Tactics, Techniques, and Procedures for the Field Artillery Cannon Battery



U.S. Marine Corps

PCN 143 000004 00

FOREWORD

This publication may be used by the US Army and US Marine Corps forces during training, exercises, and contingency operations.

General, USA Commanding Training and Doctrine Command Lieutenant General, USMC Commanding General Marine Corps Combat Development Command

PREFACE

This publication is designed primarily for the cannon battery. It is a how-to-train manual intended to provide general guidance to the commander and his principal subordinates. It is designed for battery leaders and should be used in conjunction with equipment technical manuals, Marine Corps combat readiness evaluation system (MCCRES), Marine Corps individual training standards (ITS), Army training and evaluation program (ARTEP) mission training plans (AMTPs), soldier manuals, and trainer's guides.

This publication sets forth suggested duties and responsibilities of key personnel and addresses doctrine and procedures for cannon battery operations and training, It is based on current tables of organization and equipment (TOE) and provides a starting point from which each commander can adjust his battery operations and training based on his modification tables of organization and equipment (MTOE); actual personnel and equipment till; local training scenario; and mission, enemy, terrain, troops, and time available (METT-T).

This publication presents standardized procedures relevant to cannon battery operations (Appendix A). These procedures are denoted in text by an asterisk (*).

This publication implements the following North Atlantic Treaty Organization (NATO) standardization agreements (STANAGs) and quadripartite standardization agreements (QSTAGs):

STANAG 2934, Edition 1, Chapter 13, Artillery Procedures, and QSTAG 503, Edition 2, Bombing, Shelling, Rocketing, Mortaring and Location Reports.

STANAG 2041, Edition 4 and QSTAG 520, Edition 1, Operation Orders, Tables and Graphs for Road Movement.

STANAG 2047, Edition 6, and QSTAG 183, Edition 3, Emergency Alarms of Hazard or Attack (NBC and Air Attack Only).

STANAG 2113, Edition 5, Denial of A Unit's Military Equipment and Supplies to an Enemy.

STANAG 2154, Edition 5 and QSTAG 539, Edition 1, *Regulations for Military Motor Vehicle Movement by Road.*

As used throughout this publication, the words *howitzer*, gun, cannon, weapon, and piece are synonymous.

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to:

Commandant US Army Field Artillery School ATTN: ATSF-DD Fort Sill, Oklahoma 73503-5600

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

PREFACE

This publication is designed primarily for the cannon battery. It is a how-to-train manual intended to provide general guidance to the commander and his principal subordinates. It is designed for battery leaders and should be used in conjunction with equipment technical manuals, Marine Corps combat readiness evaluation system (MCCRES), Marine Corps individual training standards (ITS), Army training and evaluation program (ARTEP) mission training plans (AMTPs), soldier manuals, and trainer's guides.

This publication sets forth suggested duties and responsibilities of key personnel and addresses doctrine and procedures for cannon battery operations and training, It is based on current tables of organization and equipment (TOE) and provides a starting point from which each commander can adjust his battery operations and training based on his modification tables of organization and equipment (MTOE); actual personnel and equipment till; local training scenario; and mission, enemy, terrain, troops, and time available (METT-T).

This publication presents standardized procedures relevant to cannon battery operations (Appendix A). These procedures are denoted in text by an asterisk (*).

This publication implements the following North Atlantic Treaty Organization (NATO) standardization agreements (STANAGs) and quadripartite standardization agreements (QSTAGs):

STANAG 2934, Edition 1, Chapter 13, Artillery Procedures, and QSTAG 503, Edition 2, Bombing, Shelling, Rocketing, Mortaring and Location Reports.

STANAG 2041, Edition 4 and QSTAG 520, Edition 1, Operation Orders, Tables and Graphs for Road Movement.

STANAG 2047, Edition 6, and QSTAG 183, Edition 3, Emergency Alarms of Hazard or Attack (NBC and Air Attack Only).

STANAG 2113, Edition 5, Denial of A Unit's Military Equipment and Supplies to an Enemy.

STANAG 2154, Edition 5 and QSTAG 539, Edition 1, *Regulations for Military Motor Vehicle Movement by Road.*

As used throughout this publication, the words *howitzer*, gun, cannon, weapon, and piece are synonymous.

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to:

Commandant US Army Field Artillery School ATTN: ATSF-DD Fort Sill, Oklahoma 73503-5600

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

FIELD MANUAL No. 6-50 MARINE CORPS WARFIGHTING PUBLICATION No. 3-1.6.23 HEADQUARTERS DEPARTMENT OF THE ARMY UNITED STATES MARINE CORPS Washington, DC, 23 December 1996

Tactics, Techniques, and Procedures for THE FIELD ARTILLERY CANNON BATTERY

Table of Contents

			PAGE
PREF	ACE .		xiv
		CHAPTER 1	
		MISSION, ORGANIZATION, AND KEY PERSONNEL	
Sectio	n I		
MISSI	ON AN	D GENERAL ORGANIZATION	1-1
	1-1 .	MISSION	1-1
	1-2.	FIELD ARTILLERY ORGANIZATION	1-1
	1-3 .	COMMAND AND CONTROL OF BATTERIES	1-1
Sectio	n II		
CANN	ION BA	TTERIES IN PLATOON-BASED FIELD ARTILLERY BATTALIONS	1-3
	1-4.	ORGANIZATION	1-3
	1-5.	TACTICAL DUTIES OF KEY PERSONNEL	1-4
	1-6 .	BATTERY COMMANDER	1-4
	1-7.	FIRST SERGEANT	1-4
	1-8.	PLATOON LEADER	1-4
	1-9.	FIRE DIRECTION OFFICER	1-5
	1-10.	PLATOON SERGEANT	1-5
	1-11.	GUNNERY SERGEANT	1-5
	1-12.	HOWITZER SECTION CHIEF	1-5

DISTRIBUTION RESTRICTION: Approved for public release, distribution is unlimited.

*This publication supersedes FM 6-50, 20 November 1990.

MARINE CORPS PCN: 143 000004 00

Section	Ш
---------	---

CANNON BA	TTERIES IN BATTERY-BASED FIELD ARTILLERY BATTALIONS
1-13.	ORGANIZATION
1-14.	TACTICAL DUTIES OF KEY PERSONNEL
1-15.	BATTERY COMMANDER
1-16.	FIRST SERGEANT
1-17.	EXECUTIVE OFFICER
1-18.	ASSISTANT EXECUTIVE OFFICER (USMC only)
1-19.	FIRE DIRECTION OFFICER
1-20.	CHIEF OF FIRING BATTERY
1-21.	GUNNERY SERGEANT
1-22.	HOWITZER SECTION CHIEF

RECONNAISSANCE, SELECTION, AND OCCUPATION OF A POSITION

Section I

RECONNAIS	SANCE AND THE ADVANCE PARTY
2-1.	DEFINITION AND REQUIREMENTS
2-2 .	CONSIDERATIONS
2-3.	RECEIPT OF THE ORDER
2-4.	ARTILLERY TROOP LEADING PROCEDURES
2-5.	RSOP OPERATIONS
2-6.	METHODS OF RECONNAISSANCE
2-7 .	PLANNING THE RECONNAISSANCE
2-8.	THE RECONNAISSANCE PARTY
2-9.	ASSEMBLING THE ADVANCE PARTY
2-10.	TAKING A FIRING CAPABILITY FORWARD
2-11.	MOVEMENT BRIEFING
2-12 .	ROUTE RECONNAISSANCE
Section II	
SELECTING	THE NEW POSITION
2-13.	POSITION SELECTION CONSIDERATIONS
2-14.	TYPES OF POSITIONS
Section III	
ORGANIZIN	G THE NEW POSITION

	2-15.	ADVANCE PARTY PREPARATIONS
	2-16.	FORMATIONS
Sectio	n IV	
PREP	ARATIC	ON FOR OCCUPATION
	2-1 7.	DAYTIME OCCUPATION
	2-18.	LIMITED TIME PREPARATIONS
	2-19.	NIGHT OCCUPATION
	2-20 .	SECTION CHIEF'S REPORT
Sectio	on V	
ТАСТ	ICAL M	ARCHES
	2-21.	METHODS OF MOVEMENT
	2-22.	OPEN COLUMN
	2-23.	CLOSE COLUMN
	2-24.	INFILTRATION
	2-25.	TERRAIN MARCH
Sectio	n VI	
PREPARING FOR MOVEMENT		
	2-26.	ORDERS
	2-27.	LOAD PLANS
	2-28 .	MOVEMENT PREPARATIONS
	2-29 .	ORGANIZATION OF THE COLUMN
Sectio	n VII	
CONE		G THE MARCH
	2-30.	MARCH DISCIPLINE
	2-31.	CONVOY CONTROL MEASURES
	2-32.	HALTS
	2-33.	MARCH COLUMN CONTINGENCIES
	2-34.	OTHER MOVEMENTS
	2-35.	MOVEMENT PROCEDURES
Sectio	n VIII	
OCCL	JPYING	THE POSITION
	2-36.	TYPES OF OCCUPATION 2-33
	2-37.	DELIBERATE OCCUPATION
	2-38.	HASTY OCCUPATION
	2-39.	EMERGENCY OCCUPATION
	2-40.	SUSTAINING ACTIONS
	2-41.	TRAINING TIPS

BATTERY DEFENSE

Section I		
INTRODUCTION		
3-1.	THREAT CAPABILITIES	
3-2.	BATTERY RESPONSIBILITIES	
Section II		
CONSIDER	TIONS FOR DEFENSE	
3-3.	USE OF TERRAIN	
3-4.	DEFENSE IN DEPTH	
3-5.	SECURITY	
3-6.	DISPERSION	
3-7.	PRIORITIES	
3-8.	DEFENSE IN ALL DIRECTIONS	
3-9.	MUTUAL SUPPORT	
3-10.	CONTROL	
3-11.	FLEXIBILITY	
Section III		
DEFENSE D	AGRAM	
3-12.	PURPOSE	
3-13.	CONSTRUCTION OF THE DIAGRAM	
3-14.	DISPOSITION OF THE DIAGRAM	
3-15.	PREPARING RANGE CARDS	
Section IV		
CONDUCT (OF THE DEFENSE	
3-16.	DEFENSE AGAINST ENEMY ARMOR/MECHANIZED FORCE	
3-17.	DEFENSE AGAINST AIR ATTACK	
3-18.	DEFENSE AGAINST DISMOUNTED ATTACK	
3-19.	DEFENSE IN OPERATIONS OTHER THAN WAR (OOTW)	
3-20.	DEFENSE AGAINST INDIRECT FIRE	
3-21 .	DEFENSE AGAINST NBC ATTACK	
3-22.	EQUIPMENT AND MATERIEL DESTRUCTION PROCEDURES	
3-23.	EMERGENCY ALARMS OF HAZARD OR ATTACK	
3-24.	BOMBING, SHELLING, ROCKETING, MORTARING, AND LOCATION REPORTS 3-23	

LAYING THE BATTERY, MEASURING, AND REPORTING

Section I	
THE AIMING	CIRCLE
4-1.	DESCRIPTION OF THE AIMING CIRCLE
4-2 .	SETTING UP THE AIMING CIRCLE
4-3.	LEVELING THE AIMING CIRCLE
4-4.	TAKING DOWN THE AIMING CIRCLE
4-5.	DECLINATING THE AIMING CIRCLE
4- 6.	CARE AND HANDLING OF THE AIMING CIRCLE
Section II	
PRECISION	LIGHTWEIGHT GPS RECEIVER (PLGR)
4-7.	GLOBAL POSITIONING SYSTEM DESCRIPTION
4-8.	FA SURVEY APPLICATIONS
4-9.	GPS LIMITATIONS AND CONSIDERATIONS
SECTION III	
GUN LAYING	GAND POSITIONING SYSTEM
4-10.	DESCRIPTION OF THE GUN LAYING AND POSITIONING SYSTEM
Section IV	
THE M2 COM	MPASS
4-11.	DESCRIPTION OF THE M2 COMPASS
4-12.	DECLINATING THE M2 COMPASS 4-10
4-13.	MEASURING AN AZIMUTH AND SITE TO CREST WITH THE M2 COMPASS 4-11
4-14.	CARE AND HANDLING OF THE M2 COMPASS
Section V	
LAYING	••••••••••••••••••••••••••••••••••••••
4-15.	PRINCIPLES OF LAYING
4-16.	PROCEDURES FOR LAYING
4-17 .	LAYING BY ORIENTING ANGLE
4-18 .	LAYING BY GRID AZIMUTH
4-19.	COMMANDS
4-20.	LAYING BY ALTERNATE METHODS
4-21.	M2 COMPASS METHOD
4-22.	AIMING POINT-DEFLECTION METHOD
4-23.	HOWITZER BACK-LAY METHOD
4-24.	ESTABLISHING AIMING POINTS 4-19

4-25.	SAFETY AND VERIFYING THE LAY OF THE PLATOON	4-20
4-26.	MEASURING VERTICAL ANGLES	4-21
4-27.	MEMORY AIDS	4-22
Section VI		
MEASURING	AND REPORTING DATA	4-24
4-28 .	ACCURACY	4-24
4-29.	BACKWARD AZIMUTH RULE	4-24
4-30.	REPORTING THE CORRECT DEFLECTION	4-24
4-31.	MEASURING THE AZIMUTH OF THE LINE OF FIRE	4-24
4-32.	CORRECTING BORESIGHT ERROR	4-26
4-33.	TRAINING	4-27

HASTY SURVEY TECHNIQUES

Section	ł			
SURVE	SURVEY CONTROL			
5	5-1 .	REQUIREMENTS		
5	5-2.	ELEMENTS OF SURVEY CONTROL		
Section	11			
DIRECT	ION			
5	5-3.	SIMULTANEOUS OBSERVATION		
5	5-4 .	POLARIS-KOCHAB METHOD		
5	5-5 .	POLARIS 2 METHOD		
5	5-6 .	DIRECTIONAL TRAVERSE		
Section	111			
LOCATI	ON			
5	j-7 .	METHODS OF LOCATION		
5	i-8 .	GRAPHIC RESECTION		
5	5-9 .	GRAPHIC TRAVERSE		
5	i-10.	DISTANCE MEASURING		
5	5-11 .	AUTOMATED COMPUTATIONS		
5	i-12.	AFU INPUT FOR GRAPHIC TRAVERSE USING BUCS, REV 1		
5	5-13.	ALTITUDE DETERMINATION		

MINIMUM QUADRANT ELEVATION

6-1.	RESPONSIBILITIES	<u>}-1</u>
6-2.	ELEMENTS OF COMPUTATION	3-1
6-3.	MEASURING ANGLE OF SITE TO CREST	3-2
6-4 .	MEASURING PIECE-TO-CREST RANGE	3-2
6-5.	COMPUTATION FOR FUZES OTHER THAN ARMED VARIABLE TIME	3-2
6-6.	COMPUTING FOR ARMED VT FUZES (LOW-ANGLE FIRE)	3-3

CHAPTER 7

FIRE COMMANDS AND FIRING REPORTS

7-1.	DEFINITIONS
7 -2 .	SEQUENCE OF FIRE COMMANDS
7-3.	TYPES OF FIRE COMMANDS
7-4.	ELEMENTS OF THE FIRE COMMAND
7-5.	WARNING ORDER
7 - 6.	PIECES TO FOLLOW, PIECES TO FIRE, AND METHOD OF FIRE
7-7.	SPECIAL INSTRUCTIONS
7-8.	PROJECTILE
7-9.	AMMUNITION LOT
7-10.	CHARGE
7-11.	FUZE
7-12.	FUZE SETTING
7-13.	DEFLECTION
7-14.	QUADRANT ELEVATION
7-15.	METHOD OF FIRE FOR EFFECT
7-16.	SPECIAL METHODS OF FIRE
7-17.	CHECK FIRING
7-18.	CEASE LOADING
7-19.	END OF MISSION
7 -2 0.	PLANNED TARGETS
7 - 21.	REPETITION AND CORRECTION OF FIRE COMMANDS
7 - 22.	FIRING REPORTS
7 - 23.	STANDARDIZING ELEMENTS OF THE FIRE COMMAND
7-24 .	EXAMPLE OF FIRE COMMANDS
7-25.	RECORD OF MISSIONS FIRED

SPECIAL SITUATIONS

8-1.	DIRECT FIRE
8-2.	DIRECT FIRE SIGHTING METHODS 8-1
8-3.	DIRECT FIRE LAYING METHODS
8-4.	COMMANDS FOR DIRECT FIRE
8-5.	EMERGENCY BORESIGHTING
8-6.	COLLIMATOR METHOD OF BORESIGHTING
8-7.	STANDARD ANGLE METHOD OF BORESIGHTING
8-8.	AIMING CIRCLE METHOD OF BORESIGHTING

CHAPTER 9

COMMUNICATIONS

9-1.	COMMUNICATIONS EQUIPMENT
9-2.	BATTERY COMMUNICATIONS SECTION
9-3.	BATTERY WIRE SYSTEM
9-4.	BATTERY RADIO NET STRUCTURE
9-5.	AN/PRC-68 AND AN/PRC-126 PLANNING CONSIDERATIONS
9-6 .	BCS-TO-GDU COMMUNICATIONS

CHAPTER 10

AMMUNITION

10-1.	REFERENCES	10-1
10-2.	EXTERIOR COMPONENTS OF AN ARTILLERY PROJECTILE	10-1
10-3.	PROJECTILE PAINTING AND MARKING	10-2
10-4.	CARE AND HANDLING OF AMMUNITION	10-3
10-5.	PROJECTILES	10-3
10-6 .	FUZES	10-4
10-7.	PROPELLING CHARGES	10-4
10-8.	FLASH REDUCERS	10-5
10-9.	PRIMERS	10-5
10-10.	CARTRIDGE CASES	10-5
10-11.	SEGREGATION OF AMMUNITION LOTS	10-6
10-12.	FIELD STORAGE OF AMMUNITION	10-6
10-13.	STORAGE AND TRANSPORTATION TECHNIQUES	10-7
10-14.	ACCIDENTS	10-7
10-15.	MISFIRE PROCEDURES	10-7

10-16.	TRAINING			• •		• •			•	• •	•••	•	 •	•	 •	•	•	 •	•	•	•	•	 •	•	 10	-7
10-17.	AMMUNITIC	ON P	LAN	ININ	IG	GU	ID	Ε																	 10	-8

SAFETY PROCEDURES

11-1.	RESPONSIBILITIES	11-1
11 -2 .	DUTIES OF SAFETY PERSONNEL	11-2
11-3.	SAFETY AIDS	11-3
11-4.	SAFETY COMPUTATIONS	11-4

CHAPTER 12

COMBAT SERVICE SUPPORT

12-1.	RESPONSIBILITIES	
1 2-2 .	BATTALION TRAIN	
1 2-3 .	LOGISTICS PACKAGES	
12-4.	BATTERY INTERFACE WITH THE ALOC	
12-5.	CLASSES OF SUPPLY	•
12-6.	MAINTENANCE, RECOVERY, AND REPAIR	1
12-7.	REFUEL, REARM, AND RESUPPLY POINT	•

APPENDIX A

STANDARDIZED PROCEDURES

APPENDIX B

SAMPLE GUNNER'S QUALIFICATION TEST

B-1.	USE OF TEST	B-1
B-2.	STANDARDS OF PRECISION	B-1
B-3 .	ASSISTANCE	B-1
B-4.	TASK SCORING	B-1
B-5.	QUALIFICATION SCORES	B-1
B-6 .	EQUIPMENT, PERSONNEL, AND SITE REQUIREMENTS	B-2
B-7.	TASKS	B-5

APPENDIX C

SAMPLE OPERATIONS CHECKLISTS

C-1.	DESCRIPTION	C-1
C-2.	PRECOMBAT CHECKLISTS	C-1
C-3.	BATTERY STATUS INVENTORY	C-4

C-4.	CRITICAL EVENTS TIME LINE	. C-5
C-5.	BATTERY WARNING ORDER	. C-5
C-6.	BATTERY ORDER	. C-8

APPENDIX D

COMMON MISTAKES AND MALPRACTICES

D-1.	PROBLEM AREAS
D-2.	PRECUTTING CHARGES
D-3.	LAYING ON THE WRONG AIMING POSTS
D-4.	IMPROPER EMPLACEMENT OF AIMING POINTS
D-5.	FAILURE TO COMPUTE TERRAIN GUN POSITION CORRECTIONS
D-6.	USING THE M139 OR M140 ALIGNMENT DEVICE TO VERIFY BORESIGHT D-4
D-7.	OTHER MISTAKES
D-8.	MALPRACTICES
D-9.	ERRORS IN SETTING UP AND ORIENTING THE AIMING CIRCLE
D-10.	INCIDENTS

APPENDIX E

LOAD PLANS FOR HOWITZER AMMUNITION VEHICLES AND CAMOUFLAGE CONFIGURATION

APPENDIX F

SPECIAL OPERATIONS

F-1.	OPERATIONS IN MOUNTAINOUS TERRAIN	F-1
F -2 .	OPERATIONS IN JUNGLE TERRAIN	F-1
F-3.	NORTHERN OPERATIONS	F-1
F-4.	MILITARY OPERATIONS ON URBANIZED TERRAIN	F-2
F-5.	DESERT OPERATIONS	F-2
F-6.	AMPHIBIOUS ASSAULT	F-3
F-7.	AIR ASSAULT OPERATIONS	F-3
F-8.	ARTILLERY RAIDS	F-5
F-9.	OPERATIONS OTHER THAN WAR (OOTW)	F-6
F-10.	FIRE BASE/HARDENED ARTILLERY POSITION OPERATIONS	F-7
F-11.	EMERGENCY OCCUPATION PROCEDURES WITH BCS	-11

APPENDIX G

Ľ

CANNON SECTION EVALUATION AND TRAINING

G-1.	SCOPE	G-1
G-2.	PURPOSE	G-1
G-3.	CONDUCT OF THE EVALUATION	G-1
G-4.	EVALUATION FORMAT	G-1
G-5.	SCORING	G-1
G-6.	PREPARATION	G-1
G-7.	QUALIFICATION	G-2
G-8.	ORGANIZATION AND SCORING	G-2
G-9.	PHASE I, ORIENTATION AND ORGANIZATION	G-4
G-10.	PHASE II, PREPARATION FOR FIRING OPERATIONS	G-6
G-11.	PHASE III, DELIBERATE OCCUPATION	G-8
G-12.	PHASE IV, FIRE MISSIONS	-10
G-13.	PHASE V, CRITIQUE	-12

APPENDIX H

UNIT DEFENSE CHECKLIST

H-1.	ENTRANCE POINT	H-1
H-2.	PASSIVE DEFENSIVE TECHNIQUES	H-1
H-3.	ACTIVE DEFENSIVE TECHNIQUES	H-1
H-4.	PERIMETER COMMUNICATIONS	H-2
H-5.	ANTIARMOR ASSETS	H-2
H-6.	MOVEMENT	H-2
H-7.	LOCAL SECURITY	H-3
H-8.	NUCLEAR, BIOLOGICAL AND CHEMICAL	H-3
H-9.	AIR DEFENSE COVERAGE	H-3
H-10.	MEDICAL	H-4
H-11.	ENEMY PRISONERS OF WAR (EPWs)	H-4

APPENDIX I

KILLER JUNIOR

I-1.	DESCRIPTION	1
I-2 .	TYPES OF TARGETS	1
I -3 .	AMMUNITION	1
I-4 .	PROCEDURES	1

APPENDIX J

CRATER ANALYSIS AND REPORTING

J-1.	CRATER ANALYSIS TEAM
J - 2.	EQUIPMENT
J-3 .	SHELL CRATER ANALYSIS
J-4.	VALUE OF ANALYSIS
J-5.	INSPECTION OF SHELLED AREAS
J-6 .	SURVEY OF CRATER LOCATION
J- 7.	DETERMINATION OF DIRECTION
J-8 .	CRATER ANALYSIS
J-9 .	LOW-ANGLE FUZE QUICK CRATERS (ARTILLERY)
J-10.	LOW-ANGLE FUZE DELAY CRATERS (ARTILLERY)
J-11.	HIGH-ANGLE SHELL CRATERS (MORTARS)
J-12.	ROCKET CRATERS
J-13.	SHELL FRAGMENT ANALYSIS
J-14 .	SHELLING REPORTS

APPENDIX K

MINIMUM QUADRANT ELEVATION RAPID FIRE TABLES

K-1.	DESCRIPTION OF THE TABLES	K-1
K-2.	USE OF THE RAPID FIRE TABLES	K-1

APPENDIX L

GUN DISPLAY UNIT

L-1.	DESCRIPTION
L-2.	SECTION CHIEF'S ASSEMBLY L-1
L-3.	CASE ASSEMBLY
L-4.	GUN ASSEMBLY
L-5.	CABLES
L-6.	BCS - GDU WIRE LINK L-5
L-7.	WIRE OPERATIONS
L-8.	M109-SERIES HOWITZERS
L-9.	GUN DISPLAY UNIT POWER
L-10.	TOWED HOWITZERS
L-11.	SELF-PROPELLED HOWITZER POWER SOURCE
L-12.	INOPERATIVE GUN DISPLAY UNIT

L-13.	SMALL UNIT TRANSCEIVERS		 			•								L-	13
L-14.	PREVENTIVE MAINTENANCE		 											L-	14

APPENDIX M

SELECTED CHARACTERISTICS OF FIELD ARTILLERY CANNONS

APPENDIX N

INTERCHANGEABILITY OF AMMUNITION

N-1.	GENERAL	N-1
N-2.	TRAINING	N-1
N-3.	СОМВАТ	N-1

APPENDIX O

SAMPLE TESTS AND REPORTS

0-1.	SAMPLE TESTS FOR THE QUALIFICATION OF SAFETY PERSONNEL 0-1
O-2 .	HANDS-ON SAFETY CERTIFICATION
O-3.	VERIFICATION CHECKLIST
GLOS	SARY
REFE	RENCES
INDEX	C

FM 6-50/MCWP 3-1.6.23 23 DECEMBER 1996

By Order of the Secretary of the Army:

Official:

JOEL B. HUDSON Administrative Assistant to the Secretary of the Army 02743 DENNIS J. REIMER General, United States Army Chief of Staff

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

Paul K. Van Riper

PAUL K. VAN RIPER Lieutenant General, U.S. Marine Corps Commanding General Marine Corps Combat Development Command Quantico, Virginia

DISTRIBUTION:

Active Army, Army National Guard, and U.S. Army Reserve: To be distributed in accordance with the initial distribution number 110776, requirements for FM 6-50.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1996-527-027/60031

CHAPTER 1 MISSION, ORGANIZATION, AND KEY PERSONNEL

Section I MISSION AND GENERAL ORGANIZATION

1-1. MISSION

a. The mission of the field artillery (FA) is to destroy, neutralize, or suppress the enemy by cannon, rocket, and missile fires and to help integrate all fire support assets into combined arms operations.

b. The field artillery cannon battery is the basic firing element of the cannon battalion regardless of how the battery is organized. The battery's capability is enhanced through the flexibility and survivability provided under an organization based on platoons. In no way should the references to platoon- or battery-based organizations be construed as the structure for operational employment. Rather, the terms pertain solely to organizational structure.

Note: For tactics, techniques, and procedures for the M109A6 (Paladin), see FM 6-50-60.

1-2. FIELD ARTILLERY ORGANIZATION

The field artillery is organized into light, medium, and heavy artillery on the basis of weapon caliber.

a. Each light artillery (105-mm M102, M101A1, or M119A1) battery has a headquarters section and six howitzer sections.

b. Each medium (155-mm M109A2-A6 and M198) battery is organized in one of two ways:

(1) A platoon-based unit has a headquarters and two firing platoons of three or four howitzer sections each. This organization allows for platoon operations.

Note: The M109A5 howitzer battery organic to the regimental armored cavalry squadron is designed to function independently and to perform most of its own support functions. It is organized, trained, and equipped to operate in direct support of the squadron.

(2) A battery-based unit has a headquarters section and six howitzer sections.

c. Organization does affect employment. In a unit organized with a single six-gun battery, the battery is employed as a single unit under the direct control of the battery commander. In a platoon-based unit, the battery may be employed in one of the following ways:

- As two platoons under the control of the battery commander (BC).
- As a single unit, with the platoons merged.
- As two separate platoons directly controlled by the battalion S3, through the BC, with the battery commander providing reconnaissance, selection, and occupation of position (RSOP) and logistical support.

This last employment option is the least desirable. It is used only when the tactical situation permits no other means of command and control.

Note: AH battalions in the US Marine Corps are organized into three six-howitzer batteries.

1-3. COMMAND AND CONTROL OF BATTERIES

a. The FA cannon battalion issues movement instructions and other orders to the battery, regardless of whether the battery is battery- or platoon-based. Orders are issued to the battery commander or his operations center. These orders specify the artillery requirements of the tire support coordinator (FSCOORD) rather than trying to specify how the commander is to accomplish the mission. The BC selects platoon positions within the larger battery area selected by the S3. The battery commander will also determine which platoon is better able to move at any given time. The functions of the FA battalion tactical operations center (TOC) are to positions and control the fires of the batteries. The BC positions and controls the tires of his platoons. The battalion TOC should be involved with directly controlling platoons only when no other option is available.