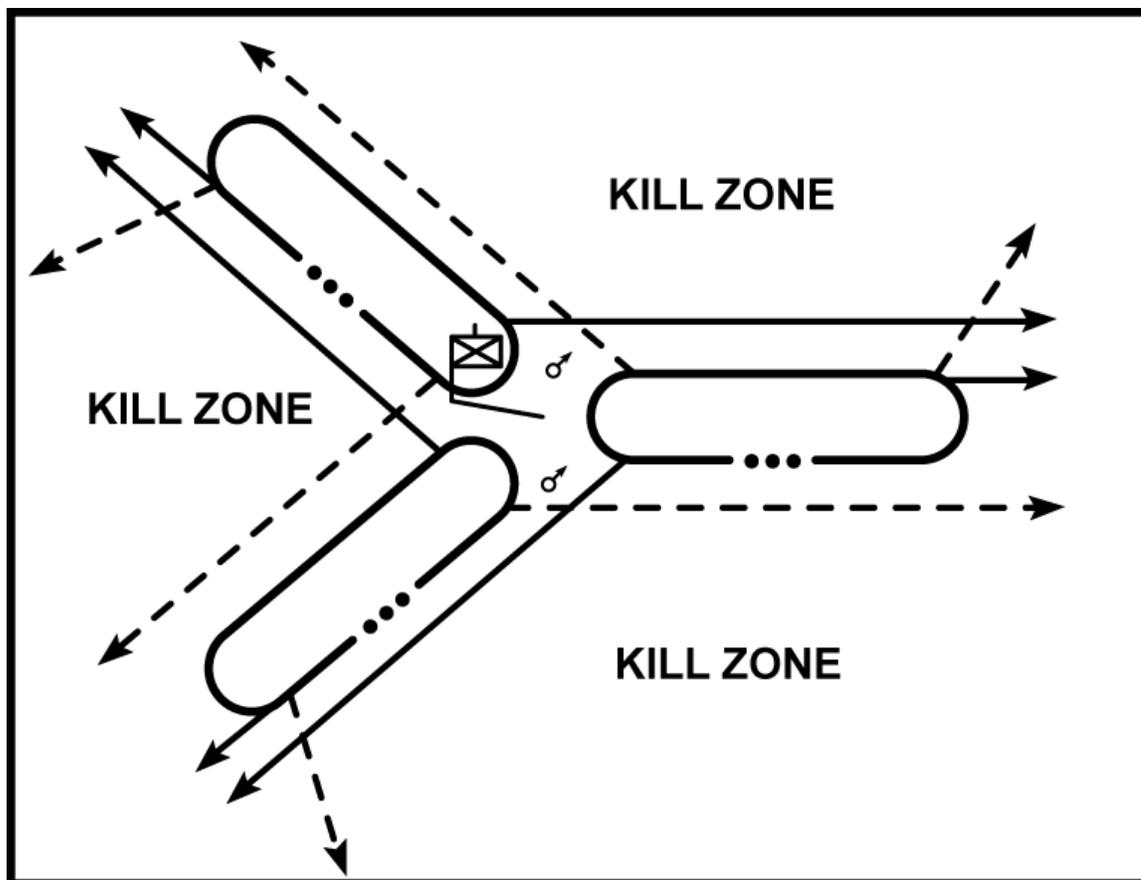
i. If the perimeter is penetrated, the reserve blocks the penetration and covers friendly soldiers while they move to their alternate or supplementary positions. Even though the company's counterattack ability is limited, it must strive to restore its perimeter.

j. CSS elements may support from within the perimeter or from another position. Supply and evacuation may be by air. Consider the availability of LZs and DZs (protected from enemy observation and fire) when selecting and preparing the position.

k. A variation of the perimeter defense to effectively use the terrain is the Y-shaped perimeter defense. This defense is used when the terrain, cover and concealment, or the fields of fire do not support the physical positioning of the platoons in a circular manner. The Y-shaped perimeter defense (Figure 5-20) is named this because the platoon battle positions are positioned on three different axes radiating from one central point. It is still a perimeter defense because it is effective against an attack from any direction. This defense provides all-round perimeter fires without having to position soldiers on the perimeter. It is most likely to be effective in mountainous terrain, but it also may be effective in a dense jungle environment due to limited fields of fire. All of the fundamentals of a perimeter defense previously discussed apply but some adjustments and special considerations are required.

(1) Although each platoon battle position has a primary orientation for its fires, each platoon must be prepared to reorient to mass fires into the kill zone to its rear.

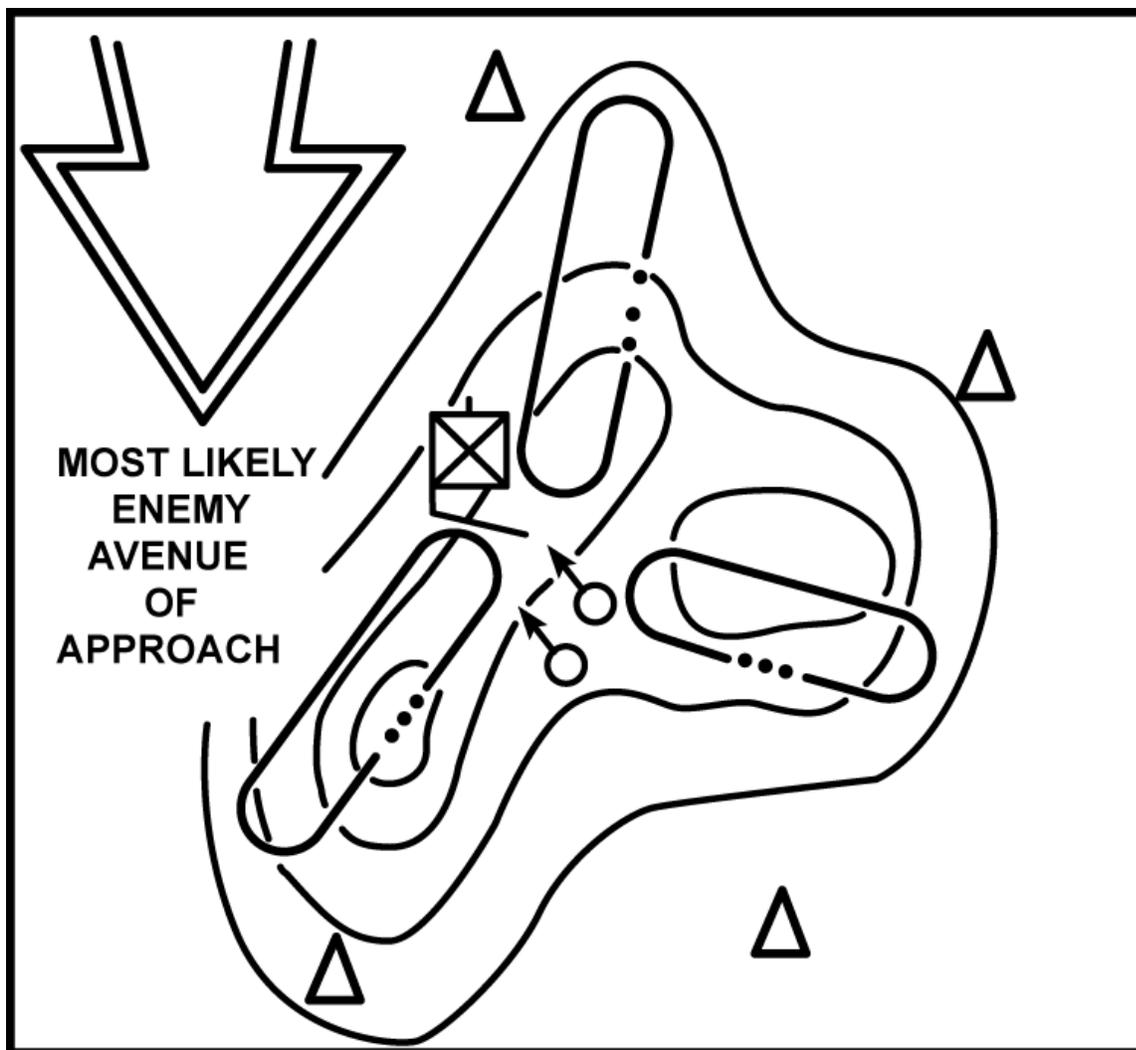
(2) When there is not a most likely enemy approach identified or during limited visibility, each platoon may have half of its soldiers oriented into the kill zone to the front and half into the kill zone to the rear. Ideally, supplementary individual fighting positions are prepared to allow the soldiers to reposition when required to mass fires into one kill zone.



**Figure 5-20. Y-shaped perimeter defense.**

(3) When a most likely enemy avenue of approach is identified, the CO may adjust the normal platoon orientations to concentrate fires (Figure 5-21). This entails excepting risk in another area of the perimeter. The company security plan should compensate for this with additional OPs, patrols, or other measures.

(4) The positioning of the CP, mortars, a reserve, or any CSS assets is much more difficult due to a lack of depth within the perimeter.



**Figure 5-21. Modified Y-shaped perimeter defense.**

(5) The most difficult aspect of this type defense is the fire control measures that must be established. To safely fight this defense without casualties from friendly fires, the leaders must ensure the limits of fire for each weapon do not allow fires into the adjacent platoon position. In a mountainous environment this may be simpler due to firing downward into the kill zones. Some measures to consider include:

(a) Position machine guns near the apex of the Y to allow an FPL that covers the platoon front while firing away from the adjacent platoon.

(b) Cover the areas of the kill zones closest to the apex with Claymores, other mines, or obstacles to reduce the need for direct fires in these areas.

(c) Identify those positions at most risk to friendly fires and prepare the fighting position to protect the soldier from fires in this direction.

(d) The loss of one platoon position may threaten the loss of the entire company. Plan and rehearse immediate counterattacks with a reserve or the least committed platoon to prevent this.

(e) Consider allowing the enemy to penetrate well into the kill zones and destroy him as though this was an ambush.

## Student Handout 7

### Extracted Material from FM 55-30

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This student handout contains 25 pages of extracted material from the following publication:

FM 55-30, Army Motor Transport Units and Operations, 27 Jun 1997 w/C1,  
15 Sep 1999

Chapter 5	Pages 5-1 thru 5-14
Chapter 6	Pages 6-1 thru 6-11

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## CHAPTER 5

## CONVOY CONTROL, ORGANIZATION, AND PLANNING

Convoys are planned to organize and control motor movements. They are used for the tactical movement of combat forces; the nontactical movement of logistical units; and the movement of personnel, supplies, and equipment. This chapter contains information on all aspects of convoy operations.

**5-1. PLANNING FACTORS.** Regardless of the mission, the process of planning and organizing convoys is the same. Mission, enemy, troops, terrain, and time available drive the specific planning factors and influence how the convoy will be controlled. Other factors include:

- The state of training of drivers.
- Types of loads.
- Number of vehicles involved.
- Traffic conditions.
- Quality of road networks.
- Time.

When operating with allied forces, also consider such factors as foreign equipment, cultural differences, and diverse ethnic backgrounds.

**5-2. CONVOY CONTROL.** Control of motor movements is exercised in two ways. The first type of control is exercised by the unit making the motor movement; this is organizational control. The second is by the commander of the area through which the convoy moves; this is area control.

"Marches are war...aptitude for war is aptitude for movement." Napoleon

a. **Organizational Control.** Organizational control is exercised by the moving unit before, during, and after movement. Effective organizational control requires march discipline. March discipline is a command responsibility that comes from effective organizational control and training. It is essential to the effectiveness of the march column to prevent conflict with other movements in the area. It can only be attained by thorough training, supervision of operations by technically competent leaders, and attention to detail. March discipline demands--

- Using qualified drivers who operate their equipment safely under a variety of driving conditions.
  - Adhering to unit SOPs that specify tactics and techniques for movement, immediate action drills, and communications techniques.
  - Strictly following traffic regulations.
  - Meeting SP, en route CP, and RP times without failure.
  - Following the prescribed route at the prescribed march rate.
  - Halting at rest stops for the required amount of time.

## FM 55-30

- Effectively using protective measures, including maintaining the prescribed vehicle interval, radio discipline, and blackout driving during night convoys.
- Maintaining proper care of equipment.
- Observing safety policies and regulations at all times.
- Ensuring that drivers obey the rules of the road, traffic laws or regulations, speed limits, and time and distance gaps.

b. **Area Control.** This kind of control is exercised by the commander who controls the area/terrain through which convoys move. Area control is normally exercised through movement control channels and is known as highway regulation. Highway regulation is planned by the DTO for the division rear area, the transportation battalion (MC) for the corps rear area, and the TMCA for the COMMZ. It is supervised by movement regulating teams assigned to the MC battalion and TMCA and by MPs for traffic control.

Division, corps, and theater army traffic circulation plans and highway regulation plans specify the control measures applied to MSRs. Convoy commanders are responsible for ensuring that they follow policies in areas through which they will pass.

Controlling traffic in an area of operations is difficult even under the best of conditions. There will always be competing demands for the available road network. Units cannot expect to be able to use all routes without requesting permission. Highway regulation planners establish control measures to ensure order and prevent congestion.

One method used to establish control is classifying MSRs and ASRs. These classifications are based mainly on the ability of a route to support the expected traffic volume and types of vehicles that will use the route. The classifications specify the degree of control required and whether moving units must submit a movement bid (clearance request) to use a route. The classifications will be specified in the highway regulation plan. There are five route classifications:

- *Open route.* The route is open to all types of traffic and the moving unit does not need to submit a movement bid to use the route.
- *Supervised route.* The route is open to most types of traffic. However, convoys of certain size, vehicles of certain characteristics, and certain slow-moving vehicles may require a movement credit to use the route. The highway regulation plan will specify the size of convoys or types of vehicles that require a movement credit.
- *Dispatch route.* Full control is exercised over a dispatch route. Priorities are set for use of this type route. A movement credit is required for the movement of any vehicle or group of vehicles.
- *Reserved route.* This type route is set aside for the sole use of a certain unit, specified operation, or type of traffic. If a route is reserved for a unit, then the commander of that unit decides how much and what kind of control is required.
- *Prohibited route.* No traffic is allowed over a prohibited route.

**5-3. CONVOY ORGANIZATION.** A convoy is a column of vehicles that moves from the same origin to destination and is organized for the purpose of control under a single commander. The minimum number of vehicles in a convoy is directed by theater policy, standardization agreement, or the HN. In the absence of policies to the contrary, convoys are considered six or more vehicles. All vehicles normally move at the same march rate.

a. **Convoy Elements.** Vehicles in a convoy are organized into groups to facilitate command and control. A convoy may be as small as a 6-vehicle march unit or as large as a 300-vehicle column. Whenever possible, convoys are set up along organizational lines, such as squad, platoon, company, battalion, and brigade. Convoy elements include march units, serials, and columns (Figure 5-1).

(1) **March units.** A march unit is the smallest element of a convoy. As the smallest subdivision of a column, march units may have up to 25 vehicles assigned. A march unit usually represents a squad- to platoon-size element. Each march unit has a march unit commander.

(2) **Serials.** A serial is a group of two to five march units. It represents approximately a company- to battalion-size element. Each serial has a serial commander.

(3) **Columns.** A column is a group of two to five serials. It represents approximately a battalion- to brigade-size element. Each column has a column commander.

For example, a medium truck company commander can organize his convoy as a serial by dividing the 60 task vehicles by platoons into three march units of 20 vehicles each. The company commander would then serve as the convoy commander and the platoon leaders would serve as march unit commanders. Remaining vehicles would be added to each march unit for command and control and convoy support.

Convoy commanders should not generally subdivide march units of 20 or fewer vehicles into smaller march units because of road space considerations. This will reduce the amount of road space taken up by the gaps between small march units. If the convoy commander determines that security requirements warrant greater separation between convoy elements, he could divide the 60 task vehicles by platoons into three serials of 20 vehicles each and further subdivide each serial by squads into two march units of 10 vehicles each. In this example, the platoon leaders would serve as serial commanders and the squad leaders as march unit commanders.

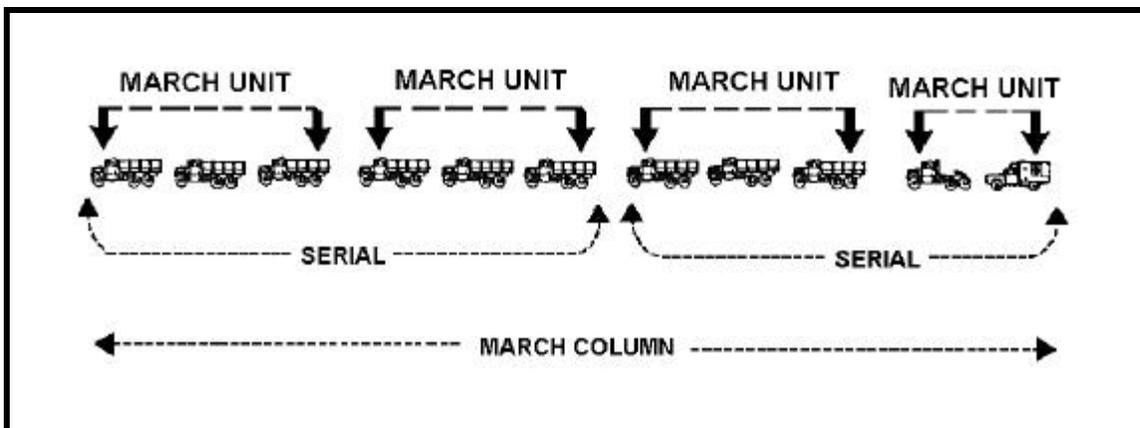


Figure 5-1. Convoy organizational elements

b. **Convoy Sections.** Leaders must know how to position vehicles within the elements. All columns, serials, and march units, regardless of size, have three parts: a head, a main body, and a trail (Figure 5-2). Each of these parts has a specific function.

(1) **Head.** The head is the first vehicle of each column, serial, and march unit. Each head should have its own pacesetter. The pacesetter rides in this vehicle and sets the pace needed to meet the scheduled itinerary along the route. The officer or noncommissioned officer at the head ensures that the column follows the proper route. He may also be required to report arrival at certain checkpoints along the route. With the head performing these duties, the convoy commander has the flexibility to move up and down the column to enforce march discipline.

(2) **Main body.** The main body follows immediately after the head and consists of the majority of vehicles moving as part of the convoy. This is the part of the convoy that may be subdivided into serials and march units for ease of control.

(3) **Trail.** The trail is the last sector of each march column, serial, and march unit. The trail officer/NCO is responsible for recovery, maintenance, and medical support. The recovery vehicle, maintenance vehicles, and medical support vehicles/teams are located in the trail. The trail officer/NCO assists the convoy commander in maintaining march discipline. He may also be required to report clear time at checkpoints along the route. In convoys consisting of multiple march units and serials, the convoy commander may direct minimum support in the trail of each serial or march unit and a larger trail party at the rear of the column. As the trail party may be left behind to conduct repairs or recovery, the convoy commander should provide trail security and communications.

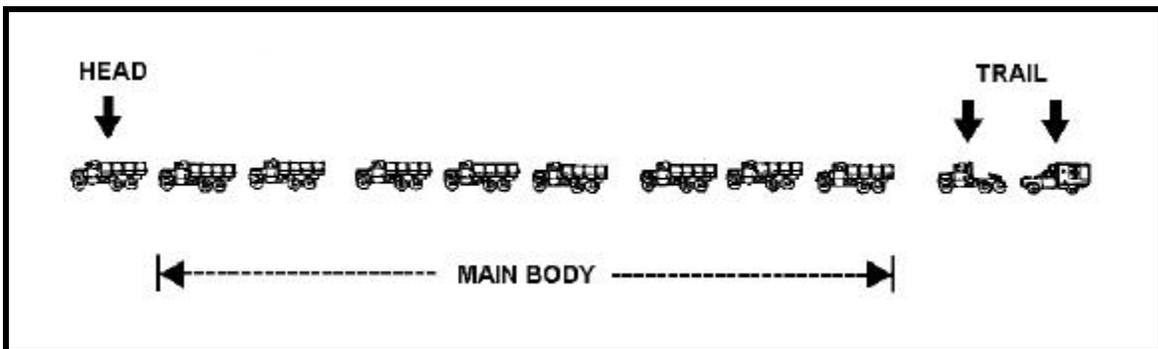


Figure 5-2. Functional elements of a convoy

c. **Vehicle Placement.** Certain factors influence the placement of vehicles in a convoy. The commander should consider the following guidance in placing vehicles within each convoy element:

- Give special attention to vehicles loaded with ammunition and bulk petroleum. Try to separate these vehicles or disperse them throughout the march elements. A larger gap between

vehicles carrying ammunition or bulk petroleum can also be prescribed. Tactically segregate critical supplies to ensure that no one element or capability is lost due to enemy action.

- Position heavier or slower vehicles at the head to assist in maintaining the prescribed convoy speed.
- Place C2 vehicles where they can maintain control of the convoy. Also consider protecting C2 vehicles from enemy action. They are priority enemy targets. Commanders may use an irregular pattern of placing C2 vehicles, or they may use trucks instead of HMMWVs or CUCVs.
- Place maintenance and recovery vehicles at the end of each march unit and at the end of the convoy to recover or make quick repairs to disabled vehicles down along the side of the road.
- When it will not compromise the security of the convoy, locate trucks requiring the longest unloading time at the head of the march element to achieve the fastest turnaround time.

d. **Types of Column Formations.** The column must be organized to meet mission requirements and ensure organizational control. The convoy commander decides how the column will be organized for control, choosing from three basic methods: close column, open column, and infiltration. The difference between the three methods is one of spacing vehicles, or gap. The convoy commander must weigh factors such as the threat, type of route, and ability to communicate in deciding the proper gap for the movement. The gap is determined by the length and speed of the vehicles. The rule of thumb for vehicle gap is to allow a 4-second gap for trucks. If the convoy includes vehicles with trailers, allow an 8-second gap. Normally, the gap will be 25 to 50 meters in urban areas (close column) and 100 meters in rural areas or highways (open column). Table 5-1 (page 5-6) and Table 5-2 (page 5-7) show types of column formations and the gap between vehicles. The number of vehicles (density) per kilometer of road and the rate of march may be changed based on METT-T. For detailed instructions for figuring vehicle gap, see AR 55-29 or FM 21-305.

Drivers are responsible for maintaining the gap between vehicles along the route. Leader and driver training is essential. Helicopters or other aircraft, if available, can assist the convoy commander in maintaining the proper gap. When the pilot informs the convoy commander of how well or poorly drivers are maintaining the gap, the convoy commander can make the necessary adjustments.

**5-4. CONVOY PLANNING.** When a unit receives a mission or movement order, the unit officers and operations section personnel begin making plans. Most convoy planning should be based on the unit SOP. It should specify the most common planning activities. However, certain requirements must be coordinated outside the moving unit and these require support from the battalion and higher staffs. See Appendix M for information on coordinating active and reserve component convoys in CONUS. See Appendix N for distribution formulas and percentages needed to estimate the axle weight distribution for a loaded vehicle.

The convoy commander must perform specific actions to prepare the convoy. A limited amount of time is available to accomplish the following:

- Select and reconnoiter the route.
- Submit a movement bid if required.
- Effect coordination for en route security.
- Give instructions to subordinate element commanders and other supervisory personnel.
- Inspect personnel and vehicles.
- Brief convoy personnel.

Table 5-1. Types of column formations

TYPE OF FORMATION	WHEN USED	GAP BETWEEN VEHICLES	RATE	ADVANTAGES	DISADVANTAGES
Close	Night, poorly marked routes, congested areas, reduced visibility.	25 to 50 M	15 MPH/ 25 KMPH	Full traffic capacity of road can be used. Control is easier. Fewer guides, escorts, and route markers are needed.	Quick dispersion is difficult. The column is easily detected. May cause congestion at point of arrival. Requires careful scheduling and rigid control to avoid blocking at intersections. Causes driver fatigue.
Open	Daylight, well-marked routes, highways.	100 M	25 MPH/ 40 KMPH	Less chance of enemy observation or damage from attack. Cargo moves faster. Driver's fatigue is reduced. Fewer accidents; very flexible.	Command and control are difficult. Proper vehicle spacing is hard to keep.
Infiltration	Daylight, congested areas, heavy traffic crosses route.		Various	Provides maximum security and deception. High speeds are possible. Other traffic has little effect on individual trucks.	More time required to complete the move. Column control is nearly impossible. Drivers can get lost. Specific details must be given to each driver. Maintenance, refueling, and messing are hard to arrange. Vehicles may bunch up, causing close columns to form. Requires experienced drivers. Orders are not easily changed. The unit cannot be redeployed as a unit until the last vehicle arrives at destination.

Table 5-2. Night column formations

TYPE	GAP BETWEEN VEHICLES	RATE	ADVANTAGES	DISADVANTAGES
Blackout drive	15 to 20 M	5 to 10 MPH/ 8 to 16 KMPH	Limits enemy observation. Darkness provides security.	More vehicles in ambush kill zone. Driver fatigue. Increased time distance.
Lights on drive	50 to 100 M	20 to 30 MPH/ 33 to 50 KMPH	Drivers stay alert. Enemy reaction time reduced. Speed provides security. Less vulnerable to ambush and sniper fire.	Control is harder. Enemy observes the move. May be very vulnerable to enemy air strikes.

Besides convoy control and organization, convoy commanders must consider the following elements during the planning process:

- Advance/quartering party.
- Convoy control personnel.
- Start points and release points.
- Halts.
- Gaps and march rate.
- Submission of movement bids.
- Communications.
- Route reconnaissance.
- Escort and security elements.
- Convoy support.

a. **Advance/Quartering Party.** Advance and quartering parties coordinate convoy arrival at destination. For support missions, the advance party coordinates with the receiving unit for staging vehicles for on-load or off-load, MHE, and security. When a unit relocates, the quartering party prepares for the arrival of the main body of the convoy. The advance party may travel with the column during the early stages of the move; however, it must arrive at destination sufficiently ahead of the column to perform its mission.

From a convoy control perspective, the major functions of the advance party or quartering party are to ensure that the column is able to move quickly off the route and into the marshaling or assembly area. It also positions individual vehicles within the marshaling or assembly area. These actions will prevent congestion on the route and enhance security by not allowing vehicles to be lined up along a route waiting to enter the marshaling or assembly area. The advance party must have

enough personnel to accomplish this task. The advance party will also have to secure and sweep the area for contamination or enemy activity if the area is not secured.

b. **Convoy Control Personnel.** Control is exercised by the column commander, serial commanders, and march unit commanders. The advance party officer, trail party officer, pacesetter, and escorts assist the convoy commander in controlling the movement.

(1) **Column, serial, and march unit commanders.** These commanders plan and control the motor movement and enforce march discipline. They may be either officers or noncommissioned officers.

(2) **Pacesetter.** The pacesetter should be an experienced officer or NCO who rides in the first vehicle of each element in the convoy. The pacesetter maintains or adjusts the rate of march necessary to meet the schedule. In so doing, the pacesetter will direct that the convoy speed up to compensate for lost time due to terrain, weather, traffic conditions, or other obstacles. The pacesetter's job is critical as he must ensure the convoy averages the march rate over the length of the route.

(3) **Trail officer.** The trail officer is positioned at the rear of the column. He checks and observes vehicles, march units, or serials at the SP. He ensures that approaching traffic from the rear is warned when the column halts. He also picks up guides and markers left by preceding elements of the march column. He investigates accidents on-the-spot, directs evacuation of injured personnel, and effects disposition of disabled equipment.

(4) **Trail maintenance officer.** A maintenance technician/NCO rides at the rear of the column with maintenance and recovery personnel and equipment and supervises en route maintenance operations. In a small column, the trail officer and the trail maintenance officer may be the same person.

(5) **Guides.** Guides are used to ensure the convoy follows the prescribed route. Guides become very important when operating in an area where road signs are poor or nonexistent. On controlled routes, the area commander may furnish guides to direct units or vehicles moving over these routes. Highway regulation authorities will use movement regulation teams and military police to assist moving units. Although these teams do not normally escort convoys, they assist convoy commanders in locating supported units, preventing conflict with other convoys, and providing other information on the route. On routes that are not controlled, the moving unit is usually responsible for providing its own guides.

c. **Start Points and Release Points.** All motor moves are scheduled from a start point to a release point. For most moves, when all vehicles originate from the same location, selecting an SP is a simple procedure. However, columns are sometimes composed of vehicles from several different units that may not originate at one location. When this occurs, the convoy commander must select an SP that is common to all units and vehicles on the route. Similarly, not all vehicles may have the same final destination. Yet, there must be a place where elements of the column can be released from column control to continue their assignments. This place is the RP.

(1) **Start point.** An SP is the place all elements of a column come under the active control of its commander. On passing the SP, each unit should be traveling at the rate of march and vehicle interval (gap) stated in the operation order. If the convoy is moving on a controlled route, the SP will usually be the first checkpoint on the route that the convoy passes. If the convoy is not

moving on a controlled route, the convoy commander will select an SP along the route that is easily recognized on both map and ground.

(2) **Release point.** The RP is the place where elements of a column are released from the active control of the commander. They leave the column to go to their designated areas. The RP, like the SP, must be on the column's route. If the convoy is moving on a controlled route, the RP will usually be the last checkpoint on the route that the convoy passes. If the convoy is not moving on a controlled route, the RP should be a place along the route easily recognized on both map and ground. The RP is neither the final destination nor a place to stop a convoy. The convoy must clear the RP and get off the route with a minimum of delay to prevent congestion with other scheduled movements. Unit guides may meet their units as they arrive at the RP and lead them to their designated area. Multiple routes and cross-country movements should be used from the RP to allow units to spread rapidly.

If the destination is a customer support location, the convoy commander should use an advance party or other communications to contact the receiving unit before arrival of the main body. This will let the receiving units meet the convoy at the RP and guide the vehicles to where they are needed. It will also facilitate getting the vehicles off the route quickly, so as not to interfere with other scheduled traffic. As the vehicles are unloaded, they should be scattered out, and after-operation maintenance performed. Drivers should be informed as to where and at what time to assemble for the return trip.

d. **Halts.** Halts are made for rest, personal comfort and relief, messing, refueling, maintenance and inspection of equipment, and schedule adjustments. Halts must be incorporated into road movement planning to ensure that the time for the halt is reflected in road movement tables and the movement bid (see Appendix J). Before any convoy, a risk assessment should be accomplished considering such things as time, duration, and cargo to ensure the mission is completed safely.

(1) **Time, duration, and purpose.** Short halts are made for personal comfort and relief, inspection of equipment, and en route equipment checks. Short halts will normally last 10 to 15 minutes. Longer halts, for messing, refueling, and bivouacking, will last as long as required to accomplish these tasks. When the situation permits, messing and refueling halts should coincide. Convoy commanders must remember that the time taken to get in and out of the rest halt is part of the time allocated for the halt.

(2) **Halt procedures.** Use the following procedures at halts:

- Plan for halts in areas with good security and fields of fire.
- Avoid halting on curves or grades.
- Never block the road when conducting halts.
- Maintain the prescribed gap to enhance security.
- Keep civilians away from the convoy vehicles.
- Post road guards at the front and rear of the convoy to warn approaching

traffic.

(3) **Location.** Select the locations for scheduled halts in advance. In most areas of operations, the location of rest halt areas on controlled routes will be centrally selected by commanders exercising area control and published in the highway regulation plan. Some types of rest halts, especially those for refueling, maintenance, and messing, may be established by an ASG

(COMMZ), CSG (corps), or DISCOM to support all convoys passing over the route. No matter who plans rest halt locations, they should offer adequate ingress and egress to get all vehicles in and out, offer dispersion and concealment, and be large enough to accommodate all vehicles and rest halt functions.

(4) **Duties of personnel.** During halts, all personnel have certain responsibilities. Officers and noncommissioned officers check the welfare of their soldiers, the security of loads, and en route maintenance. Control personnel inspect vehicles and loads. They give instructions to ensure that the column will get started with a minimum of confusion. Dining, medical, and maintenance personnel perform such special duties as the purpose and duration of the halt permit. Drivers inspect their vehicles and loads and perform en route maintenance.

e. **Gap and March Rate.** Distance between vehicles (gap) has been mentioned several times in the preceding paragraphs. The commander determines the gap based on the march rate, route, and threat. If the same gap is prescribed for all speeds, then the move will be executed as a fixed column. If the gap between vehicles is regulated to increase or decrease as speeds increase or decrease, the move will be executed by a governed column.

March rate will depend on the condition of the road, the traffic, and the speed of the slowest vehicle. In all cases, the march rate will be less than the legal posted speed limits. Also, various commands specify maximum convoy march rates under various operational conditions. Convoy commanders must be familiar with local command policies.

If a governed column is prescribed, a technique for drivers to determine the correct gap based on speed is the speedometer multiplier. The speedometer multiplier is a specified number (1, 2, or 3) to multiply times speed to determine the correct gap. For example, with a speedometer multiplier of 2, vehicles traveling at 40 kilometers (25 miles) per hour will have a gap of 80 meters (50 yards) between them. The gap will thus vary by speed and the speedometer multiplier. Because the gap changes with speed, drivers must open or close the gap to adjust to changing conditions. The major benefit is safety, to put more distance between vehicles at higher speeds. Even when using the speedometer multiplier, a minimum gap should be set to prevent bunching of vehicles at very low speeds. The governed column method can only be used by a well-trained, thoroughly disciplined unit.

f. **Submission of Movement Bids.** A movement bid is a request for clearance to move on a controlled route, such as an MSR. Movement bids may be required for convoys containing a certain number of vehicles, types of vehicles, or types of loads. Local policy or law determines the requirement to submit a movement bid. In CONUS, DD Form 1265 and DD Form 1266 serve as movement bids. In NATO, STANAG 2154 and STANAG 2155 govern movement bids. A movement credit is an alphanumeric code issued to the moving unit as the approval of the movement bid. In some areas of operation, the moving unit is required to chalk the movement credit on the sides of vehicles. See Appendix M for information on obtaining convoy clearance in CONUS. For information on movement bids in overseas theaters, see FM 55-10.

To complete a movement bid, the convoy commander must calculate the arrive and clear times at the SP, en route CPs, and the RP. The arrive time is the time the first vehicle of the convoy will arrive at an SP, CP, or RP. The clear time is the time the last vehicle of the convoy will clear that SP, CP, or RP. To calculate the arrive and clear times, the convoy commander must understand the various time and distance factors relating to movement. Decisions the convoy commander makes in

organizing the convoy--such as the number of serials and march units, the march rate, and the gaps--will affect the amount of time it takes a convoy to travel over a route. Moving units must carefully plan their movements and submit an accurate movement bid when required. See Appendix J for the necessary formulas.

If the route selected for movement is a supervised or dispatch route, the convoy commander or battalion headquarters should contact the DTO or servicing MC detachment to determine what restrictions and requirements they place on convoys. If a movement bid is required, the convoy commander or battalion staff must complete the bid and submit it in the required time. The DTO or MC detachment commander can also inform the convoy commander of support furnished along the route, such as security, traffic control, maintenance, and fuel. Perhaps most importantly, he can inform the convoy commander about the current threat status along the route.

g. **Communications.** The ability to communicate during convoy operations is essential. Radio nets must be established to link the convoy commander with higher headquarters, air and artillery support, element commanders, any security force commander, gun trucks, medics, and the trail party commander. Within the column, each march element may have its own control net with the march element commander and the head and trail party. Other communications techniques, such as signals, must be established and rehearsed. There are several ways to communicate while on convoy. These include the following:

- *Visual signals.* These may involve arm-and-hand, flashlight, flag, headlight, and pyrotechnic signals. These signals should be specified in an SOP so that drivers are completely familiar with them. Visual signals must be trained and rehearsed.
- *Audio (sound) signals.* These may include the use of whistles, horns, and verbal messages. Aircraft and command and control vehicles may be equipped with loudspeakers to issue instructions.
- *Radio.* This is the best way to communicate during a road march. There are several things to consider about the use of radios:
  - Availability of radios is limited within the convoy. Radios are usually limited to command and control vehicles.
  - The range of radios is limited unless retransmission stations are established.
  - Radio transmissions may not always be allowed under all combat conditions.

Even with newer radios, the volume of radio transmissions and the ability of the enemy to jam may render them unreliable in some circumstances.

h. **Route Reconnaissance.** The decision as to which route to use will depend on routes available under the current highway regulation plan and the ability of routes to support the type of vehicles moving. Often the route will be prescribed by the higher headquarters. In this case, a map reconnaissance will enable the convoy commander and battalion staff to select tentative checkpoints or to confirm those already established. The convoy commander can ascertain critical points and potential ambush sites by contacting the DTO or servicing MC detachment through whose area the convoy will pass. The convoy commander should also conduct either a ground or aerial reconnaissance of the route once the map reconnaissance has been completed. To help them become familiar with the route, subordinate convoy leaders should be included in any reconnaissance. If the reconnaissance shows road or bridge damage, the convoy commander should notify his higher headquarters, which will in turn notify the DTO or MC detachment. The route reconnaissance

should include identification of critical points and check points and the selection of an SP, RP, halt sites, and a bypass or alternate route.

i. **Escort and Security Elements.** Military police units may provide convoy security to a specific convoy or on an area basis. Security of routes is an MP mission. However, the availability of MP support depends on the threat in the area of operations, the sensitivity of the cargo, and other missions the MPs must support. If available, escort and security elements are used to secure and protect the convoy from enemy activity. Convoy escort and security elements are usually the responsibility of the moving unit. However, the MPs may provide them on a mission basis contingent upon the threat and importance of the convoy. Convoy commanders must request MP support through command or movement control channels. If MP support is approved, convoy commanders must closely coordinate with the MP unit directed to provide support. The presence of MPs or other escorts does not relieve the convoy commander from responsibility for the security of his convoy. Convoy commanders must plan and coordinate through their chain of command all matters pertaining to convoy security. These include the following:

- Noise, litter, and light discipline.
- Front, flank, and rear security.
- Security during halts.
- Air cover.
- Fire support.
- Communications security.
- Deception.

A convoy may be provided MP or combat force escorts. In placing escorts, the commander must consider the number of vehicles available, the size of the convoy, terrain and route characteristics, and likely enemy activity. Escorts should be placed to allow maximum protection for the most critical convoy elements. Since it is easier for vehicles to move forward, some escort vehicles must be positioned in the rear of the march element to which they are attached. If only one escort vehicle is provided, it should be placed to the rear of the convoy so it can be brought forward in the event of a tactical emergency.

j. **Convoy Support.** Based on the mission and circumstances of the move, support to convoys may include any of the following: fire support, combat aviation support, messing en route, maintenance en route, refueling en route, and medical support en route.

(1) **Fire support.** As a rule, convoy commanders do not coordinate fire support. Convoy fire support is planned and coordinated by a fire support element on an area basis (such as a base operations center, base cluster operations center, or rear area operations center). This planning may provide fire support to MSRs or other routes if intelligence indicates that the enemy will likely target convoys at particular locations. Fire support assets will usually be employed only against Level III threats. Convoy commanders should know the fire support plans along their route and know how to call for and adjust fire. For more information, refer to FMs 6-30 and 6-20-30. Convoy commanders must know call signs, frequencies, and other signal operating instructions.

(2) **Combat aviation support.** Another element of fire support that should be considered is Army attack helicopters. Through coordination, attack helicopters can be on alert status or overhead while the convoy is en route. In either situation, their radio frequencies must be

known to convoy and security radio operators and control personnel (FM 24-18). Steps must also be taken to standardize markings of convoy vehicles to prevent fratricide.

(3) **Messing en route.** While on convoy, drivers can be fed by their organizational field feeding capabilities or by transient messes. For organizational mess, the convoy commander uses organic capabilities to feed, such as an MKT or MREs. The ASG or CSG may establish transient field feeding sites along the MSRs.

(4) **Maintenance en route.** En route maintenance is performed by the driver and by mechanics in the trail element when the repairs are beyond the driver's capability. Drivers always perform normal preventive maintenance at halts. Maintenance personnel in the trail element are used to carry out all unit-level repairs on vehicles of the convoy. If the vehicle can be repaired quickly, then attempt the repair. If it cannot be repaired quickly or there is doubt, the vehicle should be towed or recovered and the march continued. Vehicles undergoing repairs or those that are to be abandoned or destroyed will be moved off the road. When a vehicle is disabled during a convoy, the following procedures should be observed:

- Driver pulls disabled vehicle to the right of the road and signal the convoy to pass.
- Assistant driver and any passengers dismount and take up defensive positions.
- Driver tries to repair the vehicle.
- Trail officer notifies the convoy commander of the disabled vehicle and recovers or destroys it depending on the tactical situation.
- Limit recovery vehicle recovery operations to only those situations where a tow bar will not work. Use tow bars when possible.
- Do not obstruct roads during recovery operations.
- Do not destroy equipment unless directed through command channels or as a last resort to prevent enemy capture.

(5) **Refueling en route.** The requirement for refueling is based on the normal operating range of convoy vehicles. The operating range is the normal distance that a vehicle can travel on a full tank of fuel. Operating range varies according to the terrain, vehicle, and load. A heavily loaded truck operating on poor roads in hilly terrain will get less fuel mileage than a lightly loaded truck operating on good roads in fairly level terrain. In determining when to refuel, use the vehicle with the least operating range. This will prevent any vehicle in the convoy from running out of fuel.

(6) **Medical support en route.** The convoy commander must consider medical support based on the mission and likelihood of enemy contact. Medical support can be provided by unit personnel trained as combat life savers, by attachment of a medical team to the convoy by higher headquarters, or by the area commander. Normally, MEDEVAC frequencies are established for emergencies in the SOI.

**5-5. UNIT SOP.** A complete SOP facilitates planning. At company level, SOPs should conform with those prepared by the next higher headquarters. At a minimum, the SOP should cover the following subjects:

- Duties of the convoy commander and other convoy control personnel.
- Convoy organization.
- Weapons and ammunition to be carried.
- Hardening of vehicles.
- Protective equipment to be worn.
- Preparation of convoy vehicles; for example, information on tarpaulins, tailgates, and windshields.
- Counterambush actions.
- Operations security measures.
- Immediate action drills.
- Actions during scheduled halts.
- Maintenance and recovery of disabled vehicles.
- Refueling and rest halts.
- Communications.
- Actions at the release point.
- Reporting.

**5-6. PREPARING VEHICLES FOR CONVOY.** This paragraph discusses the responsibilities of key personnel, as well as the elements needed, in preparing vehicles for convoy.

a. **Command Responsibilities.** The commander of the moving unit is responsible for the mechanical condition of his vehicles. Leaders must inspect all vehicles according to appropriate TMs before departing for the mission. Convoy commanders should also ensure that--

- Additional fuel, water, and lubricants are provided for en route requirements.
- Loads are inspected.
- Tarpaulin, troop safety straps, and end curtains are provided when required.
- Vehicles are hardened when required.
- Columns are identified with appropriate markings.
- Weapons are inspected.

b. **Marshaling or Assembly Area Inspection Teams.** A technique for large unit movements is to establish marshaling area or assembly area inspection points. As convoys are ready to depart, they proceed to the inspection point for final checks and driver briefings. Unit level maintenance personnel may be available to assist unit leadership in correcting last-minute minor deficiencies. Trucks with major problems will be returned to the parent unit and replaced with serviceable vehicles.

c. **Hardening Vehicles.** Cover the cargo bed of troop-carrying vehicles with at least a double interlocking layer of sandbags. Cover the cab floor of all vehicles with a double layer of sandbags under the driver's seat. Take care not to hamper pedal movement or hamper the driver's access to them. As an additional precaution, place a heavy rubber or fiber mat over the sandbags to reduce danger from fragments such as sharpened stones, sand, and metal parts of the vehicle. This also prolongs the life of sandbags. Sandbags may also be placed on the fuel tank, fenders, and hood. See Appendix O for more information on vehicle hardening.

## CHAPTER 6

## CONVOY DEFENSE TECHNIQUES

The motor transport commander must ensure that his troops are trained in convoy defense techniques. The payoff is reduced vulnerability to hostile action and successful mission accomplishment. The damage a convoy incurs when attacked depends on the adequacy of convoy defense training. It also depends on the adequacy of the briefing that convoy personnel receive before the operation (Appendix Q).

Some elements of convoy defense training are routine. The key is to train to react rapidly to any situation. Successful accomplishment of your mission and your life depend on it.

This chapter covers a broad range of convoy defense techniques to be employed against a variety of threats. Keep in mind that Chapter 3 discussed the threat

**6-1. AIR ATTACK.** The air threat varies from UAV, cruise missiles, and armed helicopters to high-performance aircraft. Convoys face the greatest danger of an air attack while moving along open roads or during halts where there is little or no overhead cover.

An air attack is a type of ambush. Accordingly, many of the procedures used during a ground ambush also apply to the air attack. For example, the convoy commander must--

- Prescribe alarm signals (unit SOP) (see FM 44-3 for more information on alarms).
- Give instructions for actions to take when under attack.
- Prescribe actions to take in the absence of orders.
- Ensure that defense procedures are rehearsed.
- Review the procedures with convoy personnel before the convoy moves out.

The convoy commander should remember that enemy pilots will seek out and try to surprise the convoy. They will fly at a low, terrain masking altitude. If they attack from higher than 350 meters, small arms fire will have no effect against them, but air defense weapons can be used against them effectively. Enemy pilots will also fly at high speed to make air defense weapons and small arms fire less effective.

a. **Active Defense.** The amount of fire a logistical convoy can bring to bear on attacking aircraft is extremely limited. It is limited to the number of vehicles with mounted machine guns and the individual weapons of operators and passengers. Although the convoy is not totally defenseless, it is no match for a skilled pilot in a modern ground attack jet aircraft. The convoy's capability to defend itself is slightly better against the slower and sometimes more vulnerable ground attack helicopter. At best, the convoy without air defense protection is extremely limited in its ability to defend against air attack.

The key to effective small arms fire against aircraft is volume. Put up a large volume of fire with small caliber weapons. Volume small arms fire comes from knowing the effectiveness of small arms fire on low-flying aircraft. Training ensures accuracy and builds confidence.

(1) **Firing positions.** Except for the prone position, the riflemen's basic firing stances stay the same (Figure 6-1). Firing at aircraft from the prone position means the firer is lying on his back, aiming his rifle into the air. Maximum use of cover and concealment is essential. A crew served weapons gunner should fire from a protected position if possible. He needs to get the weapon up in the air. He can hold it up or use a support for his arms and the weapon. In a real emergency, another soldier can act as a hasty firing support.

(2) **Tips for small arms defense.** The following are tips for small arms defense:

- Shoot any attacking aircraft or unauthorized UAV.
- Fire at the nose of an aircraft; fire at the fuselage of a hovering helicopter or slightly above the nose of a moving helicopter.
- Fire in volume--everybody shoots.
- Lead aircraft crossing your position (M16 and M60 lead jets the length of one football field).
- Take cover if time allows.
- Support your weapon if possible.
- Lie on your back if caught in the open.
- Aim mounted machine guns slightly above the aircraft nose for head-on targets.
- Control small arms fire so attacking aircraft flies throughout it.

b. **Passive Defense.** For a logistical convoy, normally without significant air defense firepower, passive measures are most effective. The key is to prevent attacks by hostile aircraft.

(1) **Dispersion.** The formation used by the convoy is a type of passive defense. The convoy commander must decide whether to use an open or closed column. The distance between vehicles must not be fixed. It should vary from time to time during a march. Factors influencing selection of the best vehicle distance include:

- Mission.
- Cover and concealment along the route.
- Length of the road march.
- Type of road surface.
- Types of vehicles.
- Nature of cargo.
- Enemy threat (ground and air).
- Available defense support.
- Small arms potential.

(2) **Open column.** Open column convoys generally maintain an 80- to 100-meter distance between vehicles. This formation offers an advantage of fewer vehicles damaged by air-to-ground rockets, cannons, or cluster bomb units. However, open columns make control more difficult for the convoy commander when it is necessary to give orders to stop, continue, disperse and seek concealment, or engage aircraft. The column may be more susceptible to attack. It is exposed for a

longer period and, if attacked, its defense is less effective since its small arms fire is less concentrated.



Figure 6-1. Firing positions

(3) **Close column.** Close columns maintain a distance of less than 80 meters between vehicles. This formation has none of the disadvantages noted for the open column formation. However, presenting a bunched up target could be an overriding disadvantage. Where an air attack is likely, it may be wise for the convoy commander to move close column convoys only at night.

(4) **Camouflage and concealment.** Camouflage and concealment techniques can make it more difficult for the enemy to spot the convoy. Not much can be done to change the shape of a vehicle moving down the road, but the type of cargo can be disguised or concealed by covering it with a tarpaulin. Bulk fuel transporters (tankers) are usually priority targets. Rigging tarps and bows over the cargo compartment conceals the nature of the cargo from the enemy pilot. The following are other effective passive measures:

- The operator should look for a bush, tree, or some other means of concealment to break the shape as seen from the air (Figure 6-2).
- Smooth surfaces and objects, such as windshields, headlights, and mirrors, will reflect light and attract the pilot's attention. Camouflage or cover all shiny items before the convoy moves out.
- If vehicles are not already painted in a pattern to blend with the terrain and to break the outline, mud can be used to achieve this effect.

(5) **Air guard duties.** Assign air guard duties to specific individuals throughout the convoy, and give each specific search areas. If the road march lasts more than an hour, soldiers should take shifts at air guard duty. Scanning for a long period dulls the ability to spot aircraft. Seeing the enemy first tips the odds in favor of the convoy, giving it time to react. See FM 44-3 for search and scan procedures.

(6) **Communications security.** Today's communications equipment can be very useful for controlling convoys, but it can also help enemy pilots find you. Use the radio only when necessary and be brief. See Appendix S for added COMSEC precautions.

c. **Passive Reactions.** When aircraft are spotted or early warning is received, the convoy commander has three options: stop in place, continue to march, or disperse quickly to concealed positions (Figure 6-3, page 6-6).

If the convoy commander chooses to halt the convoy, the vehicles simply pull to the shoulder of the road in a herringbone pattern. This technique has several advantages:

- It is harder for the enemy pilot to see the convoy when it is halted than when it continues to move.
- It is easy to continue the march after the attack.
- The volume and density of organic weapons will be higher than if the convoy disperses.

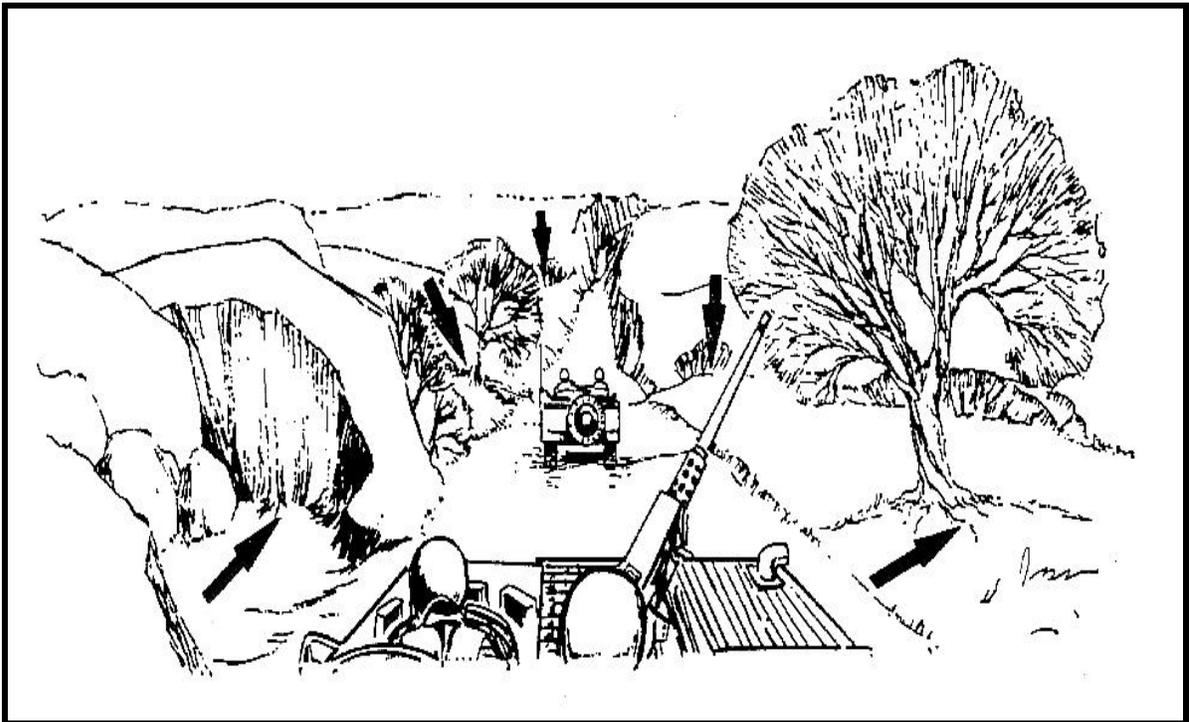
A disadvantage to this option is that a convoy stopped on the open road makes a good target and an enemy attack has a better chance of causing greater damage to the unit.

The mission and/or terrain may dictate that the march continue. If this is the case, convoy speed should be increased. Continuing the march offers the advantage of presenting a moving target, making it more difficult for the enemy to hit. However, detection is easier and volume and density of small arms fire are reduced.

A simple technique to disperse vehicles is to establish a method in the SOP that, in the event of an attack, odd-numbered vehicles go to the left and even-numbered vehicles go to the right. The key to dispersion is not to make two straight lines out of what was one long line; the vehicles must be staggered (Figure 6-4, page 6-6). This should not be much of a problem if the drivers have been trained to go to trees, bushes, folds in the ground, and so forth, that will give concealment. Once the convoy is dispersed, all personnel, except for vehicular-mounted weapon gunners, dismount and take up firing positions.

Advantages of this option are that it is more difficult for the enemy pilot to detect the vehicles and get multiple hits. However, this method has several disadvantages:

- It is easier for the enemy pilot to spot the convoy as it begins to disperse.
- The volume and density of small arms fire are reduced.
- It takes longer to reorganize the convoy after the attack.



**Figure 6-2. Dispersing vehicles seek cover for protection against air observation**

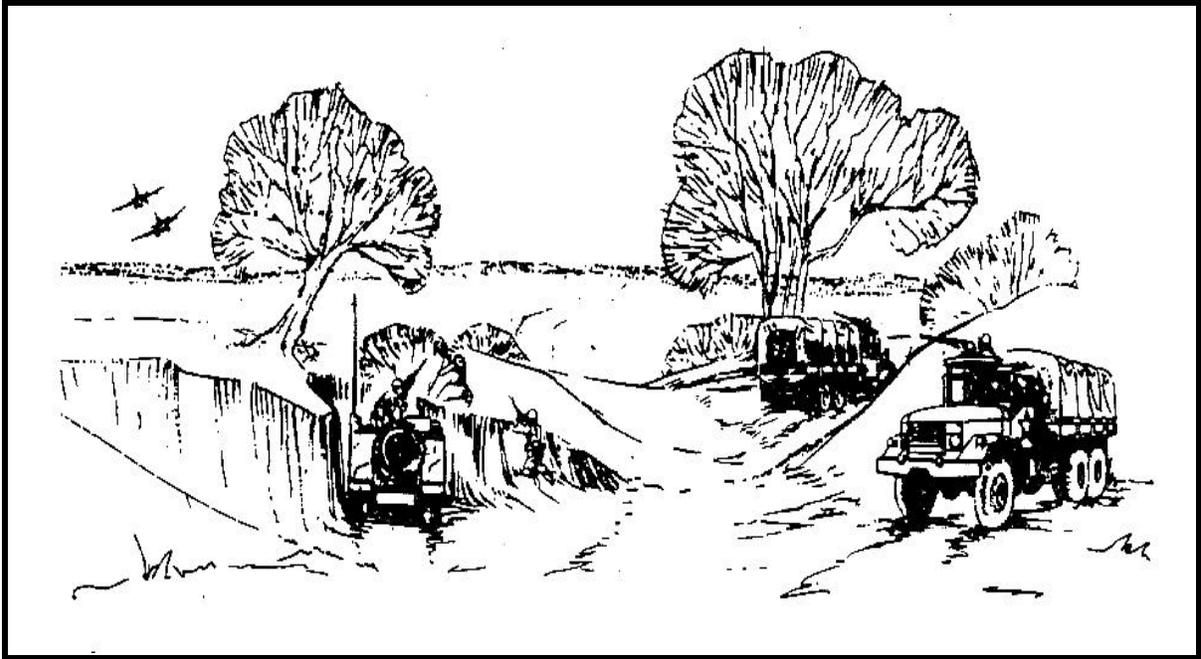


Figure 6-3. Dispersed vehicles in concealed positions



Figure 6-4. Vehicles moving to dispersed positions on road shoulders

**6-2. ARTILLERY OR INDIRECT FIRE.** Enemy artillery units or indirect fire weapons may be used to destroy logistical convoys or to harass and interdict the forward movement of supplies and personnel. Artillery fires are either preplanned fires or fires called in and adjusted on a target of opportunity by a forward observer. Of the two, the adjusted fires present the most complex problem as the artillery barrages can be adjusted to follow the actions of the convoy.

a. **Active Defense.** Active defensive measures against artillery are extremely limited but must not be overlooked. Active measures include--

- Directing counterbattery fire if the direction and approximate distance to the enemy artillery can be estimated.
- Directing small arms fire or artillery fires against the enemy FO if he can be located.
- Coordinating air strikes against the enemy artillery.

b. **Passive Defense.** The formation in which the convoy moves can be a type of passive defense. See the discussion of open and closed convoys under Passive Defense for Air Attacks. The convoy commander has three options when confronted with incoming artillery rounds: halt in place, continue to march, or disperse quickly to concealed positions. Regardless of the option selected, the actions to be taken and the signal directing the action should be covered in the unit SOP. The primary consideration is the immediate departure from the impact area.

The convoy should only be halted when the artillery concentration is ahead of the convoy. The convoy commander should look for an alternate route around the impact area and the convoy should remain prepared to move out rapidly.

The mission or terrain may require the convoy to continue. If this is the case, increase speed and spread out to the maximum extent the terrain will allow. Casualties can be reduced by avoiding the impact area, increasing speed, wearing protective equipment, using the vehicle for protection, and increasing dispersion.

**6-3. SNIPER FIRE.** Take extreme caution when sniper fire is received to ensure that any return fire does not harm friendly troops or civilians in the area. The best actions are passive. Ensure all personnel wear Kevlar helmets and available body armor at all times. All vehicles should move through the area without stopping. Escort personnel should notify the march element commander by giving a prearranged signal, like a smoke grenade thrown in the direction of fire, and attempt to locate and destroy the sniper by long-range fire if in a free-fire zone.

NOTE: Prevent convoy personnel from random firing by designating personnel to return fire. Do not return fire in a no-fire zone.

The convoy commander may order additional fire or supporting forces into the area to destroy, capture, or drive off the sniper. Convoy personnel should be aware that a heavy volume of fire is frequently used by the enemy to slow down a convoy before an ambush.

NOTE: Remember all details so the incident can be reported to higher headquarters.

**6-4. AMBUSH.** This paragraph provides guidance in developing and employing counterambush tactics and techniques. The very nature of an ambush--a surprise attack from a concealed position--places an ambushed unit at a disadvantage. Combat situations may prevent a convoy from taking all the measures necessary to avoid being ambushed. Therefore, a convoy must take all possible measures to reduce its vulnerability. These are passive measures supplemented by active measures taken to destroy or escape from an ambush. For information on the types of ambushes, see FM 21-75.

No single defensive measure, or combination of measures, will prevent or effectively counter all ambushes in a situation. The effectiveness of counterambush measures is directly related to the state of training of troops and the leadership ability of the leaders.

The best defense is to avoid being ambushed. Take the following actions to avoid an ambush:

- Select the best route for your convoy.
- Make a map reconnaissance.
- Make a ground reconnaissance.
- Make an aerial reconnaissance.
- Obtain current intelligence information.
- Use OPSEC to deny the enemy foreknowledge of the convoy.
- Do not present a profitable target.
- Never schedule routine times or routes.

Take the following actions to reduce the effectiveness of ambushes:

- Harden vehicles.
- Cover loads.
- Space prime targets throughout the convoy.
- Wear protective clothing.
- Use assistant drivers.
- Carry troops and supplies.
- Use prearranged signals to warn the convoy of an ambush.
- Use escort vehicles (military police, tanks, armored vehicles) or gun trucks.
- Thoroughly brief all convoy personnel on immediate action drills.
- Practice immediate action drills.
- Maintain the interval between vehicles.
- Move through the kill zone, if possible.
- Stop short of the ambush.
- Do not block the road.
- Rapidly respond to orders.
- Aggressively return fire.
- Counterattack with escort vehicles.
- Call for artillery support.
- Call in TACAIR support.
- Call for the reserve force.

## FM 55-30

- In the event of ambush during night convoy operations under blackout drive, turn on service drive lights and increase speed to clear the ambush area. Be aware that drivers wearing night vision goggles will be temporarily blinded when service drive is turned on.

a. **Road Not Blocked.** Guerrillas are seldom able to contain an entire convoy in a single kill zone. This is due to the extensive road space occupied by even a platoon-size convoy and because security or lack of available forces may limit the size of the ambushing force. More often, a part of a convoy is ambushed--either the head, tail, or a section of the main body. That part of the convoy that is in the kill zone and receiving fire must exit the kill zone as quickly as possible if the road to the front is open. Vehicles disabled by enemy fire are left behind or, if blocking the road, pushed out of the way by following vehicles. Armored escort vehicles must not block convoy vehicles by halting in the traveled portion of the road to return fire.

Vehicles that have not entered the kill zone must not attempt to do so. They should stop and personnel should dismount, take up a good defensive position, and await instructions. Since escort vehicles may have left the road to attempt to overrun a hostile position, elements of the convoy should not fire on suspected enemy positions without coordinating with the escort forces.

Other actions that convoy personnel can take to neutralize the ambush force include:

- Call for artillery fire on enemy positions.
- Call for gunship or tactical air or army aviation fire on enemy positions.
- Direct gun trucks and other vehicles mounted with weapons to lay down a heavy volume of fire on the ambush force.
- Call for reaction forces.
- Direct all nondriving personnel to place a heavy volume of fire on enemy forces as rapidly as possible as vehicles move out of the kill zone.

NOTE: Vehicles must keep their distance to reduce the number of vehicles in the kill zone.

A motor transport convoy with a limited escort is seldom able to defeat a hostile force and should not attempt to do so. When part of the convoy is isolated in the kill zone, vehicles that have not entered the ambush area must not attempt to do so. They should stop; personnel should dismount, take up a good defensive position, and await instructions until supporting forces have cleared the ambush. Normally, a transport unit will not deploy to attack a hostile force unless it is necessary to prevent destruction of the convoy element. It relies on supporting air, artillery, escorts, and reaction forces.

b. **Road Blocked.** When an element of a convoy is halted in the kill zone and is unable to proceed because of disabled vehicles, a damaged bridge, or other obstacle, personnel will dismount, take cover, and return a maximum volume of fire on enemy positions. When dismounting, exit the vehicle away from the direction of enemy fire. Security/escort troops from vehicles that have passed through the ambush area dismount and lay down a base of fire on the ambush position. Reaction forces should be called in as soon as the ambush attack is launched. When a security escort is provided and a combat emergency arises, the escort commander has operational control of the security element to attack and neutralize the hostile force. Normally, the security force will take action to neutralize the ambush while the convoy escapes from the kill zone. In an ambush situation, immediate reaction and aggressive leadership are essential to limit casualties and damage to vehicles, cargo, and personnel. If immediate air or artillery support is available, personnel will be restricted to a specified distance from the road to avoid casualties from friendly fire. In this situation, personnel

in the kill zone establish a base of fire, while others take up defensive positions away from their vehicles and wait while supporting fire is called in on the enemy positions. Fire in the kill zone may be from only one side of the road with a small holding force on the opposite side. To contain the convoy element in the kill zone, mines and booby traps are frequently placed on the holding force side. The security escort must take care in assaulting the main ambush force as mines and booby traps are commonly used to protect its flanks.

When the enemy is dislodged, the road must be cleared and convoy movement resumed as soon as possible. Wounded personnel are evacuated using the fastest possible mode. When disabled vehicles cannot be towed, their cargo should be distributed among other vehicles if time permits. When it is not feasible to evacuate vehicles and/or cargo, they will be destroyed upon order from the convoy commander. If at all possible, radios and other critical items will be recovered before the vehicles are destroyed. Under no circumstances will they be allowed to fall into enemy hands.

c. **Mines and Booby Traps.** Mines and booby traps are frequently part of an ambush. Command-detonated mines are often used to start an ambush. Mines will also be planted along the shoulder of the road for harassment and interdiction. A booby trap system may be used against personnel in vehicles and could consist of hand grenades. Claymore mines or artillery shells may be suspended from trees and command-detonated when a vehicle passes.

The following guidelines have proven effective in decreasing damage by mines in convoy operations:

- Track the vehicle in front.
- Avoid driving on the shoulder of the road.
- Whenever possible, do not run over foreign objects, brush, or grass in the road.
- Avoid fresh earth in the road.
- Watch local national traffic and the reactions of people on foot. (They will frequently give away the location of any mines or booby traps.)
- When possible, arrange for the engineers to sweep the road immediately before the convoy is scheduled to move over it.
- Use heavy vehicles such as tanks to explode small mines when deployed in front of the convoy.
- Harden vehicles.
- Wear protective equipment.

**6-5. NUCLEAR, BIOLOGICAL, OR CHEMICAL ATTACKS.** Chemical agents can be disseminated by artillery fire, mortar fire, rockets, missiles, aircraft spray bombs, grenades, and land mines. Always be alert because agents may already be present on the ground or in the air. Chemical agents are substances in either gaseous, liquid, or solid form. To protect against an NBC attack, you need to know how those agents may affect your body if they are used against you. Take defensive actions according to local directives and SOPs. For detailed information on defense against NBC warfare, see FMs 3-4, 3-5, and 3-100.

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