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Research Product 93-01

# Combat Leaders' Guide: Leader Handbook



February 1993

Field Unit at Fort Benning, Georgia  
Training Systems Research Division

U.S. Army Research Institute for the Behavioral and Social Sciences

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13. ABSTRACT (Maximum 200 words) The Combat Leaders' Guide (CLG) is a standardized job performance aid for leaders to use during periods of high stress and fatigue in continuous combat or realistic combat training. The pocket-sized handbook contains tasks from soldiers' manuals and other training materials in easy-to-read checklist format. It is made of waterproof and tear-resistant paper and is fastened with rings that permit insertion or deletion of material. The handbook offers fast information retrieval, can be personalized to individual and unit needs, and can be used under low light and in inclement weather. The CLG is a generic guide and requires little updating. It has shown its usefulness in supporting unit readiness by providing a leader with doctrinal, tactical, and technical materials in a quick-reference format. The CLG helps overcome the effects of performance decay over time by providing a memory jogger for trained soldiers. The original CLG was printed as a test item in 1986; a second edition was printed in 1987 and reprinted in 1990. Based on the many requests for CLGs from units deploying to Operation Desert Shield/Desert Storm, the CLG was revised and printed a final time. The updated edition, <u>Combat Leaders' Guide: Leader Handbook</u> , has been reduced in size but contains all the same material.				
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**Combat Leaders' Guide:  
Leader Handbook**

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## FOREWORD

The Technical Advisory Service (TAS) that developed this product, Combat Leaders' Guide: Leader Handbook, was part of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) Fort Benning Field Unit. This report is an outgrowth of earlier Bradley Fighting Vehicle efforts conducted under a 1983 Memorandum of Understanding between the U.S. Army Infantry School and the Training Technology Agency of the Training and Doctrine Command. The Fort Benning Field Unit, part of the Training System Research Division (TSRD) of ARI, performed this TAS to support ARI's overall mission to be responsive to and meet the needs of the soldier by improving and supporting Army training and performance.

The intent of this effort was to fieldtest ARI's 1988 Combat Leaders' Guide (CLG) during Operational Desert Shield/Desert Storm. In view of increased demand for the CLG, the Director, TSRD, requested that the CLG be rewritten to accommodate the needs of the deploying soldiers and distributed for field use and combat environmental testing.

The CLG was rewritten, and the new product entitled Combat Leaders' Guide: Leader Handbook is being distributed for field acceptance. Copies have been provided to personnel from the units that assisted in the revisions, and the Chief of Staff, U.S. Army Infantry School, has been briefed on the project. The CLG has demonstrated its usefulness in supporting unit readiness by providing a leader with doctrinal, tactical, and technical materials in a quick-reference format. Proponent acceptance is evidenced by continuous soldier support for the CLG.

  
EDGAR M. JOHNSON  
Acting Director

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A special thanks is due to Mrs. Lisa Kelly, whose excellent secretarial and pagemaking skills were tested by the CLG. She accomplished a very challenging task with grace and humor.

## COMBAT LEADERS' GUIDE: LEADER HANDBOOK

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## **INTRODUCTION**

- **The Combat Leaders' Guide (CLG) is a job aid designed to help you in your COMBAT MISSION.**
- **Use it as a memory jogger to help you complete tasks when you are tired or under stress.**

### **USING THE CLG:**

- **Write with a #2B soft lead pencil.**
- **Protect the CLG from the weather.**
- **Dry the pages if they get wet.**
- **Reinforce the page holes if needed.**
- **Add, remove or reorganize pages based on your unit's mission.**
- **Insert other job aids or SOPs in the plastic sleeves for quick reference and use.**

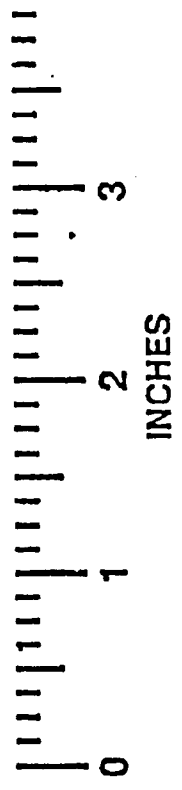
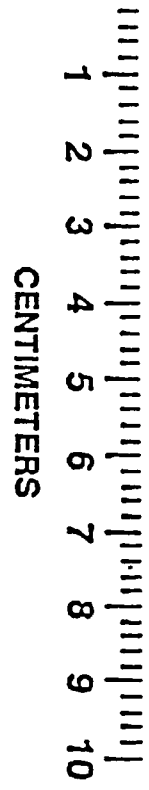
**COMBAT LEADERS'  
GUIDE**



**LEADER HANDBOOK**



**ARMY RESEARCH INSTITUTE  
FORT BENNING FIELD UNIT**



## COMBAT LEADERS' GUIDE: LEADER HANDBOOK

LEADING IN COMBAT	
1	Set the example
2	Lead from as far forward as you can
3	Lead from a position where your soldiers can see you/your vehicle
4	Lead from where you can control all elements physically or by radio
5	Move to influence the action
6	Make sound, quick decisions
7	Forcefully execute decisions
8	Use reverse planning sequence
Notes:	

1

1-1

1

<b>BASIC RULES OF COMBAT</b>	
<b>TYPE</b>	<b>RULE</b>
<b>1</b>	<b>SECURE</b> Use cover and concealment Establish local security/recon
<b>2</b>	<b>MOVE</b> Establish moving element move to position of advantage Gain and maintain initiative
<b>3</b>	<b>SHOOT</b> Establish base of fire/mutual support Kill/suppress enemy
<b>4</b>	<b>COMMUNICATE</b> Inform everyone/tell soldiers what you expect
<b>5</b>	<b>SUSTAIN</b> Keep fight going/care for soldiers

**1**

**1-2**

**1**

TROOP LEADING PROCEDURES		
STEP	ACTION	✓
1	Receive mission	
2	Issue warning order	
3	Make tentative plan	
4	Start needed movement	
5	Recon	
6	Complete plan	
7	Issue orders	
8	Supervise and refine	
Notes:		

2

2-1

2

WARNING ORDER	
1. Situation	_____
2. Mission	_____
3. General Instructions	
a. Special teams/task organization	_____
b. Common uniform/equipment	_____
c. Special weapons, ammo, equipment	_____
d. Tentative time schedule	_____
4. Special Instructions	_____
	_____
	_____
	_____

2

2-2

2

FACTORS OF METT-T		
ITEM	FACTOR	✓
1	MISSION	
	Specified tasks	
	Implied tasks	
	Essential tasks	
	Restated mission	
	Constraints	
2	ENEMY	
	Type	
	Location	
	Organization	
	Identification	
	Strength	
	Morale	
	Capabilities	
	Likely courses of action	
	Intentions	

2

2-3

2



FACTORS OF METT-T		
ITEM	FACTOR	✓
3	TERRAIN AND WEATHER	
	Observation/Fields of Fire	
	Avenues of approach	
	Key terrain	
	Obstacles	
	Cover/Concealment	
	Trafficability	
	Visibility	
	Weather forecast	
	Effect on soldiers	
	Effect on equipment	
4	TROOPS AVAILABLE	
	Number and type	
	Task organization	
	State of training/discipline	
	Strength-personnel	

2

2-4

2

FACTORS OF METT-T		
ITEM	FACTOR	✓
	Strength-materiel	
	Morale	
	Past performance	
	Location and disposition	
	State of maint and supply	
	Cbt service support available	
	Effect of leadership	
5	TIME	
	Planning and preparation	
	Rehearse	
	Line of departure	
	Movement	
	Start, critical, release points	
	Secure or seize key terrain	
	Enemy reaction	

2

2-5

2

<b>MILITARY ASPECTS OF TERRAIN</b>		
<b>Key word: OCOKA</b>		
<b>Note: Analyze EACH item from BOTH your own AND the enemy's point of view.</b>		
<b>ITEM</b>	<b>ASPECT</b>	<b>✓</b>
<b>1</b>	<b>Observation and fire</b>	
<b>2</b>	<b>Concealment and cover</b>	
<b>3</b>	<b>Obstacles</b>	
<b>4</b>	<b>Key terrain</b>	
<b>5</b>	<b>Avenues of approach</b>	
<b>Notes:</b>   		

**2**

**2-6**

**2**

ESTIMATE OF SITUATION	
1. Mission	
a. What must be done and when? ____	
b. State essential tasks and purpose.	
2. Situation and courses of action	
a. What is the situation?	
(1) What is the effect of terrain and weather? ____	

2

2-7

2

ESTIMATE OF SITUATION	
(2) What enemy forces are against us and where? _____	_____
	_____
	_____
	_____
	_____
(3) What friendly forces are available? _____	_____
	_____
	_____
	_____
	_____
(4) What conclusions can you draw about relative combat power? _____	_____
	_____
	_____
	_____
	_____

2

2-8

2

ESTIMATE OF SITUATION	
b. What are the enemy's capabilities?	
c. What are feasible courses of action to accomplish the mission?	
3. Analysis of courses of action	
a. Select enemy capability(ies) for war gaming.	

2

2-9

2

ESTIMATE OF SITUATION	
b. War game courses of action against enemy capability(ies).	
(1) What are the critical events and times? _____	
_____	
_____	
_____	
(2) What actions are required? _____	
_____	
_____	
_____	
(3) What are major advantages and disadvantages of each course of action?	
_____	
_____	
_____	
_____	

2

2-10

2

ESTIMATE OF SITUATION	
4. Comparison of courses of action-what is the best course of action?	_____
	_____
	_____
	_____
	_____
5. Decision	
a. Refine the best course of action into a clear decision-include who, what, when, where, how, and why?	_____
	_____
	_____
	_____
b. Announce the decision and concept of the operation.	_____
	_____
	_____
	_____

2

2-11

2



ANALYSIS AND COMPARISON OF COURSES OF ACTION								
DOES			ITEM	DOESN'T				
CA1	CA2	CA3		CA1	CA2	CA3		
			Supports scheme of maneuver					
			Helps command and control					
			Concentrates combat power at critical points					
			Forces provide mutual support					
			Responds to maneuver element(s) and reserve					

2

2-12

2

ANALYSIS AND COMPARISON OF COURSES OF ACTION								
DOES			ITEM	DOESN'T				
CA1	CA2	CA3		CA1	CA2	CA3		
			Exploits enemy weakness					
			Takes weather into account					
			Uses best avenue of approach					
			Provides enough maneuver space					
			Provides fields of observation and fire					
			Provides cover & concealment					

2

2-13

2

ANALYSIS AND COMPARISON OF COURSES OF ACTION								
DOES			ITEM	DOESN'T				
CA1	CA2	CA3		CA1	CA2	CA3		
			Considers obstacles					
			Controls key terrain					
			Helps speed of execution					
			Does not require adjustment of unit positions					
			Uses all headquarters					
			Requires normal combat support					

2

2-14

2

OPERATION ORDER	
Task organization: _____	
_____	
_____	
1. Situation	
a. Enemy forces: _____	
_____	
_____	
_____	
b. Friendly forces: _____	
_____	
_____	
c. Attachments and detachments: _____	
_____	
_____	
_____	

2

2-15

2

OPERATION ORDER	
2. Mission	_____
	_____
	_____
	_____
3. Execution	
a. Commander's intent:	_____
	_____
	_____
	_____
	_____
b. Concept of the operation	
(1) Maneuver:	_____
	_____
	_____
	_____
	_____
	_____
	_____

2

2-16

2

OPERATION ORDER	
(2) Fires:	_____
	_____
	_____
	_____
	_____
c. Subordinate unit subparagraphs:	_____
	_____
	_____
	_____
	_____
	_____
d. Coordinating instructions:	_____
	_____
	_____
	_____
	_____
	_____

2

2-17

2

OPERATION ORDER	
4. Service Support:	_____
	_____
	_____
	_____
	_____
	_____
	_____
	_____
	_____
	_____
5. Command and Signal	
	a. Command: _____
	_____
	_____
	_____
	b. Signal: _____
	_____
	_____
	_____

2

2-18

2

FRAGMENTARY ORDER	
Reference	_____
Task organization	_____
1. Situation	_____
2. Mission	_____
3. Execution	_____
4. Service Support	_____
5. Command/Signal	_____

2

2-19

2





LIGHT DATA		
ITEM	FIRST DAY	LAST DAY
BMNT		
BMCT		
Sun Rise		
Sun Set		
EECT		
EENT		
Moon Rise		
% Illum		
Moon Set		
Notes:		

2

2-21

2

<b>ACTIONS BEFORE MARCH</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Give warning order</b>	
<b>2</b>	<b>Select quartering party NCO and send to team CP</b>	
<b>3</b>	<b>Recon route from AA to SP</b>	
<b>4</b>	<b>Record time from AA to SP</b>	
<b>5</b>	<b>Adjust departing time from AA to arrive at SP on time</b>	
<b>6</b>	<b>Have crews perform precombat checks</b>	
<b>7</b>	<b>Have vehicle commanders report their status</b>	
<b>8</b>	<b>Give march order to vehicle commanders</b>	

**3**

**3-1**

**3**

<b>DUTIES OF QUARTERING PARTY</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Inspect intended assembly area for enemy NBC/mines</b>	
<b>2</b>	<b>Secure platoon area until platoon arrives</b>	
<b>3</b>	<b>Establish and maintain commo</b>	
<b>4</b>	<b>Clear or mark obstacles</b>	
<b>5</b>	<b>Select general location of vehicle positions; mark places</b>	
<b>6</b>	<b>Select covered/concealed route to RP; meet platoon</b>	
<b>7</b>	<b>Guide platoon into area</b>	
<b>8</b>	<b>Brief platoon leader</b>	

**3**

**3-2**

**3**

MARCH ORDERS	
1. Destination (map)	_____
2. Route of march (map)	_____
3. Location of SP, critical points, RP (map)	_____
4. SP time	_____
5. March interval (meters)	_____
6. March speed (mph/kph)	_____
7. Catch up speed (mph/kph)	_____
8. Time and location of scheduled halts	_____
9. Time unit leaves present position	_____
10. Order of march	_____

3

3-3

3

<b>ACTIONS DURING MARCH</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Arrive at SP on time at march speed with proper march interval</b>	
<b>2</b>	<b>Maintain ground and air security</b>	
<b>3</b>	<b>Observe vehicle sectors of responsibility</b>	
<b>4</b>	<b>Report SP, critical points, RP (unless under radio listening silence)</b>	
<b>5</b>	<b>If under radio listening silence - use hand and arm signals, flag signals, or flashlight signals</b>	

**3**

**3-4**

**3**

<b>ACTIONS AT HALTS</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Pull to side of route - maintain order</b>	
<b>2</b>	<b>Establish/maintain security</b>	
<b>3</b>	<b>Move disabled vehicles off road - post guides to direct traffic</b>	
<b>4</b>	<b>Maintain observation/contact with other vehicles</b>	
<b>5</b>	<b>Report status</b>	
<b>6</b>	<b>Take appropriate actions/repair vehicles if possible</b>	

**3**

**3-5**

**3**

<b>ACTIONS AT ASSEMBLY AREA</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Follow guides into area</b>	
<b>2</b>	<b>Clear RP fast-do not stop</b>	
<b>3</b>	<b>Occupy preselected positions</b>	
<b>4</b>	<b>Emplace/maintain security</b>	
<b>5</b>	<b>Establish wire commo net/ coordinate with other units</b>	
<b>6</b>	<b>Check/adjust positions; camouflage positions</b>	
<b>7</b>	<b>Start maintenance/resupply/ rearming</b>	
<b>8</b>	<b>Prepare/rehearse reaction plan</b>	

**3**

**3-6**

**3**



<b>PREPARATION FOR ATTACK</b>		
<b>TASK</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Issue order</b>	
<b>2</b>	<b>Move to assembly area</b>	
<b>3</b>	<b>Perform commo check</b>	
<b>4</b>	<b>Check weapons</b>	
<b>5</b>	<b>Check key equipment</b>	
<b>6</b>	<b>Rehearse</b>	
<b>7</b>	<b>Recon routes to LD</b>	
<b>8</b>	<b>Time routes to LD</b>	
<b>9</b>	<b>Resupply</b>	
<b>10</b>	<b>Refuel</b>	
<b>11</b>	<b>Rearm</b>	
<b>12</b>	<b>Conduct vehicle PMCS</b>	
<b>13</b>	<b>Check attachments</b>	
<b>14</b>	<b>Check NBC situation</b>	

**4**

**4-1**

**4**

PREPARATION FOR ATTACK		
TASK	ACTION	✓
15	Confirm MOPP status	
16	Inspect troops	
17	Inspect vehicles	
18	Feed troops	
19	Rest troops	
20	Move to LD	
Notes:		

4

4-2

4

<b>CONSOLIDATION</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Eliminate all remaining enemy resistance on objective</b>	
<b>2</b>	<b>Report status to next higher</b>	
<b>3</b>	<b>Prepare to continue attack</b>	
<b>4</b>	<b>Prepare for a counterattack</b>	
<b>5</b>	<b>Coordinate with flank elements</b>	
<b>6</b>	<b>Set up perimeter defense</b>	
<b>7</b>	<b>Position BFV/tanks/ITV to cover armor AA(s)</b>	
<b>8</b>	<b>Prepare range cards</b>	
<b>9</b>	<b>Begin planning to continue attack (map recon, orders)</b>	

**4**

**4-3**

**4**

REORGANIZATION		
STEP	ACTION	✓
1	REPORT	
	Personnel losses	
	Ammo expended	
	Fuel status	
	Condition of vehicles	
	Equipment status	
	Enemy casualties/EPWs	
	Enemy vehicles/weapons	
2	REDISTRIBUTE	
	Ammo	
	Personnel	
	Vehicles	
	Equipment	
3	EVACUATE	
	Casualties	
	EPWs	

4

4-4

4

REORGANIZATION		
STEP	ACTION	✓
	Damaged equipment	
4	RESTORE	
	Communications	
	Chain of command	
5	PERFORM MAINTENANCE	
	Vehicles	
	Weapons and Equipment	
6	PERFORM REPAIRS	
	Vehicles	
	Weapons and Equipment	
Notes:		

4

4-5

4

DEFENSIVE PRIORITY OF WORK		
STEP	TASK	✓
1	Establish local security	
2	Position security force	
3	Position primary weapons	
4	Position vehicles	
5	Set up commo net	
6	Site final protective fires	
7	Site other priority targets	
8	Take NBC protective steps	
9	Clear fields of fire	
10	Prepare range cards	
11	Compute ranges	
12	Emplace wire and obstacles	
13	Prepare fighting positions	

5

5-1

5

DEFENSIVE PRIORITY OF WORK		
STEP	TASK	✓
14	Select supply-evac routes	
15	Prepare supply-evac routes	
16	Prepare alternate positions	
17	Prepare supplementary positions	
18	Prepare counterattack plans	
19	Rehearse counterattack plans	
20	Prepare dummy positions	
Notes:		

5

5-2

5

DEFENSE PLANNING OUTLINE	
1. Commander's concept	_____
	_____
2. Platoon /squad mission	_____
	_____
3. Position of platoon/squad in platoon/ company/team defense	_____
	_____
4. Platoon/squad sector of fire/EA	_____
	_____
5. Fire support available	_____
	_____
6. Evacuate/destroy procedures for damaged vehicles	_____
	_____
	_____

5

5-3

5



### **DEFENSE PLANNING OUTLINE**

**7. Evacuation procedures for friendly casualties** \_\_\_\_\_

**8. Place to take EPW** \_\_\_\_\_

**9. Special signals to use** \_\_\_\_\_

**10. On-order mission for platoon/squad** \_\_\_\_\_

**11. Position and mission of units on flanks** \_\_\_\_\_

**12. Position and mission of units in the rear** \_\_\_\_\_

**5**

**5-4**

**5**

COORDINATION WITH ADJACENT UNIT(S)	
1. Location of primary psn	_____
2. Location of alternate psn	_____
3. Location of supplementary psn	_____
4. 25mm sector of fire	_____
5. TOW sector of fire	_____
6. Dragon sector of fire	_____
7. Coax sector of fire	_____
8. Machine gun sector of fire	_____
9. Location of dead space between units	_____
10. How to cover dead space	_____

**5**

**5-5**

**5**

**COORDINATION WITH  
ADJACENT UNIT(S)**

11. Location of OP \_\_\_\_\_

12. Location/types of obstacles \_\_\_\_\_

13. How to cover obstacles \_\_\_\_\_

**14. Patrols**

a. Size \_\_\_\_\_

b. Type \_\_\_\_\_

c. Time of departure \_\_\_\_\_

d. Time of return \_\_\_\_\_

e. Location of passage point \_\_\_\_\_

f. Routes \_\_\_\_\_

g. Emergency signals \_\_\_\_\_

**5**

**5-6**

**5**

COORDINATION WITH ADJACENT UNIT(S)	
h. Fire support planned	_____
i. Fire coordination line	_____
j. No fire line	_____
k. Call signs	_____
l. Frequencies	_____
m. Challenge	_____
n. Password	_____
15. Position of contact/coordination points _____	
Notes:	

5

5-7

5

<b>ESTABLISH OBSERVATION POST</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Establish OP along probable avenues of approach</b>	
<b>2</b>	<b>Select OP to provide maximum observation, cover and concealment, concealed routes to and from OP</b>	
<b>3</b>	<b>OPs should be within range of small-arms and other supporting fire</b>	
<b>4</b>	<b>Carefully camouflage and position wire and radio antennas</b>	
<b>5</b>	<b>Movement of personnel must not reveal location to enemy</b>	
<b>6</b>	<b>OP may have to be moved during limited visibility</b>	

**5**

**5-8**

**5**

SUPERVISE BUILDING A FIGHTING POSITION		
ITEM	ACTION	✓
1	Assign psn, loc, & sector of fire	
2	Check sector of fire stakes	
3	Check observation and fields of fire from firing position	
4	Check depth of hole	
5	Check grenade sumps	
6	Check overhead cover	
7	Check camouflage at position	
8	Check camouflage from 50m forward of position	
9	Have soldier correct faults	
Notes:		

5

5-9

5

<b>FIGHTING POSITION GUIDELINES</b>	
<b>ITEM</b>	<b>GUIDELINE</b>
<b>1</b>	<b>Primary consideration given to effective weapon use; anticipated threat; number of personnel</b>
<b>2</b>	<b>Protect against direct &amp; indirect fire using cover (frontal, overhead, flank &amp; rear); simplicity &amp; economy; ingenuity; progressive development; camouflage &amp; concealment</b>
<b>3</b>	<b>1 or 2 soldier fighting position (deliberate) depending on weapon</b>
	<b>2' wide by 3-6' long, armpit depth</b>
	<b>12-18" parapet or natural cover in front and sides</b>
	<b>Grenade sump(s) width &amp; depth of entrenching tool</b>

**5**

**5-10**

**5**

<b>FIGHTING POSITION GUIDELINES</b>	
<b>ITEM</b>	<b>GUIDELINE</b>
	Camouflaged overhead cover minimum 18", molded to blend with slope of terrain
	Front support high enough so weapon can be fired
	Roof/overhead supported and waterproofed
<b>4</b>	<b>Construction</b>
	Use natural components, vegetation, etc.
	Prevent overclearing of fields of fire
	Ensure concealed from aircraft
	Evaluate from enemy side
	Ensure drainage
	Perform maintenance & repairs
	Maintain security

**5**

5-11

**5**



<b>RANGE CARD PREPARATION</b>		
<b>Note: Make card and copy for each primary, alternate, supplementary position</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Draw symbol for weapon/ position in center circle</b>	
<b>2</b>	<b>Determine range value for each circle by dividing range to most distant terrain feature by number of circles &amp; label card</b>	
<b>3</b>	<b>Draw left &amp; right sector limits</b>	
<b>4</b>	<b>Label L &amp; R limits</b>	
<b>5</b>	<b>Draw and number TRPs, RPs and possible EAs as ordered</b>	
<b>6</b>	<b>Show dead space areas and label</b>	
<b>7</b>	<b>Draw maximum engagement lines across sector for each weapon/type of ammo</b>	

**5**

**5-12**

**5**

<b>RANGE CARD PREPARATION</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>8</b>	<b>Draw easily visible terrain features</b>	
<b>9</b>	<b>Draw arrows marking weapon/position reference point (WRP) from known terrain feature</b>	
<b>10</b>	<b>Fill in data section</b>	
	<b>Identify primary, alternate or supplementary position</b>	
	<b>Show date &amp; time range card prepared</b>	
	<b>Identify weapon/vehicle bumper number</b>	
	<b>Starting with L &amp; R limits, list TRPs and RPs in numerical order</b>	
	<b>Show gun elevation reading, ammo and range to L &amp; R limits, TRPs, and RPs/describe</b>	

**5**

**5-13**

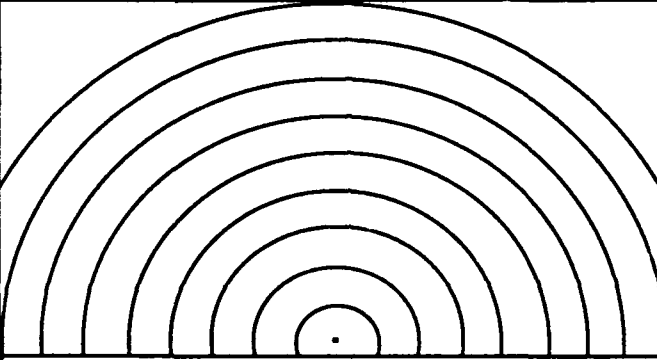
**5**

RANGE CARD PREPARATION		
STEP	ACTION	✓
	Fill in Remarks Section with WRP data (description, 6 or 8-digit grid coordinate, magnetic azimuth, and distance from WRP to weapon/vehicle position)	
	Fill in marginal information: sqd, plt, co (no higher) and draw direction of magnetic north arrow	
Notes:		

5

5-14

5

<b>RANGE CARD PREPARATION</b>					
SQD _____	May be used for all types of direct fire weapons				MAGNETIC NORTH
PLT _____					
CO _____					
					
<b>DATA SECTION</b>					
POSITION IDENTIFICATION				DATE	
WEAPON			EACH CIRCLE EQUALS _____ METERS		
NO.	DIRECTION/ DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION
REMARKS:					
DA FORM 5517 R					

5

5-15

5

<h2 style="margin: 0;">RANGE CARD PREPARATION</h2>					
<small>STANDARD RANGE CARD</small> <small>For use of this form see FM 7-7. This preparation is in TRADOC.</small>					
SOD <u>1</u> PLT <u>2</u> CO <u>C</u>	May be used for all types of direct fire weapons				 MAGNETIC NORTH
<small>12 28 24 20 16 12 8 DATA SECTION 8 12 16 20 24 28 32</small>					
POSITION IDENTIFICATION <u>PRIMARY</u>			DATE <u>3 MAR 89 / 1140 H/25</u>		
WEAPON <u>M2</u>		<u>C-21</u>		EACH CIRCLE EQUALS <u>400</u> METERS	
NO.	DIRECTION/DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION
L	350°/5800m	0m	2000m	TOW 2	FARM HOUSE
R	105°/920m	+10m	2600m	TOW 2	R/SIDE WOODLINE
1	6400m	+30m	3200m	TOW 2	RP - HILLTOP
2	5910m	+10m	2700m	TOW 2	TRP - AB002 RJ
3	60m	-10m	1800m	TOW 2	TRP - AB003 RJ
REMARKS:					
<u>4 WRP - RJ AT LN 13629411, 100° AT 32.0m</u>					
<small>A FORM 827-A FEB 80</small>					

5

5-16

5

<b>SECTOR SKETCH PREPARATION</b>		
<b>Make card and copy for each primary, alternate and supplementary position</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Draw your unit sector or EA</b>	
<b>2</b>	<b>Draw main terrain features in sector(s) and range to each</b>	
<b>3</b>	<b>Draw subunit positons</b>	
<b>4</b>	<b>Draw subunit primary and secondary sectors of fire</b>	
<b>5</b>	<b>Draw weapon positions with primary sectors of fire for each</b>	
<b>6</b>	<b>Draw MEL for each weapon/ ammo</b>	
<b>7</b>	<b>Draw machine gun/cannon final protective lines or principal direction of fire</b>	
<b>8</b>	<b>Draw location of CP/OP</b>	
<b>9</b>	<b>Draw TRPs and RPs in sector</b>	

**5**

**5-17**

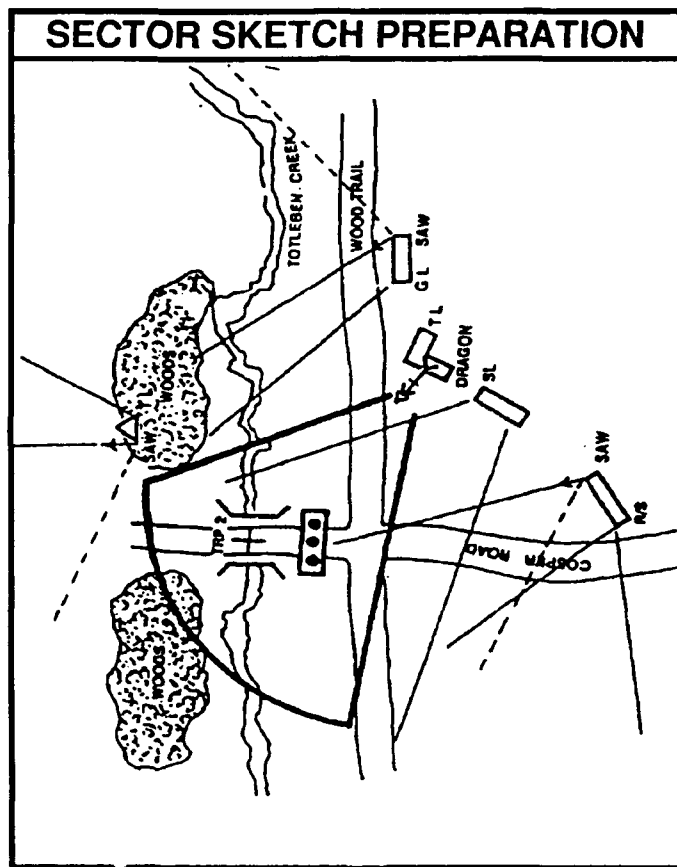
**5**

<b>SECTOR SKETCH PREPARATION</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>10</b>	<b>Draw mines/obstacles</b>	
<b>11</b>	<b>Draw indirect fire target locations/final protective fire locations</b>	
<b>12</b>	<b>Draw and label dead space</b>	
<b>13</b>	<b>Draw patrol routes</b>	
<b>14</b>	<b>Draw locations, sector of fire of other weapons in your sector</b>	
<b>15</b>	<b>Place your unit ID, DTG prepared, and magnetic north arrow on sketch (pencil)</b>	
<b>Notes:</b>		

**5**

**5-18**

**5**



5

5-19

5



OCCUPATION OF A BATTLE POSITION (BP)		
STEP	ACTION	✓
1	Move to turret-down psn on BP	
2	Keep rest of plt in hide psn(s)	
3	Recon primary, alternate & supplementary positions	
4	Designate general location of primary position for platoon	
5	Move plt to primary position(s)	
6	Designate primary sectors of fire/EA/TRP	
7	Designate general location of alternate & supplementary psns	
8	Designate alternate & supplementary sectors of fire/EA/TRP	
9	Coord with flank/adjacent units	
	OP	

5

5-20

5

OCCUPATION OF A BATTLE POSITION (BP)		
STEP	ACTION	✓
	Observation/fields of fire	
	Routes of withdrawal	
	Patrols	
	Flank position(s)	
	Wire communications	
10	Report situation to co/tm Cdr	
11	Improve position(s)	
12	Plan routes to next BP	
Notes:		

5

5-21

5

<b>FIGHTING FROM A BATTLE POSITION (BP)</b>		
<b>STEP</b>	<b>ACTION</b>	
<b>1</b>	<b>Determine targets to engage</b>	
<b>2</b>	<b>Determine methods of target engagement</b>	
<b>3</b>	<b>Send contact and spot report</b>	
<b>4</b>	<b>Issue platoon fire commands</b>	
<b>5</b>	<b>Call for indirect fire as needed</b>	
<b>6</b>	<b>Send spot reports</b>	
<b>7</b>	<b>Move to subsequent BP</b>	
<b>8</b>	<b>Keep co/tm Cdr informed of situation and location</b>	
<b>9</b>	<b>Organize to fight from BPs</b>	

**5**

**5-22**

**5**

<b>FIRE DISTRIBUTION AND CONTROL</b>		
<b>ITEM</b>	<b>PRINCIPLE</b>	<b>✓</b>
<b>1</b>	<b>Destroy most dangerous target(s) first (depends on range, terrain and weapon capabilities)</b>	
<b>2</b>	<b>Avoid target overkill</b>	
<b>3</b>	<b>Concentrate on long-range target if possible</b>	
<b>4</b>	<b>Control fires to achieve best shots</b>	
<b>5</b>	<b>Use best weapons for target</b>	
<b>6</b>	<b>Conserve ammo when possible</b>	
<b>7</b>	<b>Avoid fratricide</b>	
<b>Notes:</b>		

**5**

**5-23**

**5**

<b>DEFENDING DURING LIMITED VISIBILITY</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Employ long range STANO equip (GSR, sensors, NOD)</b>	
<b>2</b>	<b>Coordinate any movement outside battle psn boundaries with higher and adjacent units</b>	
<b>3</b>	<b>Redeploy some units &amp; wpns to concentrate along limited visiblility avenues of approach</b>	
<b>4</b>	<b>Employ scouts, OP, patrols, ambushes, and armor killer teams forward on secondary AA and between positions</b>	
<b>5</b>	<b>Employ nuisance obstacles and early warning devices along likely night approaches</b>	

**5**

**5-24**

**5**

DEFENDING DURING LIMITED VISIBILITY		
ITEM	ACTION	✓
6	Plan required movement of weapons, units, and massing of fires on enemy approaches	
7	Rehearse movement of weapons, units, and massing of fires on enemy approaches	
8	Reposition weapons to take advantage of differences between enemy and friendly STANO devices	
9	Plan illumination on or behind engagement areas to silhouette enemy	

5

5-25

5

<b>DEFENDING DURING LIMITED VISIBILITY</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>10</b>	<b>Move TRPs and/or EAs closer to defensive positions or move weapons closer to them-use METT-T</b>	
<b>11</b>	<b>Commence adjustments to defensive organization before dark</b>	
<b>12</b>	<b>Complete return to daylight positions before dawn</b>	
<b>13</b>	<b>Move closer to avenue(s) of approach you guard during bad weather</b>	
<b>14</b>	<b>Be aware that sensors and radar may still penetrate bad weather</b>	

**5**

**5-26**

**5**

<b>CAMOUFLAGE</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Prepare individual/equipment</b>	
<b>2</b>	<b>Consider position from enemy viewpoint</b>	
	<b>Use natural concealment/blend</b>	
	<b>Reduce shine and movement</b>	
	<b>Observe from prone position</b>	
	<b>Don't skyline when moving</b>	
<b>3</b>	<b>Inspect the following areas</b>	
	<b>Individuals/Fighting positions</b>	
	<b>Vehicles and routes in and out</b>	
	<b>Noise/light discipline plan</b>	
	<b>Camouflage nets</b>	
	<b>Stand-to-plan</b>	
<b>4</b>	<b>Break up vehicle silhouettes - use nets</b>	
<b>5</b>	<b>Reduce glare and signatures</b>	
<b>6</b>	<b>Reduce vehicle noise</b>	

**5**

**5-27**

**5**



<b>PHYSICAL SECURITY</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Conduct patrols</b>	
<b>2</b>	<b>Conduct stand-to (general)</b>	
	<b>Troops ready</b>	
	<b>Vehicles topped off/loaded/ ready</b>	
	<b>Basic load of missiles/ammo</b>	
	<b>Weapons loaded/ready</b>	
	<b>Radios on/tested</b>	
<b>3</b>	<b>Conduct stand-to (evening)</b>	
	<b>Emplace vision block covers/ turn internal lights off</b>	
	<b>Ready driver's night vision viewer</b>	
	<b>Test panel control lights/ thermal sights</b>	
	<b>Prepare NVGs/NODs</b>	

**5**

**5-28**

**5**

PHYSICAL SECURITY		
STEP	ACTION	✓
	Check all batteries	
	Upload wpns and ammo	
	Inspect vehicle position to insure no light is visible after dark	
4	Silent mounted watch	
	Assign sectors for surveillance	
	Use manual power when possible	
	Use radio listening silence	
	Rotate troops using thermal sight(s)	
	Lay guns on primary AAs/EAs	
5	Post local security	
	Assign sectors/observe sectors	
	Adjust position(s) closer to vehicle(s) at night	

5

5-29

5

<b>FUNDAMENTALS OF DELAY</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Centralized control and decentralized execution</b>	
	<b>Maintain enemy contact</b>	
	<b>Coordinate flank security</b>	
<b>2</b>	<b>Make maximum use of terrain</b>	
	<b>Observation/fields of fire</b>	
	<b>Cover and concealment</b>	
	<b>Obstacles</b>	
	<b>Key terrain</b>	
	<b>Avenues of approach</b>	
<b>3</b>	<b>Force enemy maneuver</b>	
	<b>Slow enemy's progress</b>	
	<b>Trade space for time</b>	
<b>4</b>	<b>Use obstacles</b>	
	<b>Natural and reinforcing</b>	
	<b>Cover by observation/fire</b>	

**6**

**6-1**

**6**

<b>FUNDAMENTALS OF DELAY</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>5</b>	<b>Maintain enemy contact</b>	
	<b>Keep enemy in sight</b>	
	<b>Observe and adjust fires</b>	
<b>6</b>	<b>Keep free to maneuver</b>	
	<b>Avoid decisive engagement</b>	
	<b>Make enemy develop situation</b>	
	<b>Displace to next position</b>	
<b>7</b>	<b>Missions: delay in sector or forward of a line or position for specified time</b>	
<b>8</b>	<b>Assign sectors for each committed unit/avenue of approach</b>	
<b>9</b>	<b>Each unit sets up own security</b>	

**6**

**6-2**

**6**

DISENGAGEMENT PLANNING	
1. Scheme of maneuver	_____
	_____
	_____
2. Time of disengagement	_____
	_____
3. Priority of disengagement	_____
	_____
4. Location of new positions	_____
	_____
5. Size and composition of advance parties	_____
	_____
6. Size and composition of overwatch forces	_____
	_____
7. Location of overwatch forces	_____
	_____
8. Combat service support	_____
	_____

7

7-1

7

<b>DISENGAGEMENT ACTIONS</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Deceive the enemy with smoke, patrols, fires, radio transmissions</b>	
<b>2</b>	<b>Use overwatch elements to keep enemy pressure off disengaging forces</b>	
<b>3</b>	<b>Maintain OPSEC/COMSEC</b>	
<b>4</b>	<b>Recon/prepare routes</b>	
<b>5</b>	<b>Recon/prepare new positions</b>	
<b>6</b>	<b>Plan to move wounded</b>	
<b>7</b>	<b>Plan to move equipment</b>	
<b>8</b>	<b>Move CSS early</b>	
<b>9</b>	<b>Move during limited visibility</b>	
<b>10</b>	<b>Use obstacles to slow enemy</b>	

**7**

**7-2**

**7**

<b>PASSAGE OF LINES COORDINATION</b>	
<b>1. Disposition of the stationary force</b>	
<b>2. Contact points</b>	
<b>3. Select routes</b>	
<b>4. Size of passage lanes</b>	
<b>5. Attack position (forward move)</b>	
<b>6. Assembly area (rearward move)</b>	
<b>7. Initial location</b>	
<b>8. Time of transfer of responsibility for area</b>	
<b>9. Traffic control/guides</b>	
<b>10. Communications/call signs/ frequencies</b>	
<b>11. Supporting fires</b>	
<b>12. Recognition signals</b>	
<b>13. Combat support/combat service support</b>	
<b>14. Execution</b>	



**7**

**7-3**

**7**

WITHDRAWAL UNDER ENEMY PRESSURE		
ITEM	ACTION	✓
1	Withdrawal principles	
	Co Cdr controls sequence of plt withdrawals/PL controls squads	
	Fire/move to rear-basic tactic	
	Use available fires and smoke to conceal movement	
	One unit forms base of fire to cover movement of other unit(s) then change roles	
2	Disengagement (based on enemy situation, terrain, and base of fire)	
	Simultaneous/by teams/ thinning the lines	

7

7-4

7



<b>WITHDRAWAL UNDER ENEMY PRESSURE</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>3</b>	<b>Maintain base of fire</b>	
	<b>Move AT weapons/tanks back first against enemy mounted attack</b>	
	<b>Use Infantry in close terrain/ limited visibility/against dismounted enemy</b>	
<b>4</b>	<b>Plan for/specify</b>	
	<b>Scheme for maneuver</b>	
	<b>Time of withdrawal</b>	
	<b>Location of new positions</b>	
	<b>Size/make-up of advance party/overwatch forces</b>	
	<b>Battle/overwatch positions</b>	
	<b>Routes/checkpoints</b>	

7

7-5

7

WITHDRAWAL UNDER ENEMY PRESSURE		
ITEM	ACTION	✓
	Remount point(s)	
	Evacuation of wounded	
	Evacuation of equipment	
	Priorities	
	Obstacles	
	Items to destroy	
Notes:		

7

7-6

7

WITHDRAWAL NOT UNDER ENEMY PRESSURE		
ITEM	ACTION	✓
1	Withdrawal principles	
	Speed/secretcy/deception	
	At night/in reduced visiblility	
	As part of a larger force to perform another mission	
2	For plt as company security force	
	Cover entire company area	
	Reposition sqds/wpns to cover withdrawal	
	Place 1 sqd's key weapons in each plt psn to cover most dangerous AA	
	Co XO or PL is security force leader	

7

7-7

7

<b>WITHDRAWAL NOT UNDER ENEMY PRESSURE</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>3</b>	<b>For security force made up of 1 sqd/1mg tm/2 dragons</b>	
	<b>SL left in position is plt security leader</b>	
	<b>Reposition sqd to cover plt withdrawal and plt area</b>	
	<b>CP scty force Cdr controls plt scty force during withdrawal</b>	
<b>4</b>	<b>Security Force</b>	
	<b>Conceals withdrawal</b>	
	<b>Deceives enemy-keeps up normal operating patterns</b>	
	<b>Provides covering fire if enemy attacks</b>	
	<b>Withdraw when company is at next position or as ordered</b>	

**7**

**7-8**

**7**

<b>WITHDRAWAL NOT UNDER ENEMY PRESSURE</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
	<b>Gets withdrawal order by land line or radio codeword</b>	
	<b>Uses company plan to withdraw</b>	
	<b>Reassembles to move to rear</b>	
	<b>If under attack, conducts fire and maneuver to rear until they break contact</b>	
<b>5</b>	<b>Quartering party</b>	
	<b>Send ahead before withdrawal</b>	
	<b>PSG and guide for each squad</b>	
	<b>Recons and selects psn/ sectors/routes/OP for plt</b>	
	<b>Meets and guides plt into psn</b>	
	<b>PSG meets/briefs PL on position/situation</b>	

**7**

**7-9**

**7**

WITHDRAWAL NOT UNDER ENEMY PRESSURE		
ITEM	ACTION	✓
6	Company OPORD contains	
	Time withdrawal will start	
	Location of plt/co assembly area & routes between	
	Plt mission(s) upon arrival	
	Size/org/Cdr of scty force	
	Next co/plt mission	
7	Platoon Leader plans	
	When his withdrawal starts	
	Location of sqd/plt assembly areas and routes between	
	Sqd missions on arrival	
	Size/org/Cdr of scty force	
	Next plt/sqd mission(s)	

7

7-10

7

RELIEF IN PLACE		
ITEM	ACTION	✓
1	Incoming leader recons area	
2	Incoming and outgoing leaders coordinate	
3	Exchange liaison personnel	
4	Coordinate positions of weapons and vehicles	
5	Exchange range cards and fire plans	
6	Exchange relief or organic fire support elements	
7	Coordinate obstacles locations	
8	Transfer responsibility for minefields	
9	Coordinate routes into and out of positions	
10	Coordinate vehicle guides	

7

7-11

7

RELIEF IN PLACE		
ITEM	ACTION	✓
11	Transfer excess ammo, wire lines, POL, and other material to incoming unit	
12	Coordinate commo for one net during relief	
13	Coordinate enemy situation and intelligence	
14	Coordinate sequence of relief	
15	Coordinate time of change of responsibility for the area	
Notes:		

7

7-12

7



PATROL PLANNING STEPS		
STEP	ACTION	✓
1	Study mission	
2	Reverse planning	
3	Study terrain and situation	
4	Organize patrol	
5	Select personnel/wpns/equip	
6	Issue warning order	
7	Coordinate	
8	Make recon	
9	Complete detailed plans	
10	Issue order	
11	Supervise/inspect/rehearse	
12	Execute mission	
Notes:		

8

8-1

8

## **PATROL WARNING ORDER**

- 1. Statement of situation**
- 2. Mission of the patrol**
- 3. General instructions**
  - a. General and specific situation**
  - b. Common uniform/equipment**
  - c. Wpns/ammo/equip**
  - d. Chain of command**
  - e. Time schedule**
  - f. Time/place/uniform and equip for order**
  - g. Times and places for inspections/rehearsals**
- 4. Specific instructions**
  - a. To subordinate leaders**
  - b. To special purpose teams or key jobs**

**8**

**8-2**

**8**

PATROL ORDER	
1. Situation	
a. Enemy forces	
(1) Weather	_____
(2) Terrain	_____
(3) Identification	_____
(4) Location	_____
(5) Activity	_____
(6) Strength	_____
(7) Probable COA	_____
b. Friendly forces	
(1) Mission of next higher unit	_____
(2) Location/planned actions of units on right/left/front/rear	_____
(3) Mission and routes of other patrols	_____
(4) Fire support available	_____
c. Attachments and detachments	
2. Mission	_____
	_____
	_____

8

8-3

8

## **PATROL ORDER**

### **3. Execution**

#### **a. Concept of operation**

(1) Scheme of maneuver \_\_\_\_\_

(2) Fire support plan \_\_\_\_\_

#### **b. Subunit tasks (element/teams/ personnel)**

#### **c. Coordinating instructions**

(1) Time of departure and return \_\_\_\_\_

(2) Movement techniques and order \_\_\_\_\_

(3) Route (primary/alternate) \_\_\_\_\_

(4) Departure and reentry of lines \_\_\_\_\_

(5) RPs and actions at them \_\_\_\_\_

(6) Action at danger areas \_\_\_\_\_

(7) Action on enemy contact \_\_\_\_\_

(8) Action at the objective \_\_\_\_\_

(9) Fire support \_\_\_\_\_

(10) Intelligence requirements \_\_\_\_\_

(11) Other tasks \_\_\_\_\_

**8**

**8-4**

**8**

### **PATROL ORDER**

- 4. Service support**
  - a. Rations and water**
  - b. Arms and ammunition**
  - c. Uniform and equipment**
  - d. Handling dead/wounded/EPW/  
captured equip**
  - e. Transportation**
- 5. Command and signal**
  - a. Command**
    - (1) Chain of command \_\_\_\_\_**
    - (2) Location of patrol ldr during  
move/ at objective \_\_\_\_\_**
  - b. Signal**
    - (1) Arm-and-hand/other signals/  
codes/call signs/freqs to use  
within patrol \_\_\_\_\_**
    - (2) Reports/codes/call signs/freqs  
to use with higher HQ \_\_\_\_\_**

**Challenge and password**

**8**

**8-5**

**8**

PATROL REPORT	
A. Patrol size and composition	_____
B. Mission	_____
C. Time of Departure	_____
D. Time of Return	_____
E. Routes out and back	_____
F. Terrain description	_____
G. Enemy	_____
H. Map corrections	_____
I. Miscellaneous information	_____
J. Results of enemy encounters	_____
K. Condition of patrol	_____
L. Conclude/recommend	_____

8

8-6

8

SELECTION OF A PATROL BASE		
STEP	ACTION	✓
1	Pick tentative PB site from map or aerial recon	
2	Plan for alternate site; recon and observe until occupied or not needed	
3	Select base considering tactical value/location of terrain, trafficability, water	
4	Plan for OPs/commo with OPs	
5	Plan for defense of PB, withdrawal routes, rally and rendezvous points	
6	Provide security/alert plan, camouflage, noise/light/litter discipline	
7	Avoid enemy positions, built up areas, ridges, roads/trails, slopes	

8

8-7

8

<b>OCCUPATION OF A PATROL BASE</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Approach</b>	
	<b>Halt patrol away from site/post security</b>	
	<b>Leaders and security move to recon site</b>	
<b>2</b>	<b>Recon</b>	
	<b>Patrol ldr designates entry point/CP at center of base</b>	
	<b>Element ldrs recon sectors and return to CP</b>	
	<b>Patrol ldr sends 2 men back to bring rest of patrol fwd</b>	
<b>3</b>	<b>Occupation - patrol single file, camouflaged</b>	
<b>4</b>	<b>Ldr check perimeter by meeting element leaders in turn to check all sectors</b>	

**8**

**8-8**

**8**



OCCUPATION OF A PATROL BASE		
STEP	ACTION	✓
5	Element leaders send R&S team to recon fwd, moving clockwise	
6	R&S teams report enemy activity, OPs, RPs, withdrawal routes	
7	Patrol ldr designates routes and RPs outside base	
8	Each element puts out OP and sets commo	
Notes:		

8

8-9

8

OPERATION OF A PATROL BASE		
STEP	ACTION	✓
1	Security	
	One point of entry/exit camouflaged	
	Minimum movement and noise	
	Fires small, smokeless, in pit	
2	Stand-to morning and evening, variable times and length	
3	Plan for defense: fighting positions, camouflage and concealment	
4	Make fire plan: early warning devices, mines and tripflares	
5	Make withdrawal plan for RP, rendezvous, alternate PB	
6	Commo	
	With higher HQ/OPs/within	

8

8-10

8

OPERATION OF A PATROL BASE		
STEP	ACTION	✓
	Control radio/use wire and tug/ pull wires	
7	Maintain weapons, equipment, hygiene	
8	Establish eating/sleeping shifts/ maintain security	
9	Safeguard water detail/limit trips	
10	Continue planning; conceal signs of patrol upon departure	
Notes:		

8

8-11

8

PRINCIPLES OF A RAID		
ITEM	PRINCIPLE	✓
1	Conduct a raid with combat patrol	
2	Attack and destroy position or installation	
3	Destroy or capture enemy troops/equipment	
4	Rescue friendly personnel	
5	Gather Intelligence	
6	Gain initiative	
7	Attack when least expected, in poor visibility, from unexpected direction and terrain	
8	Concentrate fire at critical points	
9	Achieve violence by surprise, massed fire, aggressive attack	

8

8-12

8

<b>CONDUCT A RAID</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	Patrol move to ORP for recon	
	Secure ORP, conduct leader recon, plan	
	Coordinate movements of elements	
<b>2</b>	<b>SECURITY ELEMENT</b>	
	Move to positions, secure ORP	
	Warn of enemy approach	
	Block avenues of approach into/prevent escape from objective area	
	Inform patrol leader of actions	
	Shoot only if detected or on order; cover withdrawal of assault and support elements of ORP	

**8**

**8-13**

**8**

CONDUCT A RAID		
STEP	ACTION	✓
3	SUPPORT ELEMENT	
	Move into psn prior to assault element	
	Cover withdrawal of assault element	
	Withdraw on order/signal	
4	ASSAULT ELEMENT	
	Deploy close to objective for immediate assault (if detected)	
	Seize, secure objective when supporting fire lifts or shifts	
	Protect demolition/search teams	
	Withdraw on order/signal	
5	Reorganize patrol slightly away from ORP: report, redistribute ammo, treat casualties	

8

8-14

8

PRINCIPLES OF AN AMBUSH		
ITEM	PRINCIPLE	✓
1	Place effective fires into entire kill zone	
2	Use well-trained teams with simple plan and prior recon	
3	Maintain security, especially when returning to friendly psn	
4	Soldier and weapon placement - priority to concealment and fields of fire	
5	Clear signals to open/shift/cease fire	
6	<u>Area ambush</u> - cover all approaches, width and depth, self-contained teams, one springs ambush	
7	<u>Linear ambush</u> - one avenue of approach, elements along trail for width and all around defense	

8

8-15

8

PRINCIPLES OF AN AMBUSH		
ITEM	PRINCIPLE	✓
	Security elements/teams on flank	
	Assault element with support and search teams	
	Mines/spikes on far side of kill zone	
8	<u>Vehicular ambush</u> - organized like linear, stop lead & trail vehicles in kill zone; kill armor first	
9	<u>Night ambush</u> similar to day	
	Use claymores, grenades, automatic weapons	
	Control soldiers/issue clear orders & signals	
	Use sector stakes	
	Move to position after EENT; plan illumination	

8

8-16

8



ORGANIZE AN AMBUSH		
STEP	ACTION	✓
1	Type of ambush: <u>Point</u> (single kill zone) or <u>Area</u> (multiple related point ambushes)	
2	Surprise - allows patrol to seize initiative	
3	Coordinate fires	
	Psn weapons, mines, demo; isolate kill zone	
	Quickly deliver large volume of concentrated fire for maximum damage to assault and destroy	
4	Control movement to/occupation of/withdrawal from ambush site	
5	Control measures provide	
	Early warning of target approach	
	Fire held until target in kill zone/open fire signal	

8

8-17

8

<b>ORGANIZE AN AMBUSH</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
	Action if ambush detected	
	Lift/shift of supporting fire	
	Timely withdrawal to ORP	
<b>6</b>	Establish signals - method, for security, to start, to lift/shift/withdraw	
<b>7</b>	Fire discipline	
	Withhold until signalled	
	Deliver well aimed & timely fire	
	Precise lift/shift	
<b>8</b>	Withdraw to ORP /recon routes	
	On signal, reorganize & start return/bound if ambush fails	
	Halt prior to objective to disseminate information	
	Conceal withdrawal/use mines to stop pursuit	

**8**

**8-18**

**8**

CONDUCT AN AMBUSH		
STEP	ACTION	✓
1	Ambush formation based on	
	METT-T/overall situation	
	Ease of control/target	
2	Patrol halt at ORP	
	Establish security/confirm location	
	Recon objective to confirm plan	
	Return to ORP	
3	<u>Security</u> element move to psn to secure ORP & flank ambush site	
4	<u>Support/assault</u> elements leave ORP	
	When security in position	
	Occupy positions	
	Support overwatches assault move to ambush site	

8

8-19

8

<b>CONDUCT AN AMBUSH</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>5</b>	<b>Patrol waits for target after all elements in position</b>	
<b>6</b>	<b>Security team alerts patrol on enemy direction of movement, target size, special weapons/equipment</b>	
<b>7</b>	<b>Patrol ldr alerts other elements</b>	
	<b>Signals start when most of target in kill zone</b>	
	<b>Lift/shift fire if assault into zone required</b>	
<b>8</b>	<b>Withdraw to ORP for accountability, disseminate information, return to friendly position</b>	

**8**

**8-20**

**8**

PLAN A RECON MISSION		
STEP	ACTION	✓
1	Make estimate of the situation	
	Current intelligence	
	Capabilities of unit	
	Task organize to support mission	
2	Plan	
	Intelligence	
	Deceptive measures	
	Use of smallest unit possible to accomplish mission	
	Methods to remain undetected	
	Use of STANO devices	
	Rehearsal	
	Ways to minimize audio and electronic equipment	
	Inspection of recon force and equipment	

8

8-21

8

PLAN A RECON MISSION		
STEP	ACTION	✓
3	Subordinate missions	
	Command and control	
	Recon of objective	
	Security of force	
Notes:		

8

8-22

8

LEADING A RECON PATROL		
ITEM	PRINCIPLE	✓
1	Security elements function from 1 location with recon element & security element OR move into area by <u>bounds</u> with R&S teams	
2	For small patrol, patrol HQ forms part of recon element or R&S team	
3	Determine number/strength of teams according to mission	
4	Techniques of recon patrol	
	Observe/collect/record info about enemy/use binos	
	Well-rehearsed plan	
	Cover movement with battlefield noise	
	Establish control measures, alternate routes, fire support	

8

8-23

8

LEADING A RECON PATROL		
ITEM	PRINCIPLE	✓
5	Use R&S teams for leader recon or any size patrol	
6	Organize R&S teams	
	1 team with remainder at ORP as reaction force	
	Multiple teams with each to recon part of objective/link up at ORP	
	2 teams link up on far side of objective	
	1 team with security team as reaction force	
7	Security	
	1 or 2 soldiers bound while rest of team provides security	
	Vary formation with terrain	
	Each member responsible for sector	

8

8-24

8



NBC-1 REPORT	
LINE	ITEM (* = CHEM)
B	Position of observer (UTM coord)
C	Direction of attack from observer (Degrees) (Mils)
D	Date/time of detonation/*area attacked (DTG)
E	Location of attack/*area attacked (Actual) (Estimated) (UTM coord)
H	Type of burst/*agent (Air) (Surface) (Unknown)

9

9-1

9

NBC-4 REPORT	
LINE	ITEM
Q	Location of reading (UTM coord) 1. _____ 2. _____ 3. _____ 4. _____
R	Dose-rate (rad/hr) 1. _____ 2. _____ 3. _____ 4. _____
S	Date/time of reading (DTG) 1. _____ 2. _____ 3. _____ 4. _____

9

9-2

9

SUPERVISE RADIATION MONITORING		
STEP	ACTION	✓
1	List grid coordinates of central point in area	
2	Tell IM-174 operator to take readings from central point every hour; check that operator uses IM-174 correctly	
3	Have operator report readings to you immediately; use NBC-4 report	
4	Take continuous readings if reading is 1 or more rad/hr; fallout warning received or nuclear burst seen; if moving to another location	
5	Check hourly when reading drops below 1 rad/hr	

9

9-3

9

USING A DOSIMETER		
STEP	ACTION	✓
1	Hold viewing end of dosimeter up to your eye, pointing toward light but not directly into the sun	
2	Point where vertical hairline crosses scale is total amount of radiation received	
3	Report the number of rads or millirads to your Cdr	
Notes:		

9

9-4

9

<b>COLLECT/REPORT TOTAL RADIATION DOSE</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Turn in for recharging any dosimeter that does not read 0 to start</b>	
<b>2</b>	<b>Have soldiers who perform duties in unit's area wear dosimeters</b>	
<b>3</b>	<b>Collect readings from soldiers at the same time, at least once daily; insure readings are accurate</b>	
<b>4</b>	<b>Add reported readings together; divide by number of readings</b>	
<b>5</b>	<b>Round off to nearest 10 and report to Cdr</b>	

**9**

**9-5**

**9**

**PREPARE FOR NBC ATTACK/  
PROTECT AGAINST  
ELECTROMAGNETIC PULSE**

<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Insure ALL items are covered or dug in when not in use</b>	
<b>2</b>	<b>Park vehicles with air vents away from winds; close hatches, doors, etc.</b>	
<b>3</b>	<b>Protect electronic equipment against EMP by disconnecting antennas &amp; spare equipment; shield with metal</b>	
<b>4</b>	<b>Use highest freq possible; never use commercial power. Keep cable &amp; wire short; bury 18"</b>	
<b>5</b>	<b>Use remote sets only when required; use common ground for all equipment; insulate antenna guy lines</b>	

**9**

**9-6**

**9**

MARK CONTAMINATED AREA: RADIOLOGICAL/BIO/CHEM		
STEP	ACTION	✓
1	Locate/identify contaminated area	
2	For <u>radiological</u> use marker labeled ATOM. Print information so word "ATOM" faces toward you & in upright psn: print dose rate (centigrays/hr or rads/hr); date/time (state ZULU or local) of reading & detonation. If unknown print "UNKNOWN"	
3	For <u>biological</u> use marker labeled BIO; for <u>chemical</u> use marker labeled GAS. Use same procedures as above, stating type of agent, if known	
4	Position markers so information faces away from contaminated area	

9

9-7

9

<b>MARK CONTAMINATED AREA: RADIOLOGICAL/BIO/CHEM</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>5</b>	<b>Attach markers so they can be seen from all routes through area; ensure each is visible from previous marker.</b>	
<b>6</b>	<b>Place ATOM markers at locations where dose rate measures 1 centigray/hr (rad/hr) or more</b>	
<b>Notes:</b>		

**9**

**9-8**

**9**



UNMASKING WITH (WITHOUT) CHEMICAL AGENT DETECTOR KIT		
STEP	ACTION	✓
1	If no chemical agent detected, have 2-3 soldiers unmask in <u>shade</u> for 5 minutes; remask for 10 minutes	
2	Check for symptoms; if none, others may unmask; remain alert for symptoms	
3	WITHOUT DETECTION KIT, have 2-3 soldiers hold breath & break seal of mask for 15 seconds, eyes open	
4	Reseal, clear & check masks, wait 10 minutes	
5	Check for symptoms; if none, break seal of mask, take 2-3 breaths; repeat step 4	

9

9-9

9

UNMASK WITH (WITHOUT) CHEMICAL AGENT DETECTOR KIT		
STEP	ACTION	✓
6	If no symptoms, have soldiers unmask for 5 minutes; remask for 10 minutes	
7	Check for symptoms; if none, others may unmask; remain alert for symptoms	
Notes:		

9

9-10

9

<b>PRINCIPLES OF FIRE SUPPORT PLANNING/COORDINATION</b>		
<b>ITEM</b>	<b>PRINCIPLE</b>	<b>✓</b>
<b>1</b>	<b>Plan early &amp; continuously</b>	
<b>2</b>	<b>Consider all available resources &amp; means of fire support - mortars, artillery, attack helicopters, CAS</b>	
<b>3</b>	<b>Select most effective &amp; avoid unneded duplication</b>	
<b>4</b>	<b>Provide flexibility &amp; safe fires</b>	
<b>5</b>	<b>Insure continuous targeting - likely, known &amp; suspected enemy locations</b>	
<b>6</b>	<b>On approach to objective, on objective, beyond objective</b>	
<b>7</b>	<b>Use lowest echelon possible</b>	

**10**

**10-1**

**10**

CALL FOR FIRE	
STEP	DESCRIPTION
1	<u>Identification</u> - radio or telephone call signs of observer & FDC
2	<u>Method of fire</u> - " ADJUST FIRE" or "FIRE FOR EFFECT" to alert unit
3	<u>Target location</u> - Shift from a known point: add or drop left or right Polar coordinates: distance & direction Grid coordinates: 6 digit/direction for corrections
4	<u>Target description</u> - troops, tanks, trucks, etc.
5	<u>Method of engagement</u> - use "DANGER CLOSE" if target within 600m of friendly troops

10

10-2

10

CALL FOR FIRE	
STEP	DESCRIPTION
	<p>Ammunition - HE, Delay, VT, WP. If none requested, high explosive &amp; fuse quick will be fired.</p> <p>Sound adjustment - alert FDC of use &amp; round impact.</p>
6	<p><u>Method of control</u> - "AT MY COMMAND"; "WHEN READY"; "TOT"</p>
Notes:	

10

10-3

10

TARGET LIST		
TGT#	DESCRIPTION	LOCATION

10

10-4

10

MORTAR/ARTILLERY CAPABILITIES			
NAME model	RANGE min-max max/rap	ILLUM ROUND coverage (m) d x w	time sec
<b>MORTAR</b>			
60mm/M224	75-3500	20 x 25	25
81mm/M29	75-4789	20 x 25	60
107mm/M30	770-6840	20 x 30	90
<b>ARTILLERY</b>			
105mm/M102	12400/15100	20 x 30	60-70
155mm/ M109A3	18100/23500	30 x 50	120
155mm/M198	22400/30000	30 x 50	
8"/M110A2	22900/30000	30 x 80	

10

10-5

10

ATTACK HELICOPTER CAPABILITIES				
NAME		WEAPON	#	RANGE m
AH-1(G)	COBRA	2.75" FFAR	4	9300
		7.62 minigun	1	1100
		40mm GL	1	2000
AH-1(S)	COBRA	2.75" FFAR	2	9300
		TOW	8	3750
		20mm cannon	1	1500
AH-64	APACHE	2.75" FFAR	1-4	9600
		HELLFIRE	1-16	6000
		30mm chaingun	1	1500

10

10-6

10



ARTILLERY COUNTERFIRE SHELREP - MORTREP - BOMBREP	
A	Call sign
B	Coordinates of observer
C	AZ to flash or sound
D	Time shelling started
E	Coordinates of shelled area
F	Type of rounds
G	Nature of fire
H	Number of rounds
I	Damage
J	Suspected source

10

10-7

10

SUPPLIES AND LOGISTICAL SERVICES		
ITEM	PRINCIPLE	✓
1	Chain of command plans for supply status & equipment for fighting; 1SG directs Co log services; PSG coordinates/supervises platoon maintenance with 1SG	
2	Plt logistics includes long & short term supply/transportation/maintenance	
3	PSG coordinates/supervises by getting requests for supplies/equipment from SLs and PLs; reviewing & consolidating, giving list to 1SG or supply sgt	
4	PSG must maintains status of supplies & equipment in plt, monitors requests, reports to PL	

11

11-1

11

<b>PRECOMBAT CHECKS</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Complete prepare to fire weapons checks</b>	
<b>2</b>	<b>Complete preops PMCS; resolve problems</b>	
<b>3</b>	<b>Load vehicles/rucks per load plans</b>	
<b>4</b>	<b>Clean/function check individual &amp; crew served weapons</b>	
<b>5</b>	<b>Top off vehicles</b>	
<b>6</b>	<b>Stow basic load of Classes I &amp; V</b>	
<b>7</b>	<b>Fill canteens, water &amp; oil cans as needed</b>	
<b>8</b>	<b>Index battlesights</b>	
<b>9</b>	<b>Check radio frequency and operation if authorized.</b>	

**11**

**11-2**











**11**

PRECOMBAT CHECKS		
ITEM	ACTION	✓
10	Check speech security equipment and operation if authorized	
11	Check personnel; brief mission	
12	Rehearse	
Notes:		

11

11-3

11

CLASSES OF SUPPLY		
CLASS	DESCRIPTION	SYMBOL
I	Rations	
II	Expendables	
III	POL	
IV	Barrier material	
V	Ammunition	
VI	Sundry	
VII	Major end items	
VIII	Medical	
IX	Repair parts	
X	Materiel to support nonmilitary programs	

11

11-4

11

### **MESSENGER BRIEFING**

- 1. Name/location of person to receive message.**
- 2. Route to follow.**
- 3. Danger points to avoid.**
- 4. Speed required.**
- 5. Is answer required?**
- 6. Action if message cannot be delivered.**
- 7. Special instructions.**
- 8. Content (if required).**
- 9. Report destination at OP/lines.**
- 10. Challenge/Password.**

**12**

**12-1**

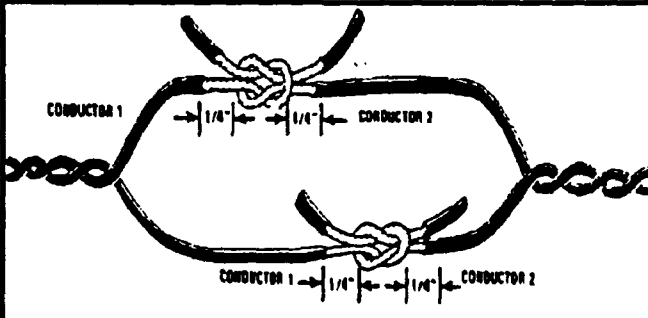
**12**

<b>RADIO TROUBLESHOOTING</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Check frequency setting</b>	
<b>2</b>	<b>Check battery: charge-new</b>	
<b>3</b>	<b>Check antenna: upright-clear</b>	
<b>4</b>	<b>Check ALL connections from battery through to antenna: clean-dry-tighten</b>	
<b>5</b>	<b>Check ALL power and position switches</b>	
<b>6</b>	<b>Replace CVC or handset</b>	
<b>7</b>	<b>Check position for terrain mask: reposition if needed</b>	
<b>8</b>	<b>Check antenna top section: repair if broken-replace if lost</b>	

**12**

**12-2**

**12**

SPlicing FIELD WIRE		
ITEM	ACTION	✓
1	Prepare conductors for splicing:	
	Untwist both ends of wire, remove insulation	
	Cut 6" back from one side of each pair so lengths are uneven	
2	Splice: Tie long conductor of 1 pair to short conductor of other in square knot. Repeat for second pair	
		

12

12-3

12



SPlicing FIELD WIRE		
ITEM	ACTION	✓
3	Secure splices:	
	Separate steel strands from copper, cutting steel even with insulation	
	Cross left hand end of copper strands over top of knot; wrap over bare portion of right hand conductor	
	Continue for two wraps; cut off excess copper	
	Repeat for right hand end	
4	Tape splices:	
	Start at center of splice & wrap tape to cover 1 1/2" of insulation at one end	
	Work tape back over center of knot to cover other side	
	Retape back to center	

12

12-4

12

<b>INSTALLING COMMO LINES</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Test field wire on reel: attach telephone sets to ends; if commo check clear, install wire.</b>	
<b>2</b>	<b>Installing field wire: tie to fixed object to start &amp; end (allow slack); tie several places at ground level</b>	
<b>3</b>	<b>Attach wire tags at road crossings, telephones &amp; test stations, both sides of buried or aerial crossings, locations with several lines.</b>	
<b>4</b>	<b>Test wire line after buried or aerial crossings, before &amp; after splicing new reel, before connecting line to switchboard.</b>	

**12**

**12-5**

**12**

<b>CROSSING OBJECTS WITH COMMO LINES</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Culvert: Attach wire tag on each side of road, pass wire thru culvert, add protective tape at ends of culvert.</b>	
<b>2</b>	<b>Aerial crossings: Clear roads by at least 7m, using trees or poles to raise wire. Use lance poles if needed.</b>	
<b>3</b>	<b>Buried crossings: Dig 6-12" deep trench extending beyond each side of road, lay wire loosely, tag, backfill.</b>	
<b>4</b>	<b>Railroad crossing: Cut enough wire to reach across tracks, pull under tracks &amp; secure with stakes along crossties. Splice to wire reel; bury exposed wire.</b>	

**12**

**12-6**

**12**

<b>INSTALL/REMOVE HASTY PROTECTIVE MINEFIELD</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Report intention/get authorization to lay minefield</b>	
<b>2</b>	<b>Recon for best sites, under unit observation/fire, integrating with other defense plans</b>	
<b>3</b>	<b>Report initiation of field; place in irregular pattern on avenues of approach</b>	
<b>4</b>	<b>Record Field on DA 1355-1-R</b>	
<b>5</b>	<b>Arm mines - from enemy side to friendly side</b>	
<b>6</b>	<b>Report completion of field; warn adjacent units</b>	
<b>7</b>	<b>Retain DA 1355-1-R as long as unit/field stay in place; if field abandoned forward to Cdr</b>	

**13**

**13-1**

**13**

INSTALL/REMOVE HASTY PROTECTIVE MINEFIELD	
STEP	ACTION
8	Removal: If DA 1355-1-R not available, treat as enemy field and use breaching techniques
9	Remove mines in order using azimuths and distances from DA 1355-1-R
Notes:	

13

13-2

13

<b>DA FORM 1355-1-R</b>			
<b>HASTY PROTECTIVE MINEFIELD RECORD</b> (FM 20-32)			
		<b>AZIMUTH BLOCK</b> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">Empty</div> <div style="border: 1px solid black; padding: 2px;">Mag North</div> </div>	
		<div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div> <div style="display: flex; justify-content: space-between;"> <div>— P</div> <div>— P</div> </div>	
<b>SCALE: 2cm = 100m</b>			
<b>TABULAR BLOCK</b>		<b>IDENTIFICATION BLOCK</b>	
Row	Type	Description	<div style="border: 1px solid black; padding: 2px;">Unit</div> <div style="border: 1px solid black; padding: 2px;">Ref Pt</div> <div style="border: 1px solid black; padding: 2px;">Remarks</div> <div style="border: 1px solid black; padding: 2px;">Map &amp; Sheet No</div> <div style="border: 1px solid black; padding: 2px;">Name of GIC</div> <div style="border: 1px solid black; padding: 2px;">Signature</div> <div style="border: 1px solid black; padding: 2px;">Date recorded</div> <div style="border: 1px solid black; padding: 2px;">Drawn by/checked by</div>
Remarks			

13

13-3

13

<b>BREACHING AND CLEARING MINEFIELDS</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Suppress enemy covering obstacles</b>	
<b>2</b>	<b>Obscure area with smoke</b>	
<b>3</b>	<b>Secure near side</b>	
<b>4</b>	<b>Reduce obstacle-blow or probe lane through</b>	
<b>5</b>	<b>Secure the far side</b>	
<b>6</b>	<b>Blow marked mines in place (time permitting)</b>	
<b>7</b>	<b>Mark cleared lane</b>	
<b>8</b>	<b>Move unit through obstacle</b>	

**13**

**13-4**

**13**

<b>NONELECTRIC FIRING SYSTEM</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<p>Determine length of fuse needed Cut &amp; discard 6" length; cut off 3' length to determine burn rate</p> <p>Light fuse end and list time it takes to burn</p> <p>Compute burn rate per foot (time/burn rate)</p>	
<b>2</b>	Determine amount of explosive needed	
<b>3</b>	Cut fuse to proper length & pass end thru priming adapter	
<b>4</b>	<p>Attach blasting cap to fuse</p> <p>Inspect open end, remove debris by tapping or shaking gently</p> <p>Hold fuse vertically with square cut end up</p>	

**13**

**13-5**

**13**



<b>NONELECTRIC FIRING SYSTEM</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
	Slip cap down over fuse so cap & fuse are in contact  Turn cap out & away from body & crimp cap at point 1/8-1/4" from open end	
<b>5</b>	<b>Attach M60 fuse igniter:</b> unscrew fuse holder cap, press shipping plug into igniter, rotate & remove plug, insert fuse in fuse hole, tighten cap	
<b>6</b>	<b>Pull pin to detonate charge</b>	
<b>Notes:</b>		

**13**

**13-6**

**13**

### NONELECTRIC/ELECTRIC PRIMING OF DEMO BLOCK

**Note:** prime by wrapping demolition blocks with detonating cord, by inserting knot of detonating cord into plastic explosive, by lacing cord thru dynamite, 40-pound cratering charges or shaped charges

STEP	ACTION	✓
1	<p>Prime with threaded cap well &amp; priming adapter:</p> <p><u>Non-electric</u> inspect cap well, insert cap with fuse into cap well, screw in adapter</p> <p><u>Electric</u> after inspection, fasten free ends of cap lead wire to firing wire &amp; pass thru adapter slot, pull cap into place, then finish as above</p>	

13

13-7

13

NONELECTRIC/ELECTRIC PRIMING OF DEMO BLOCK		
STEP	ACTION	✓
2	Prime with threaded cap well without priming adapter: <u>Non-electric</u> inspect cap well, wrap & tie string around block, leaving excess, insert blasting cap with fuse into cap well - use loose string to keep cap from separating from block. <u>Electric</u> after inspection, fasten free ends of cap wire to firing wire, pass lead wires thru adapter slot & insert electric cap into cap well, tie lead wires around block, allowing slack.	
3	Prime without threaded cap well or priming adapter: <u>Non-electric &amp; electric</u> make hole with M2 crimpers, then follow step 2.	

13

13-8

13

### **CLEAR NONELECTRIC/ELECTRIC MISFIRES**

**Note:** If possible, misfire should be cleared by soldier who placed the charge

<b>STEP</b>	<b>ACTION</b>	<b>V</b>
<b>1</b>	<b>NON-ELECTRIC</b> - Wait 30 minutes after misfire before moving to charge	
<b>2</b>	<b>ELECTRIC</b> - If dual primed with non-electric system, wait 30 minutes. Check firing wire connections, make 2-3 more attempts to fire; disconnect firing wire from blasting machine & shunt wires; check entire system for breaks/shorts	
<b>3</b>	<b>UNTAMPED</b> - Without moving or disturbing misfired charge, detonate 1-pound charge at side <b>TAMPED</b> - Dig within 1 foot of misfired charge; detonate a 2-pound charge on top of misfired charge	

**13**

**13-9**

**13**

<b>ELECTRIC FIRING SYSTEM</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Check firing wire with M51 test set or galvanometer; lay out from charges to firing position</b>	
<b>2</b>	<b>Test electric blasting cap; twist free wire ends together</b>	
<b>3</b>	<b>Move to firing point &amp; test entire circuit</b>	
<b>4</b>	<b>Test blasting machine/depress handle</b>	
<b>5</b>	<b>On order, connect lead wires to 2 blasting machine posts &amp; detonate charge</b>	
<b>Notes:</b>		

**13**

**13-10**

**13**

ORIENT MAP USING TERRAIN ASSOCIATION/COMPASS/ PROTRACTOR		
STEP	ACTION	✓
1	Place map horizontally	
2	<u>Terrain association</u> : find 2 features common to map & ground; rotate map until features align	
3	<u>Compass</u> : place compass parallel to a N-S line pointing toward top of map; point compass N arrow toward magnetic north arrow	
4	If magnetic north is left of grid north, compass reading = G-M angle; if to right, reading = 360 degrees minus G-M angle	

14

14-1

14

ORIENT MAP USING TERRAIN ASSOCIATION/COMPASS/ PROTRACTOR		
STEP	ACTION	✓
5	<u>Protractor</u> : draw magnetic north line from any N-S and E-W intersection; align compass straightedge along line	
6	Rotate map & compass until N arrow falls below fixed black line on compass	
FIND TARGET BY GRID COORDINATES		
STEP	ACTION	
1	Orient map/identify target with terrain feature on ground/on map	
2	Plot target/compute grid coordinates	

14

14-2

14

LOCATING UNKNOWN POINTS BY INTERSECTION/RESECTION/ STRAIGHTEDGE		
STEP	ACTION	✓
1	Locate your position; determine G-M angle	
2	<u>Intersection</u> : measure magnetic azimuth to unknown point; convert to grid azimuth	
3	For easterly angle, add G-M angle to magnetic azimuth. For westerly, subtract G-M from magnetic azimuth	
4	Place protractor on map with 0-degree indicator pointing north & index point in center; draw line from your position on grid azimuth to unknown point	

14

14-3

14



LOCATING UNKNOWN POINTS BY INTERSECTION/RESECTION/ STRAIGHTEDGE		
STEP	ACTION	✓
5	Repeat for 2nd position, keeping unknown position in sight. Lines cross at location of unknown point	
6	<u>Resection</u> : measure magnetic azimuth to one of two known locations; convert to grid azimuth	
7	For easterly angle, add G-M angle to magnetic azimuth. For westerly, subtract G-M from magnetic azimuth	

14

14-4

14

LOCATING UNKNOWN POINTS BY INTERSECTION/RESECTION/ STRAIGHTEDGE		
STEP	ACTION	✓
8	Place protractor on map with 0-degree indicator pointing north & index point in center; draw line from back azimuth position in direction of unknown position	
9	Repeat for other known positions	
10	<u>Straightedge</u> : lay edge on map with one end at your position as pivot. Rotate until you sight unknown point; draw line	
11	Repeat for 2nd position, keeping unknown position in sight. Lines cross at location of unknown point	

14

14-5

14

<b>COMPUTING CURRENT G-M ANGLE - DEGREES OR MILS</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Subtract year map was made from current year</b>	
<b>2</b>	<b>Multiply annual magnetic change in degrees (or mils) by value from Step 1</b>	
<b>3</b>	<b>List G-M angle for year map was made. If annual change easterly, subtract Step 2 from G-M angle in step 3. If westerly, add Steps 2 and 3</b>	
<b>4</b>	<b>Note G-M angle for each map sheet you use; retain information</b>	

**14**

**14-6**

**14**

COMPUTING BACK AZIMUTH - DEGREES OR MILS		
STEP	ACTION	✓
1	If azimuth is less than 180 degrees (3200 mils), for back azimuth add 180 (3200)	
2	If azimuth is more than 180 degrees (3200 mils), for back azimuth subtract 180 (3200)	
COMPUTING AZIMUTH WITH A PROTRACTOR		
STEP	ACTION	
1	Draw straight line between the 2 points and center protractor on azimuth line where it crosses any grid line	
2	Extend line past outer edge; recenter protractor on azimuth line where it crosses grid line	

14

14-7

14

**CONVERTING AZIMUTHS - GRID  
TO MAGNETIC/MAGNETIC TO GRID**

STEP	ACTION
1	Grid to magnetic: To compute easterly azimuth, subtract G-M angle from grid azimuth; to compute westerly azimuth, add G-M angle
2	Magnetic to grid: To compute easterly azimuth, add G-M angle to compass reading; to compute westerly azimuth, subtract G-M angle

Notes:

**14**

**14-8**

**14**

<p style="text-align: center;"><b>AIRCRAFT TROOP COMMANDER BRIEFING</b></p>
---

- |  |
|--|
| 1. Loading procedures _____                    |
|  |
| 2. Bump plan (for individuals/loads) _____     |
|  |
| 3. Use of safety belts _____                   |
|  |
| 4. Preflight safety inspection of troops _____ |
|  |
| 5. In-flight procedures _____                  |
|  |
| 6. Downed aircraft procedures _____            |
|  |
|  |
| 7. Offloading procedures _____                 |
|  |
| 8. Movement from the LZ _____                  |
|  |
|  |

**15**

15-1

**15**

<b>SAFETY BRIEFING CHECKLIST</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Wear ID tags, earplugs, helmets when in/near aircraft</b>	
<b>2</b>	<b>Never approach rotary wing aircraft from rear or front; always from sides</b>	
<b>3</b>	<b>Approach/depart in a crouch on down slope side to ensure clearance</b>	
<b>4</b>	<b>Keep sleeves rolled down</b>	
<b>5</b>	<b>Carry weapons without bayonet, safety on, bolt closed, chamber empty, muzzle DOWN</b>	
<b>6</b>	<b>Bend or tie down radio antennas</b>	
<b>7</b>	<b>Fasten seatbelts &amp; leave buckled until crew chief signals exit</b>	
<b>8</b>	<b>Maintain written manifest (unit, rank, full name, SSN) separate from aircraft</b>	

**15**

**15-2**

**15**

REVERSE PLANNING SEQUENCE		
ITEM	ACTION	✓
1	Ground tactical plan	
2	Landing plan	
3	Air movement plan	
4	Loading plan	
5	Staging plan	
Notes:		

15

15-3

15



<b>GROUND TACTICAL PLAN CONSIDERATIONS</b>		
<b>ITEM</b>	<b>CONSIDERATION</b>	<b>✓</b>
<b>1</b>	<b>Missions of all force elements and methods of employment</b>	
<b>2</b>	<b>Zones of attack, sectors, or areas of operations with graphic control measures</b>	
<b>3</b>	<b>Task organization to include command relationships</b>	
<b>4</b>	<b>Location and size of reserves</b>	
<b>5</b>	<b>Fire support to include graphic control measures</b>	
<b>6</b>	<b>Combat service support to include resupply, evacuation, and plans to sustain the force</b>	

**15**

**15-4**

**15**

<b>LANDING PLAN CONSIDERATIONS</b>		
<b>ITEM</b>	<b>CONSIDERATION</b>	<b>✓</b>
<b>1</b>	<b>Supports ground tactical plan</b>	
<b>2</b>	<b>Availability, location &amp; size of LZ</b>	
<b>3</b>	<b>Force is vulnerable during landing</b>	
<b>4</b>	<b>Elements must land with tactical integrity</b>	
<b>5</b>	<b>Inform all troops if landing direction changes</b>	
<b>6</b>	<b>Force must land prepared to fight in any direction</b>	
<b>7</b>	<b>Offer flexibility for options in scheme of maneuver</b>	
<b>8</b>	<b>Plan supporting fires in and around each LZ for next lifts and on objective</b>	
<b>9</b>	<b>Provide for resupply &amp; medical evacuation by air</b>	

**15**

**15-5**

**15**

LANDING ZONE SELECTION CRITERIA		
ITEM	CRITERIA	✓
1	Location (based on METT-T) & capacity (size)	
2	Alternates (one per primary LZ)	
3	Enemy disposition/capabilitites	
4	Cover/concealment	
5	Obstacles	
6	Identification from air	
7	Approach/departure routes	
8	Weather/surface/slope	

15

15-6

15

<b>AIR ASSAULT PZ/LZ PLANNING CONSIDERATIONS</b>		
<b>ITEM</b>	<b>CONSIDERATION</b>	<b>✓</b>
<b>1</b>	<b>PZs: Minimum movement; access to support assets; masked from enemy observation; outside the range of enemy artillery</b>	
<b>2</b>	<b>LZs: Locate on, close by, or some distance away from the objective (based on METT-T); size determines how much combat power can be landed; deny enemy observation, acquisition, and ADA; land on enemy side of obstacles; avoid exposing aircraft.</b>	
<b>3</b>	<b>Reduced visibility may limit or preclude use</b>	

**15**

**15-7**

**15**

EXTRACTION LOADING PLAN REQUIREMENTS		
ITEM	REQUIREMENT	✓
1	PZ locations, primary & alternate	
2	PZ security	
3	PZ control party organization & location	
4	Fire support	
5	Sequence of extraction: main body, PZ control party, security force	
6	Movement to PZ: route & order	
7	Loading priorities	
NOTE: PZ TIME IS <u>CRITICAL</u> FACTOR		

15

15-8

15

LEADER DUTIES IN AIR ASSAULT OPERATIONS		
ITEM	DUTY	✓
1	Senior person in each lift located in Air Mission Cdr aircraft for C3	
2	Set up PZ, supervising marking & clearing obstacles	
3	Brief all chalk leaders	
4	Supervise conduct of rehearsals	
5	Supervise security, movement of troops & equipment, placement of chalks & slingloads on PZ	
6	Devise/disseminate bump plan	
7	PZ Control Officer/control group:	
	Ensure PZ is cleared	
	Plan/initiate fire support/security	
	Establish commo nets	

15

15-9

15

**CHALK LEADER DUTIES/  
PLATOON AIR ASSAULT**

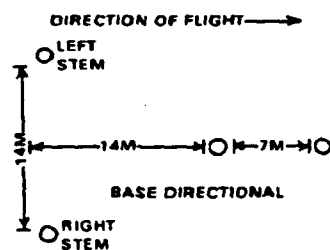
<b>ITEM</b>	<b>DUTY</b>	<b>✓</b>
<b>1</b>	<b>Brief chalk &amp; attachments on loading plan, tasks &amp; positions inside aircraft</b>	
<b>2</b>	<b>Ensure soldiers maintain assigned areas for local security</b>	
<b>3</b>	<b>Supervise loading of personnel; ensure all in assigned positions &amp; buckled in</b>	
<b>4</b>	<b>Keep current on location with map &amp; crew</b>	
<b>5</b>	<b>On landing, ensure personnel exit quickly, rush to safe distance (15-20m), assume prone position &amp; prepare to return enemy fire</b>	

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**15**

## NIGHT MARKING OF PZs AND LZs



**NOTES:** The aircraft touch down point will be midpoint on the legs of the Y. If more than 1 will land in the same PZ or LZ, add 1 more light for each. For OH-, UH-, and AH-acft, mark each additional landing point with 1 light at the exact point each acft is to land. For CH-acft, mark each additional point with 2 lights placed 10m apart and aligned in the acft direction of flight.



<b>EVALUATE A CASUALTY/FIRST AID</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
1	Airway - clear and maintain	
2	Bleeding - stop	
3	Cover & protect wound	
4	Prevent or treat shock	
5	Check for fractures	
6	Check for burns	
7	Check for concussion	
8	Check for other symptoms	
9	Seek medical aid	
Notes:		

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SHOCK - SYMPTOMS/FIRST AID		
STEP	ACTION	✓
1	Look for anxiety, agitation, confusion, pale, clammy, blotchy wet skin, nervousness, thirst, nausea, loss of blood, rapid shallow breathing	
2	Move to covered area. Lay patient on back, elevate feet, loosen clothing. Keep warm and calm	
3	Seek medical aid	
Notes:		

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16-2

16

HEAT EXHAUSTION/HEAT CRAMPS		
STEP	ACTION	✓
1	Look for moist pale, clammy wet skin, muscle cramps, sweating & thirst, headache & dizziness, faintness, weakness & nausea	
2	Move patient to shade, loosen clothing. If conscious, give salt water slowly over next 12 hours. Watch for continued symptoms	
3	Seek medical aid if unconscious	
Notes:		

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16-3

16

<b>HEAT STROKE/SUN STROKE</b>		
<b>NOTE: This is a medical emergency</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Look for hot, dry, bright pink skin, high temperature, dizziness, nausea, fast pulse, delirium, no sweating</b>	
<b>2</b>	<b>Lower body temperature IMMEDIATELY by immersion in water, fanning, use ice if available. Remove clothing. Give cool salt water if conscious</b>	
<b>3</b>	<b>Seek medical aid; evacuate as URGENT; continue to cool</b>	
<b>Notes:</b>		

**16**

**16-4**

**16**

FROSTBITE		
STEP	ACTION	✓
1	Look for redness, or grey or waxy skin, frequently numb or itchy, blisters, areas of skin that are unnaturally firm, or tender and swollen	
2	Shelter victim; keep warm with clothing or body heat. Remove clothing from affected part; wrap loosely in dry sterile dressing. Do not massage area or break blisters or further injury may result	
3	Seek medical aid; treat as litter casualty	
Notes:		

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16-5

16

# **HYPOTHERMIA/COLD WEATHER INJURY**

<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	Look for lowered body temp, violent uncontrolled shivering, lack of coordination, memory loss, irrationality, lethargy, slurred speech	
<b>2</b>	Move victim to sheltered area, cover and warm. Force conscious patient to drink quarts of heavily sugared liquids, hot if possible. Replace wet clothing with dry if possible; use sleeping bag to insulate from ground. Keep patient awake and drinking fluids. Do not rub or give alcohol. Start treatment before evacuation; evacuate when stable	
<b>3</b>	Seek medical aid	

**16**

**16-6**

**16**

<b>REQUEST ARMY AIR MEDEVAC</b>		
<b>NOTE: Send secure or encrypt all items.</b>		
<b>LINE</b>	<b>ITEM</b>	<b>✓</b>
<b>1</b>	<b>Location of pick-up site</b>	
<b>2</b>	<b>Pick-up site radio frequency, call sign, and suffix</b>	
<b>3</b>	<b># of patients by precedence (urgent, priority, routine)</b>	
<b>4</b>	<b>Special equipment required</b>	
<b>5</b>	<b># of patients by type (litter, ambulatory)</b>	
<b>6</b>	<b>Security of pick-up site</b>	
<b>7</b>	<b>Method of marking pick-up site</b>	
<b>8</b>	<b>Patient nationality and status</b>	
<b>9</b>	<b>NBC considerations</b>	

**16**

**16-7**

**16**

SET UP A HELICOPTER LANDING SITE		
STEP	ACTION	✓
1	Select & secure landing site; size depends on number & type of helicopters	
2	Ground slope of site must be no more than 15 degrees. If less than 7 degrees, land upslope; if 7-15 degrees, land sideslope	
3	Ensure surface conditions free of rocks and debris; avoid dust, sand & snow	
4	Ensure ground firm enough to keep helicopter from bogging down during loading/unloading	

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16-8

16



SET UP A HELICOPTER LANDING SITE		
STEP	ACTION	✓
5	Remove obstacles on approach/ departure ends and clearly mark obstructions that cannot be removed. Ensure sufficient runway to clear obstacles.	
6	Mark landing site and touch- down point based on mission, capabilities & situation. Use smoke, signalman, lights; at night mark touchdown point with inverted Y composed of 4 lights.  (see page 15-11)	

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16-9

16

CONTINUOUS OPERATIONS PLANNING		
ITEM	ACTION	✓
1	Set up and ENFORCE an eating and sleeping schedule for ALL personnel	
2	Include OPORD and movement times in warning orders so sleep can be scheduled	
3	Keep orders simple and clear; insist on briefbacks	
4	Do not permit sleeping in or near vehicles; move to safe place	
5	Recognize symptoms of sleep loss: not alert, slow response time, forgetful, mood change, short attention span, irritable	

16

16-10

16

CONTINUOUS OPERATIONS PLANNING		
ITEM	ACTION	✓
6	Recognize symptoms of stress: frustration, anger, tired even after rest, physical problems interfering with eating & sleeping, lack of confidence, forgetfulness	
7	Recognize symptoms of unit stress: frequent conflicts, high AWOL & sick rates, complaints, poor productivity, lack of pride in work or unit, insubordination	
8	Deal with stress: Listen, calm the soldier(s), encourage communication, offer suggestions, help resolve problems	
9	ENFORCE eating/sleeping schedules for ALL personnel	

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16-11

16

# **RECOVERY PROCEDURE CHECKLIST**

**DANGER: Ensure unprotected troops  
at safe distance**

ITEM	PROCEDURE	✓
1	Recon the area	
2	Estimate the situation	
3	Calculate the ratio (resistance divided by effort)	
4	Obtain resistance	
5	Verify solution	
6	Erect rigging	
7	Recheck rigging	
8	You are ready	

**Notes:**

**17**

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**17**

<b>RECOVERY FUNDAMENTALS</b>	
<b>ITEM</b>	<b>FUNDAMENTALS</b>
<b>1</b>	<b>Load resistance:</b> <ul style="list-style-type: none"> <li>· Overturned - 1/2 vehicle weight</li> <li>· Nosed (grade) - vehicle weight</li> <li>· Wheel deep - vehicle weight</li> <li>· Fender deep - double vehicle wgt</li> <li>· Turret deep - triple vehicle weight</li> </ul>
<b>2</b>	<b>Mechanical advantage: divide load resistance by available effort (capacity of winch)</b>
<b>3</b>	<b>Rigging: attach tow cables to TOW HOOKS, not lifting eyes or towing pintle</b>
<b>4</b>	<b>Safety:</b> <ul style="list-style-type: none"> <li>· Cross TOWING cables to prevent tangling &amp; keep vehicles aligned</li> <li>· Position hook with throat (open part) UPWARD</li> </ul>

**17**

**17-2**

**17**

RECOVERY FUNDAMENTALS	
ITEM	FUNDAMENTALS
4	<b>Safety (continued):</b> <ul style="list-style-type: none"> <li>· Use heavy leather palmed gloves when handling cables/wire ropes</li> <li>· Place safety keys in hooks/shackles/equipment requiring them</li> <li>· Do NOT apply loads suddenly</li> <li>· No smoking/open flame if fuel or oil has spilled</li> </ul>
Notes:	

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17-3

17

ENGAGING AIRCRAFT		
NOTE: In the absense of unit SOP or Cdr's orders, follow the steps below.		
STEP	ACTION	✓
1	Engage all attacking aircraft & helicopters positively identified as hostile	
2	Engage when friendly ADA units are engaging enemy in your area	
3	Engage enemy jet aircraft not attacking your position only after ordered to fire	
Notes:		

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18-1

18

<b>AIR DEFENSE WARNING</b>	
<b>WARNING</b>	<b>MEANING</b>
<b>RED</b>	Attack is <b>IMMINENT</b> or <b>IN PROGRESS</b>
<b>YELLOW</b>	Attack is <b>PROBABLE</b>
<b>WHITE</b>	Attack is <b>improbable</b>
<b>WEAPONS CONTROL STATUS</b>	
<b>Wpns FREE</b>	Fire at any aircraft not identified as friendly
<b>Wpns TIGHT</b>	Fire only at aircraft <b>POSITIVELY</b> identified as <b>HOSTILE</b>
<b>Wpns HOLD</b>	Fire only in self-defense

**18**

**18-2**

**18**



PASSIVE AIR DEFENSE		
ITEM	ACTION	✓
1	Use covered & concealed routes and stationary positions	
2	Cover glass & camouflage vehicles; do not skyline or outline	
3	Maintain COMSEC & air guards	
4	Specify visual & audible air warning signals in unit SOP	
5	Enforce noise, light, litter discipline	
Notes:		

18

18-3

18

<b>BUILT-UP AREA FIGHTING PRINCIPLES</b>		
<b>ITEM</b>	<b>PRINCIPLE</b>	<b>✓</b>
<b>1</b>	<b>Attack rapidly, in depth, to dominate killing areas</b>	
<b>2</b>	<b>Clear each house thoroughly/consolidate</b>	
<b>3</b>	<b>Keep equipment light</b>	
<b>4</b>	<b>Plan for casualty/EPW evac</b>	
<b>5</b>	<b>Clear streets, houses, buildings and basements</b>	
<b>6</b>	<b>Mark cleared structures</b>	
<b>Notes:</b>		

**19**

**19-1**

**19**

<b>ATTACK AND CLEAR A BUILDING</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Organize unit into assault force and support force</b>	
<b>2</b>	<b>Designate special wpns/teams</b>	
<b>3</b>	<b>Support force isolates bldg from overwatch position</b>	
<b>4</b>	<b>Support force suppresses enemy in bldg and near by to cover assault force's move</b>	
<b>5</b>	<b>Support force resupply ammo, replace personnel, evacuate wounded/EPWs</b>	
<b>6</b>	<b>Aslt force enters bldg at highest level possible to gain foothold</b>	
<b>7</b>	<b>Aslt force clears building room-by-room</b>	
<b>8</b>	<b>Aslt force marks each room/each building when cleared</b>	

**19**

**19-2**

**19**

<b>ORGANIZE BUILDING DEFENSE</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>Select building(s) to defend by considering</b>	
	<b>Protection/Dispersion</b>	
	<b>Concealment</b>	
	<b>Fields of Fire</b>	
	<b>Observation</b>	
	<b>Covered routes</b>	
	<b>Building strength/Fire hazard</b>	
	<b>Time available</b>	
<b>2</b>	<b>Position teams/vehicles</b>	
<b>3</b>	<b>Select/prepare primary/alternate/supplementary psns for key dismounted weapons</b>	
<b>4</b>	<b>Prepare rooms in building(s)</b>	
	<b>Stockpile supplies</b>	
	<b>Establish CP/OPs</b>	
	<b>Set up wire commo lines</b>	

**19**

**19-3**

**19**

<b>ORGANIZE BUILDING DEFENSE</b>		
<b>STEP</b>	<b>ACTION</b>	<b>✓</b>
	Cover floors with sand/dirt	
	Reinforce/camouflage psns	
<b>5</b>	Prepare outside of building(s)	
	Emplace mines/obstacles to cover deadspace/approaches/passages	
	Cover all mines/obstacles by observation and fire	
<b>6</b>	Plan for/register indirect fires	
<b>7</b>	Inspect preparations	
<b>Notes:</b>           		

**19**

**19-4**

**19**

PRINCIPLES OF THE LAW OF WAR		
ITEM	PRINCIPLE	✓
1	All US/NATO ammo & weapons are lawful; do not alter.	
2	Do NOT fake surrender, use enemy uniforms, booby trap personnel or use medical symbols to deceive.	
3	Attack only combat targets, using only mission essential firepower, avoiding needless destruction.	
4	Non-combat targets include surrendering or sick civilians or soldiers; medical personnel, vehicles, facilities; undefended civilian buildings & monuments.	

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20-1

20

PRINCIPLES OF THE LAW OF WAR		
STEP	PRINCIPLE	✓
5	Treat captives, civilians & property according to Law of War, humanely; tag & turn in military property; do not loot.	
6	Identify & report all violations.	
Notes:		

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20-2

20

<b>HANDLING ENEMY PRISONERS OF WAR</b>		
<b>ITEM</b>	<b>ACTION</b>	<b>✓</b>
<b>1</b>	<b>SEARCH-</b> remove, tag & mark weapons, documents; return personal items, helmet, NBC gear	
<b>2</b>	<b>SEGREGATE</b> - by rank, sex, military, civilian	
<b>3</b>	<b>SILENCE</b> - no talking	
<b>4</b>	<b>SPEED</b> - from battle area	
<b>5</b>	<b>SAFEGUARD</b> - to prevent harm or escape	
<b>Notes:</b>		

**20**

**20-3**

**20**



PERSONNEL RECORD		
NAME	SSN	RANK
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

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PERSONNEL RECORD SENSITIVE ITEMS			
#	WPN #	MASK #	OTHER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

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21-2

21

PERSONNEL RECORD INFORMATION/SIZES						
#	BLOOD TYPE	RELIG	BOOT	HAT	BDU	MASK
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						

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21-3

21

SPOT REPORT/SALUTE	
LINE	ITEM
1	Size
2	Activity
3	Location
4	Unit/Uniform
5	Time observed
6	Equipment
Notes:	

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21-4

21

# **FIND UNKNOWN RANGE USING MIL RELATION "WORM" FORMULA**

**NOTE:** For MIL Relation Formula, the width or length of the target (W) must be known.

STEP	ACTION
1	Measure the target width using binoculars' mil scale ( $\varnothing$ )
2	Divide target width in meters (W) by mil width ( $\varnothing$ ) to find range (R)
3	Round R to nearest tenth; multiply by 1000 for range to target
4	Remember $R = \frac{W}{\varnothing}$

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21-5

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WEAPON CAPABILITIES - EFFECTIVE RANGE (METERS)						
SYSTEM	7.62 mm	.50 cal	25 mm	105/120 mm	152 mm	TOW/ SHIL
M901 ITV	900					3750
M113 APC		1600		or		3750
M2/ 3 BFV	900		1750 AP 3000 HE			3750
LAV 25	900		3500			
M1/M1A1	900	1600		2800/3990		
M60A1/A3	900	1600		1700		
M551 SHER	900	1600			2000	3000

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21-6

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TARGET ACQUISITION		
ITEM	SIGNATURE	✓
1	Soldiers - trash, damaged vegetation, noise	
2	Tracked vehicles - fuel, smoke, noise	
3	Antitank weapons - noise, wires, vapor trails, flash	
4	Artillery - noise, smoke, flash	
5	Aircraft - noise, glare, vapor trails, dust	
6	Mines and obstacles - strange material, tripwires, loose/ disturbed dirt, tactical barbed wire	

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21-7

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CONVERSION TABLE: US TO METRIC TO US				
EXAMPLE: Multiply inches by 2.54 to get centimeters; multiply centimeters by 0.394 to get inches.				
MULT	X	=	X	=
IN	2.54	CM	0.394	IN
FT	0.305	M	3.280	FT
YDS	0.914	M	1.094	YDS
MI	1.609	KM	0.621	MI
QTS	0.946	LTR	1.057	QTS
GAL	3.785	LTR	0.264	GAL
OZ	28.349	GMS	0.035	OZ
LBS	0.454	KG	2.205	LBS
MPG	0.245	KM/LTR	2.354	MPG
MPH	1.609	KM/HR	0.621	MPH

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21-8

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<b>SUNLIGHT AND NIGHT VISION</b>	
<b>ITEM</b>	<b>GUIDELINES</b>
<b>1</b>	<b>Prolonged exposure to strong sunlight can degrade night vision.</b>
<b>2</b>	<b>Daily exposure for 3 hours can raise night vision thresholds resulting in a 50% deterioration in visual acuity, range of visibility, contrast discrimination, and in frequency of picking up a barely visible target.</b>
<b>3</b>	<b>Wearing dark sunglasses with less than 10% visible light transmission can protect against the above effects.</b>
<b>4</b>	<b>As a rule of thumb, if the wearer's eyes can be seen behind the lenses, the lenses are probably not dark enough.</b>

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ACRONYMS	
A	
AA	Assembly Area/Avenue of Approach/ Anti Armor
Acft	Aircraft
ADA	Air Defense Artillery
APC	Armored Personnel Carrier
Aslt	Assault
AT	Antitank
AZ	Azimuth
B	
BFV	Bradley Fighting Vehicle (M2/M3)
Bio	Biological
BMCT	Beginning of Morning Civil Twilight
BMNT	Beginning of Morning Nautical Twilight
BP	Battle Position
C	
CA	Course of Action
cal	caliber
CAS	Close Air Support
Cdr	Commander
Chem	Chemical

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ACRONYMS	
C	
Co	Company
COA	Course of Action
coax	coaxial machinegun
COMSEC	Communications Security
CONOPS	Continuous Operations
CP	Command Post
CSS	Combat Service Support
CVC	Combat Vehicle Crewman
D-E-F	
demo	demolition(s)
DTG	Date-Time Group
EA	Engagement Area
EECT	End of Evening Civil Twilight
EENT	End of Evening Nautical Twilight
EMP	Electromagnetic Pulse
EPW	Enemy Prisoner of War
FDC	Fire Direction Center

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22-2

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ACRONYMS	
G-H-I	
G-M	Grid-Magnetic
GSR	Ground Surveillance Radar
HE	High Explosive
HQ	Headquarters
ID	Identification
illum	illuminating
ITV	Improved Tow Vehicle
J-K-L	
LAV	Light Armored Vehicle
LD	Line of Departure
log	Logistics
LZ	Landing Zone
M	
m	meter(s)
mi	mil
MEDEVAC	Medical Evacuation
MEL	Maximum Engagement Line
METT-T	Mission, Enemy, Terrain, Troops, and Time Available

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22-3

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ACRONYMS	
M	
MG	Machinegun
mm	millimeter
MOPP	Mission Oriented Protection Posture
MORTREP	Mortar Report
mpg/h	miles per gallon/hour
N	
NBC	Nuclear, Biological, Chemical
NCO	Noncommissioned Officer
NOD(s)	Night Observation Device(s)
nuc	nuclear
NVG	Night Vision Goggles
O	
OP	Observation Post
OPORD	Operation Order
ORP	Objective Rally Point

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22-4

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<b>ACRONYMS</b>	
<b>P</b>	
<b>PB</b>	<b>Patrol Base</b>
<b>PL</b>	<b>Platoon Leader</b>
<b>plt</b>	<b>platoon</b>
<b>PMCS</b>	<b>Preventive Maintenance Checks and Services</b>
<b>POL</b>	<b>Petroleum, Oils, and Lubricants</b>
<b>PSG</b>	<b>Platoon Sergeant</b>
<b>PZ</b>	<b>Pickup Zone</b>
<b>R</b>	
<b>RAP</b>	<b>Rocket Assisted Projectile</b>
<b>recon</b>	<b>reconnaissance</b>
<b>RP</b>	<b>Release Point; Rally Point, Reference Point</b>
<b>R&amp;S</b>	<b>Reconnaissance and Security</b>
<b>S</b>	
<b>SHELREP</b>	<b>Shell Report</b>
<b>SHER</b>	<b>Sheridan</b>
<b>SL</b>	<b>Squad Leader</b>
<b>SOP</b>	<b>Standard Operating Procedure</b>
<b>SP</b>	<b>Start Point</b>
<b>STANO</b>	<b>Surveillance, Target Acquisition and Night Observation</b>

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**22-5**

**22**

ACRONYMS	
T	
tgt	target
TLP	Troop Leading Procedures
tm	team
TOT	Time On Target
TOW	Tube-launched, Optically-tracked, Wire-guided
TRP	Target Reference Point
U - Z	
UTM	Universal Transverse Mercator (grid)
VT	Variable Time
WP	White Phosphorus
WRP	Weapons Reference Point
XO	Executive Officer

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22-6

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