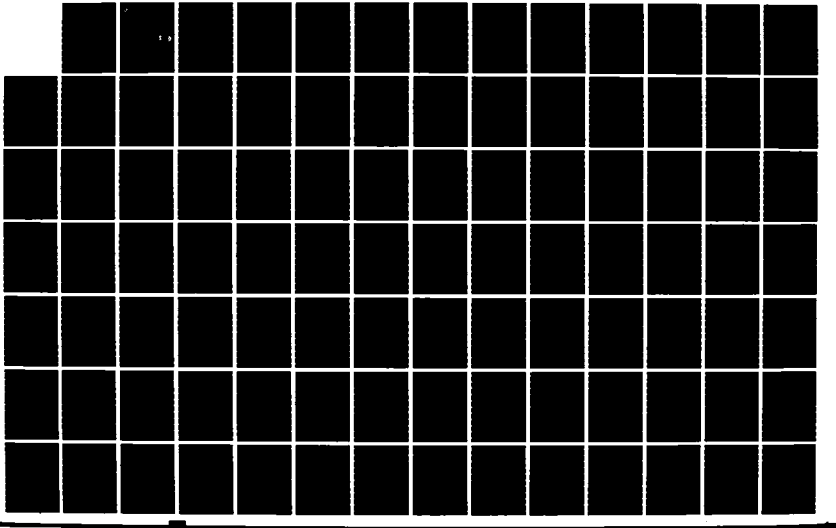
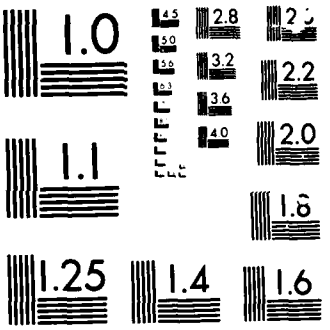
AD-A165 268 US MARINE CORPS LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)(U) CACI INC-FEDERAL ARLINGTON VA D R LEISTEN DEC 85 M00027-84-D-0037 1/5

UNCLASSIFIED F/G 15/7 NL




1.0
1.1
1.25
1.4
1.6
2.8
3.2
3.6
4.0
2.2
2.0
1.8

(2)

U.S. MARINE CORPS LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)

MAJOR D. R. LEISTEN
DEPUTY CHIEF OF STAFF FOR PLANS
DEVELOPMENT CENTER
MARINE CORPS DEVELOPMENT AND EDUCATION COMMAND
QUANTICO, VIRGINIA 22134

DECEMBER 1985

FINAL REPORT

UNLIMITED DISTRIBUTION

COMMANDANT OF THE MARINE CORPS
CODE RD
HEADQUARTERS, U.S. MARINE CORPS
WASHINGTON, D.C. 20380

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS NONE
2a. SECURITY CLASSIFICATION AUTHORITY MCDEC	3. DISTRIBUTION/AVAILABILITY OF REPORT UNLIMITED
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) M00027-84-D-0037/2610/008	5. MONITORING ORGANIZATION REPORT NUMBER(S) DM 411053
6a. NAME OF PERFORMING ORGANIZATION CACI INC. FEDERAL 6b. OFFICE SYMBOL (If applicable) LRAD	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) 1815 North Fort Myer Drive Arlington, VA 22209	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Marine Corps Development and Education Cmd 8b. OFFICE SYMBOL (If applicable) D 081M6	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER C0030
8c. ADDRESS (City, State, and ZIP Code) MCDEC Development Center Quantico, VA 22134-5080	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO.: S PROJECT NO.: A TASK NO.: A WORK UNIT ACCESSION NO:

11. TITLE (Include Security Classification)

(U) LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)

12. PERSONAL AUTHOR(S)

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
FINAL	FROM 1986 TO 1995	851230	416

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	
			USMC, FMF, MAGTF, LFOSS, TO/TE

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

The LFOSS report is a single reference document containing current information on the Marine Corps Research & Development Program and the projected impact of developing systems on the operating forces over the next decade. The study presents a comprehensive picture of how the FMF is presently configured by organization, mission and equipment, and describes research and development projects scheduled for fielding in the next ten years.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL Major D. R. LEISTEN	22b. TELEPHONE (Include Area Code) (703) 640-3321 22c. OFFICE SYMBOL D 081M6

DD FORM 1473, 84 MAR 83 APR edition may be used until exhausted
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE
UNCLASSIFIED

Deputy for Development
Marine Corps Development and Education Command
Quantico, Virginia 22134-5050

27 JAN 1986

Director's Comments

The purpose of the LFOSS report is to provide a single reference document containing current information on the Marine Corps Research and Development Program and the projected impact of developing systems on the operating forces over the next decade. The information contained herein has been compiled from the best available sources. However, it must be cautioned that the Marine Corps Research and Development Program is dynamic and subject to change. Not all systems addressed in the report will be fielded on schedule and some systems will never complete the development cycle to reach procurement. Wide dissemination of this report is encouraged. Your comments and recommendations are invited. The report should serve as a vehicle to maintain the dialogue between the operating forces and the Marine Corps Development and Education Command to ensure that the Research and Development Program of the Marine Corps is addressing the operational needs of the Fleet. Additional copies of this report are available upon request (CG, MCDEC Code D08).

R. F. MILLIGAN

Distribution:
CMC (Code RD (30))
CG FMFPAC (10)
CG FMFLANT (10)
COMNAVSURLANT (10)
COMNAVSURPAC (10)
COMNAVAIRLANT (10)
COMNAVAIRPAC (10)
COMSECONDFLT (5)
COMTHIRDFLT (5)
COMSIXTHFLT (5)
COMSEVENTHFLT (5)
CG I MAF (10)
CG II MAF (10)
CG III MAF (10)
CG 1ST MARDIV (20)
CG 2D MARDIV (20)
CG 3RD MARDIV (20)
CG 4TH MARDIV (20)
CG 1ST MAW (20)
CG 2D MAW (20)
CG 3RD MAW (20)
CG 4TH MAW (20)
CG 1ST FSSG (20)
CG 2D FSSG (20)
CG 3RD FSSG (20)
CG 4TH FSSG (20)
CG 1ST MAB (5)
CG 4TH MAB (5)

CG 6TH MAB (5)
CG 7TH MAB (5)
CG 9TH MAB (5)
CG MCLSBLANT (5)
CG MCLSBPAC (5)
CG MCDEC (10)
DIR ED CTR (5)
DIR DOC CTR (5)
CO MAWTS-1 (5)
MCLNO, Special Projects Officers (1 each)

EXECUTIVE SUMMARY

The Landing Force Organizational Systems Study (LFOSS-86) is a static overview of a dynamic process. It presents a snap shot in time of the Marine Corps' operating forces and indicates the where, when, and the extent of changes that are anticipated from on-going research and development efforts. These changes are expressed in terms of their affects on the structure, missions, and equipment of the elements within the operating forces. The year 1986 is used as a baseline year and the results of the R&D efforts are projected through the year 1995.

As a single reference document encompassing all of the components of the Fleet Marine Force, it is intended for use by commanders and staff personnel in planning, programming, budgeting and executing the organizational modifications associated with research and development. It is also intended to make personnel aware of the dynamics of change throughout the Marine Corps. Reference documents that reflect continuing programs can quickly become outdated from the time they are published. This is also the case with LFOSS-86. Research and development initiatives result from:

- o a change in threat,
- o a need to correct an operational deficiency, or,
- o an opportunity to capitalize on an emerging technology in order to
  - enhance a capability
  - realize a personnel and/or other resource economy.

At the same time, however, the realities of fiscal and policy constraints may preclude the completion of some R&D efforts, and the status of the projects in this document may also suffer changes. Specific information concerning the status of individual projects can be obtained from the Development Project Officers at the Development Center, Marine Corps Development and Education Command, Quantico, Virginia.

LFOSS, while termed a study, differs from the true definition in two ways. First, it is more of a compilation of data related to the major elements of the operating forces. Secondly, it does not present specific conclusions and recommendations. As a reference document, it is not intended to resolve issues.

The major sections of the study address;

1. The Fleet Marine Force
2. The Marine Division
3. The Marine Aircraft Wing

4. The Force Service Support Group
5. Specialized Force Units of the FMF

Each of the above components is defined in terms of its 1986 baseline and redefined as it will appear at the end of the projection period (i.e., Ground Force Structure Enhancement Program and the MCOAG study on MAF CSS and logistics system structures) The R&D initiatives which are common to one or more of the major force elements such as the six subsystems of the Marine Tactical Command and Control System, the Marine Corps Field Logistics System, and certain automated information systems are addressed in the Fleet Marine Force section. Generally, R&D initiatives unique or related to a specific combat or support organization, such as the MK-19 40mm Machine Gun in the case of the Marine Division, the AH-1W in the case of the Marine Aircraft Wing, and the Wet Gap Bridging System in the case of the FSSG, are discussed in detail in their respective force element sections in LFOSS.

Research and development in the areas of command, control, and communications, increased firepower, and mobility represent the greatest potential for change in the Marine Corps. To some extent these advances result from policy initiatives such as the Maritime Prepositioning Ships (MPS) concept. In some cases they result from the rapid evolution of our technology. All will require careful consideration and timely planning at all levels of command to ensure that the capability the R&D initiative was intended to provide is optimized and efficiently integrated into the total posture of the Marine Corps as a force in readiness.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Purpose

The purpose of the Landing Force Organizational Systems Study (LFOSS) is to provide a single document that will be useful to top and middle level commanders in preparing for future organizational changes which result from research and development. Additionally, this document will present a comprehensive picture of how the current FMF is configured and describe research and development projects scheduled for fielding during the period 1986 to 1995.

Nature of Study

LFOSS provides the current organizations, missions, structure, and equipment of the FMF, the Marine Air-Ground Task Forces (MAGTF), the Marine Division, the Marine Aircraft Wing (MAW), the Force Service Support Group (FSSG), and the Force-level units of the Marine Corps. Portions of the Commandant's Ground Force Structure Enhancement Program have been incorporated, i.e., wherein the necessary table of organization changes had been made at the time this report was written. Research and development (R&D) projects in the areas of aviation, weaponry, surface mobility, logistics and combat service support, command, control, communications, and intelligence, and Navy programs with initial operating capabilities (IOC) occurring during the study period are described and linked to the receiving FMF units. Requirements in manpower, training, and logistics to support the new equipment and the capabilities and limitations of the systems are discussed wherever the organizational impacts could be clearly identified.

The word system in LFOSS continues to denote the combination of men, equipment, weapons, and procedures in the FMF commands to produce a fighting tactical system.

The new equipment developments in the study period include items for which a definite requirement has been clearly identified and the acquisition programs have progressed into advanced development or beyond.

LFOSS is a continuing study designed to be instrumental as a reference aid in the systems acquisition planning process by directly or indirectly reflecting the total impact of individual developments upon organizations, with the ultimate aim of ensuring that all manpower, training, and logistics requirements have been identified early and can be met, given available resources.

Study Methodology

Fiscal year (FY) 1986 was established as the base year for the division, MAW, FSSG, and specialized force units. The organizations comprising the Marine Corps at this time were verified with the appropriate Headquarters Marine Corps (HQMC) agencies. The Table of organization (T/O) strengths, the unit

missions and tasks, and major items of equipment authorized on the Table of Equipment (T/E) were obtained from the Headquarters sponsors. In addition, the discussions of the MAGTF concept and the MAGTF organizations were developed and validated with the assistance of Marine Corps personnel and reference documents. The primary sources for each new system and item of equipment in the 1986-1995 time period were the work directives and the required operational capability (ROC) documents. Once the basic information was verified, the Development Project Officer (DPO), the Acquisition Project Officer (APO), or the Acquisition Sponsor Project Officer (ASPO) were contacted for updated information and projections.

Developments in communications and the Marine Tactical Command and Control System (MTACCS) were written against the background of the Marine Corps Command and Control Master Plan which has been revised to include the Landing Force Integrated Communications System Architecture and MTACCS Master Plan. Information on joint and other service automated information systems in support of the Fleet Marine Force was obtained from HQMC agencies. Descriptions and projections on major aircraft and Navy systems were obtained from current reference documents.

Organization of the Study Report

The LFOSS report is divided into five sections devoted to an introduction to the FMF and the MAGTF concept, and the division, MAW, FSSG, and specialized force units of the Marine Corps. The first section covers the missions and tasks of the FMF, the types of MAGTF organizations, the Maritime Prepositioning Ships (MPS) and land prepositioning programs, the permanent MAGTF headquarters program, and the composite MAGTF concept. New command, control, and communications systems, selected automated information systems in support of the FMF, and logistics developments such as the Tactical Vehicle Fleet which apply to units throughout the FMF, are included in this first section. Figures 1-8 through 1-15 show the expected service life of the command, control, and communications equipment during the 1986 to 1995 period. In some instances, equipment that is in the Marine Corps inventory prior to the study period will leave the inventory prior to 1995 or will remain past the end of the study timeframe. In other cases, the initial operational capability (IOC) occurs during the 1986-1995 period.

Remaining sections address the Marine division, MAW, FSSG, and specialized units to include the mission and tasks, concepts of organization and employment, logistic capabilities, aggregate Marine and Navy personnel strengths, and selected items of combat mission essential equipment down to the company/battery and squadron levels. Wire diagrams of the companies, batteries, and squadrons in the FMF with the Table of Organization (T/O) number (i.e., 1990C, 4655M) of each unit and the Marine and Navy officer and enlisted personnel T/O strengths (including contingency billets which are activated in the event of mobilization) are provided. The Marine personnel figures are shown on the left side of each

unit block with the officer numbers first followed by a dash and the enlisted totals. The Navy personnel figures, if any, are shown in the same manner on the right side of the unit blocks. The new equipment and systems, to include Navy-funded (Blue Dollar) acquisitions, are discussed in those sections dealing with the organizations to which they will be assigned. The discussions include descriptions of the items and the organizational effects of the new equipment where this can clearly be identified. Charts which show the initial operational capability (IOC) for the new communications, weapons, and equipment going to the division, MAW, FSSG, and specialized units and the units to which each item will be assigned are included in each section.

In some cases, new systems that have already reached IOC prior to 1986 but have not yet reached full operational capability because of procurement planning are briefly discussed. This was done in order to reflect the ongoing organizational influences of such significant developments as the High Mobility Multipurpose Wheeled Vehicle (HMMWV) and the F/A-18, and to show their relationship to new development items identified for the 1986-1995 period.

Planned product improvements to current systems or equipment in the inventory are discussed in those cases where the mission or functional capabilities will be materially enhanced.

Assumptions/Limitations

A basic assumption of LFOSS is that the IOCs, as published in updated ROCs or work directives, are accurate and will be met. Experience has reflected that they frequently slip or advance. As a result, they should be considered by the reader not as absolute but as planning information.

Details on weapons and equipment that are classified are not included in LFOSS in order to facilitate ease of use, handling, and distribution to its target audience. The utility of LFOSS is not markedly affected by this limitation, as the fully classified projects are limited in numbers.

LFOSS includes those projects that, when given adequate funding, are expected to arrive in the FMF according to the specified initial operational capability (IOC). Projects for which the technical capability exists, there is a funded development program, but a procurement decision will not be made until development is more complete are also discussed. At the same time, however, exploratory developments are, in the main, not included in this revision of LFOSS because of an inability to determine the specific project impact on the FMF.

SECTION 1A

FLEET MARINE FORCE
1986 BASELINE

101. GENERAL

a. The Fleet Marine Force (FMF) constitutes the principal element of the operating forces of the Marine Corps. Fleet Marine Force, Atlantic, with headquarters in Norfolk, Virginia and Fleet Marine Force, Pacific, with headquarters at Camp H.M. Smith, Hawaii are integral parts of the U.S. fleets, have the status of a fleet "Type Command," and are subject to the operational control of the respective fleet commanders. The Commandant of the Marine Corps (CMC) retains administrative control as well as responsibility for individual and unit training. (Refer to Figure 1-1).

b. Although the FMFs are skilled in a wide range of operations, the forces are basically organized and trained for amphibious operations. The units of the FMF constitute the major means for projecting United States combat power ashore in a hostile environment.

102. DEFINITION

An FMF is a balanced force of air and ground combat arms, and may consist of a headquarters, one or more Marine divisions, one or more Marine aircraft wings, and one or more force service support groups (FSSG). Elements of the divisions, wings, and FSSGs may be organized to form one or more Marine Amphibious Brigades (MABs). The administrative and training organization of Fleet Marine Force, Atlantic (FMFLant) is shown in Figure 1-2, and the commands in Fleet Marine Force, Pacific (FMFPac) are shown in Figure 1-3. Permanent nucleus Marine Air-Ground Task Force (MAGTF) headquarters exist at the Marine Amphibious Force (MAF), Marine Amphibious Brigade (MAB), and the Marine Amphibious Unit (MAU) levels. The MAGTF concept and the permanent nucleus headquarters are explained in more detail in this Section.

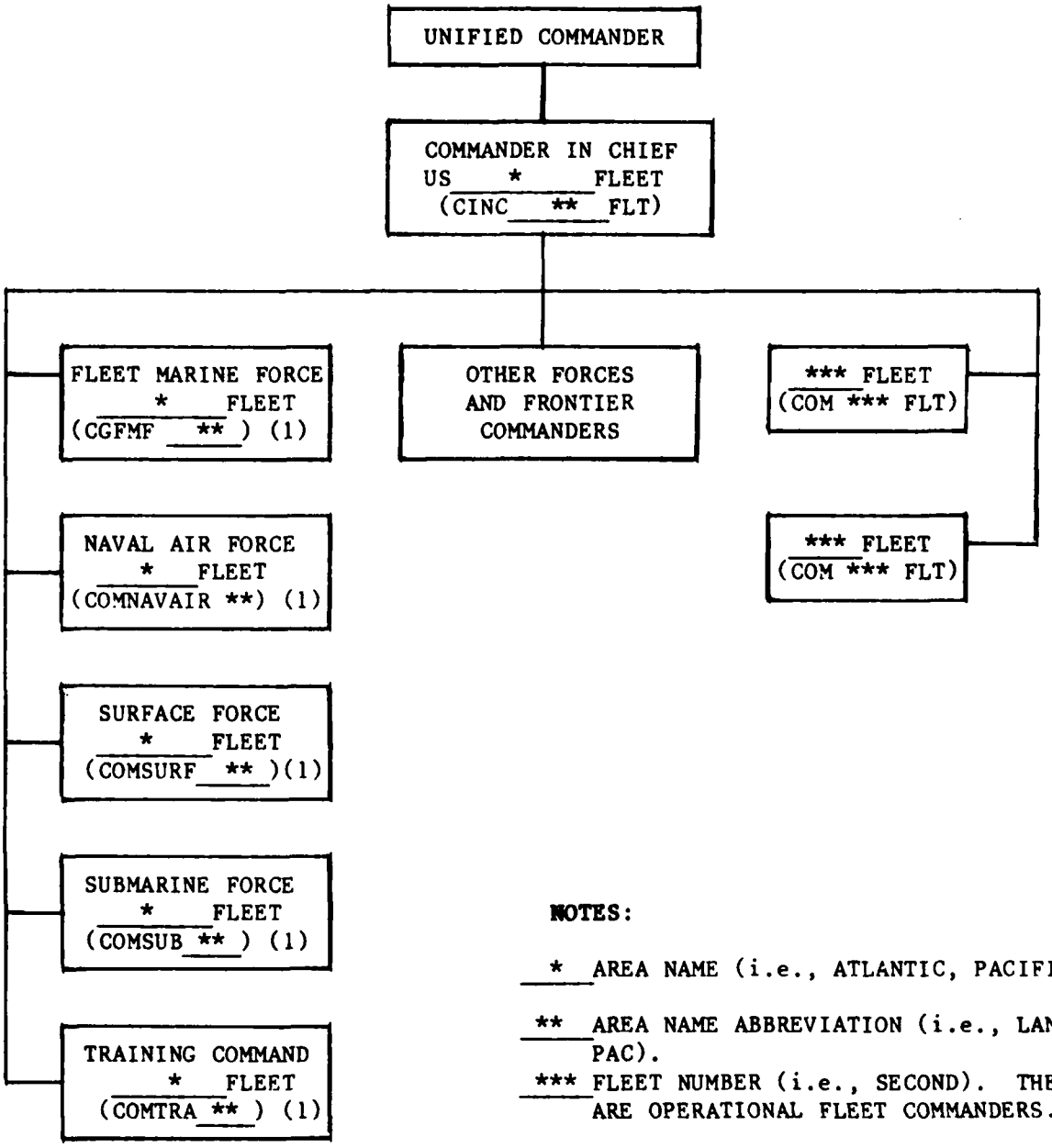
103. MISSIONS

a. The FMF serves with the fleet in the seizure and defense of advanced naval bases and in the conduct of such land operations as may be essential to the prosecution of a naval campaign.

b. As directed by the Commandant of the Marine Corps, the FMF participates in the development of doctrine, tactics, techniques, and equipment employed by troops in amphibious operations.

c. As directed by the Commandant of the Marine Corps, the FMF trains and equips Marine Corps forces for airborne operations.

FLEET ORGANIZATION



NOTES:

* AREA NAME (i.e., ATLANTIC, PACIFIC).

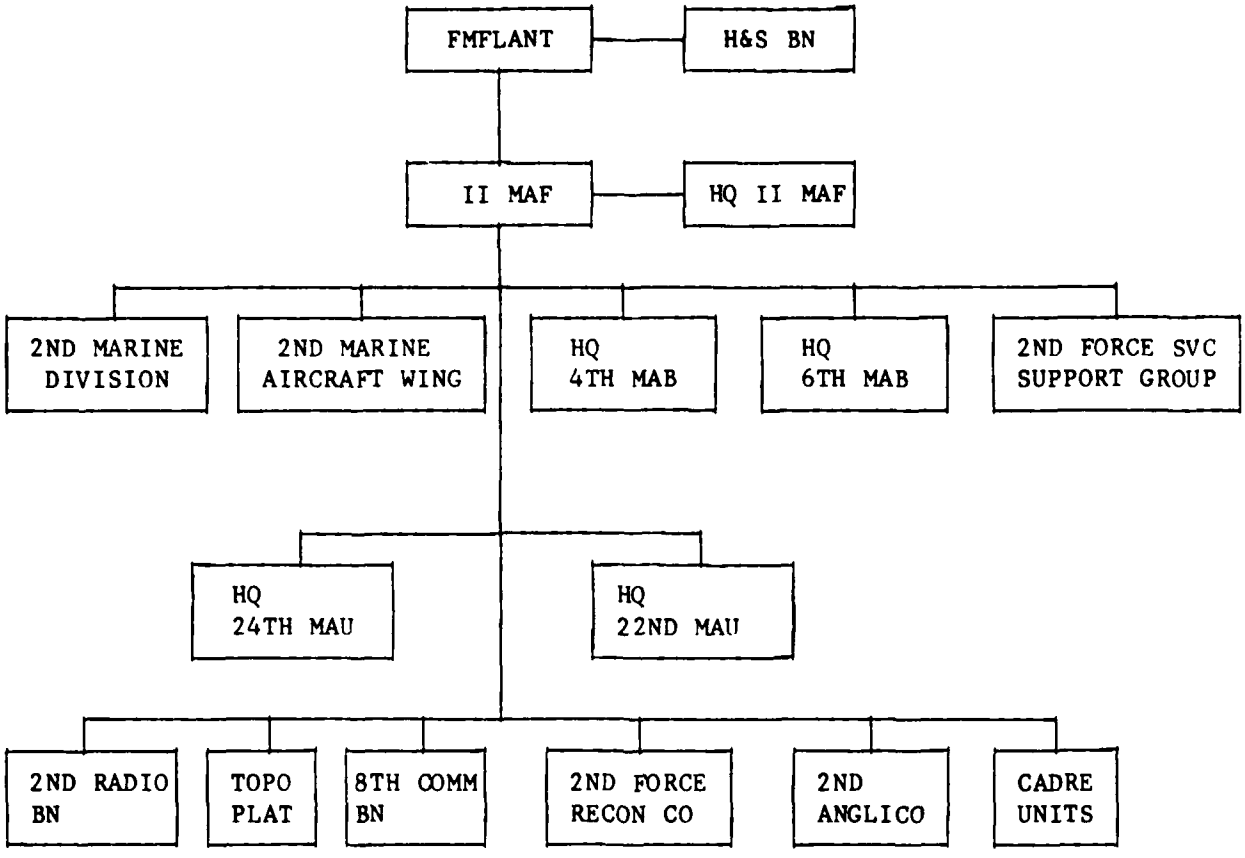
** AREA NAME ABBREVIATION (i.e., LANT PAC).

*** FLEET NUMBER (i.e., SECOND). THESE ARE OPERATIONAL FLEET COMMANDERS.

(1) TYPE COMMANDERS.

Figure 1-1

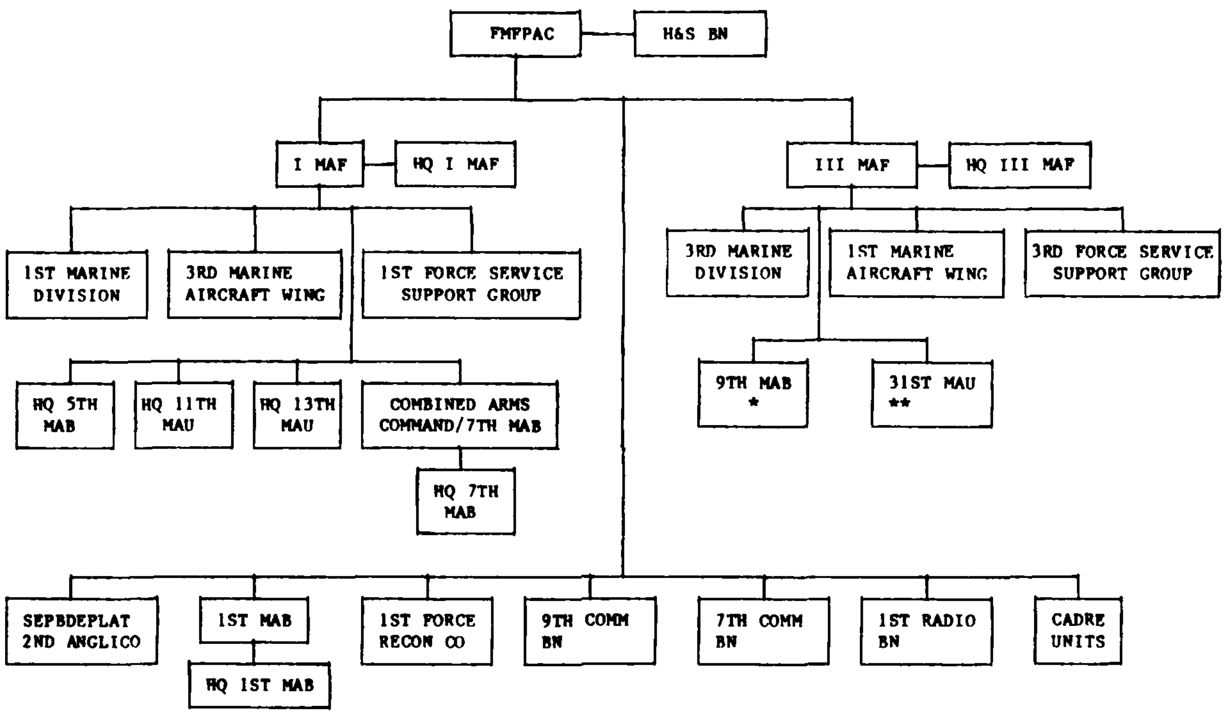
FLEET MARINE FORCE ATLANTIC



- o 2ND RADIO BN - OPCON to FMFLant; ADCON to 2ND FSSG
- o 8TH COMM BN - OPCON to FMFLant; ADCON to 2ND FSSG
- o 2ND FORCE RECON CO - OPCON to FMFLant; ADCON to 2ND FSSG; Operational tasking from CGFMLant via 2ND FSSG
- o 2ND ANGLICO - OPCON/ADCON 2ND FSSG; Operational tasking from CGFMFLant via 2ND FSSG
- o TOPO Plat - OPCON/ADCON FMFLant
- o CADRE UNITS - Div Combat Engr Co, Div Recon Co.

Figure 1-2

FLEET MARINE FORCE PACIFIC



- 1ST RADIO BN - OPCON/ADCON FMFF.
- 7TH COMM BN - OPCON/ADCON III MAF
- 9TH COMM BN - OPCON/ADCON I MAF
- SEPBDEPLAT - OPCON/ADCON I MAF
- 1ST FORCE RECON CO - OPCON/ADCON I MAF
- CADRE UNITS - 2 DIV RECON CO'S, 2 DIV COMBAT ENG CO'S, 1ST ANGLICO, CIVIL AFFAIRS GROUP

* Headquarters nucleus formed from assets in HQ III MAF
** Not permanent nucleus MAGTF headquarters

Figure 1-3

d. The FMF trains sufficient numbers of personnel to meet the requirements of expansion in time of war.

e. The FMF performs such other duties as may be directed.

104. REQUIREMENTS

To carry out its mission, an FMF must be

a. Organized, trained, and equipped for effective combat operations essential to the prosecution of a naval campaign to seize objectives against the best and most modernly equipped enemy.

b. A balanced force of combined arms and services.

c. Primarily trained, organized, and equipped for offensive employment.

d. Adaptable to the active defense of advanced naval bases.

e. Trained, equipped and ready for prompt and effective employment in any climate or terrain.

f. Trained and equipped for airborne operations as required, in accordance with policies and doctrines of the Joint Chiefs of Staff (JCS).

g. Provided with sufficient combat service support forces to maintain combat efficiency in the execution of normal missions.

h. Provided with organic aviation units primarily organized, trained, and equipped for support of ground units in amphibious operations and capable of performing:

(1) Offensive air support

(2) Anti-air warfare

(3) Assault support

(4) Aerial reconnaissance

(5) Electronic warfare

(6) Control of aircraft and missiles

i. Organized so that rapid expansion in time of war can be accomplished with a minimum disruption of combat efficiency.

105. CONCEPT OF EMPLOYMENT

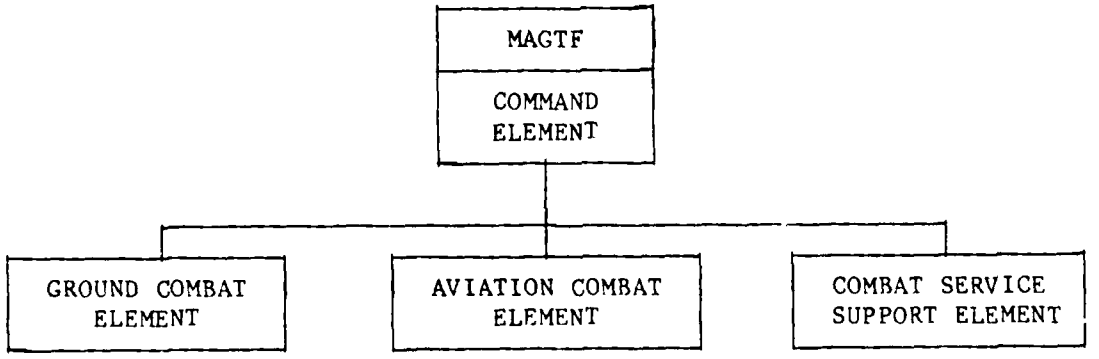
FMFLant and FMFPac consist of air and ground combat, combat support, and combat service support units from which elements can be drawn to task organize a fully capable force for a specific

mission. The design of the organization is based on the fully integrated Marine air-ground task force (MAGTF) concept which exploits the combat power inherent in closely coordinated air and ground operations. The size, composition, and combat power of a MAGTF will vary according to the mission, but each MAGTF will consist of the four basic elements: A command element, a ground combat element (GCE), an air combat element (ACE), and a combat service support element (CSSE) with appropriate Navy support elements.

106. MARINE AIR-GROUND TASK FORCES

a. Marine Air-Ground Task Forces (MAGTF) are typically employed in amphibious assault operations. The size of these organizations can range from one infantry battalion and a composite squadron to two or more Marine divisions,Marine aircraft wings, and supporting elements. A typical MAGTF is shown in Figure 1-4.

MARINE AIR-GROUND TASK FORCES
(TYPICAL ORGANIZATION)



GROUND COMBAT AND COMBAT SUPPORT COMMENSURATE WITH MISSION.

AIR COMBAT AND COMBAT SUPPORT COMMENSURATE WITH MISSION.

COMBAT SERVICE SUPPORT ELEMENTS COMMENSURATE WITH MISSION.

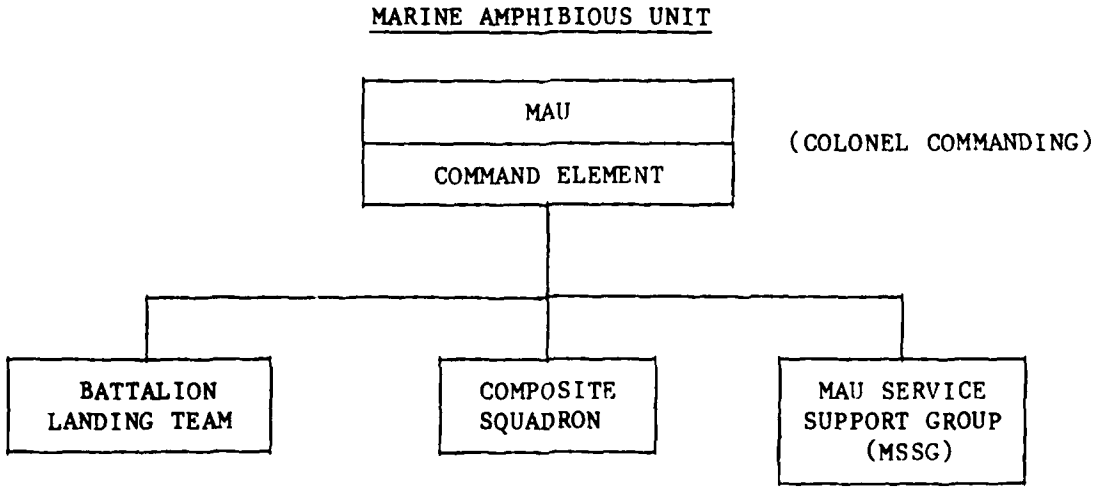
Figure 1-4

b. A detailed discussion of the structure and types of MAGTFs is contained in FMFM 0-1.

107. TYPES OF MARINE AIR-GROUND TASK FORCES

There are three types of MAGTFs among the task organizations. The MAGTFs shown in Figures 1-5, 1-6, and 1-7 represent notional structures with representative personnel totals and major items of combat mission essential equipment. The Maritime Prepositioning Ships (MPS) Marine Amphibious Brigade (MAB) is discussed in detail in this Section as an example of the MAGTF concept. The permanent

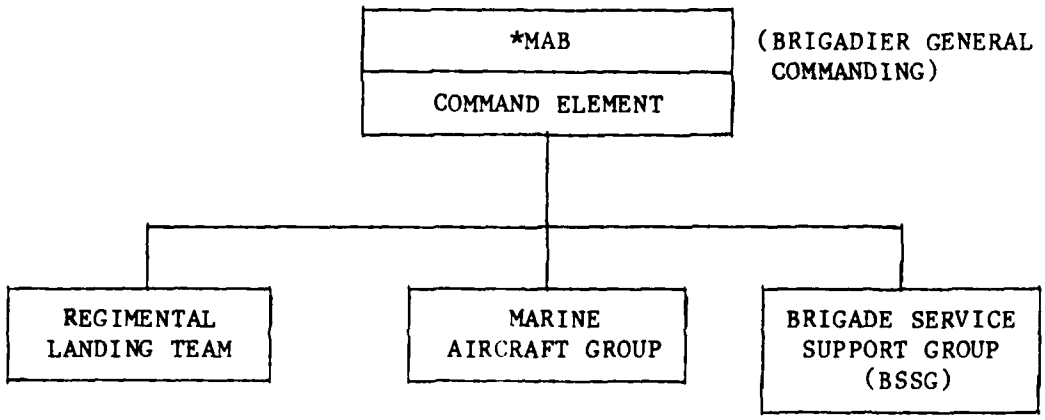
nucleus MAGTF headquarters and the composite MAGTFs are also covered.



1,800 - 4,000	MARINES AND NAVY
4 - 7	AMPHIBIOUS SHIPS
5 - 10	MEDIUM TANKS
20 - 36	HELICOPTERS
6 - 12	ARTILLERY PIECES
	USN AND USMC FIXED-WING AIRCRAFT
10 - 15	ASSAULT AMPHIBIAN VEHICLES

Figure 1-5

MARINE AMPHIBIOUS BRIGADE



MAY INCLUDE MORE THAN ONE GROUND COMBAT ELEMENT.

CONTAINS ATTACK, HELICOPTER, AND ANTI-AIR WARFARE CAPABILITIES. CAPABLE OF ESTABLISHMENT ASHORE.

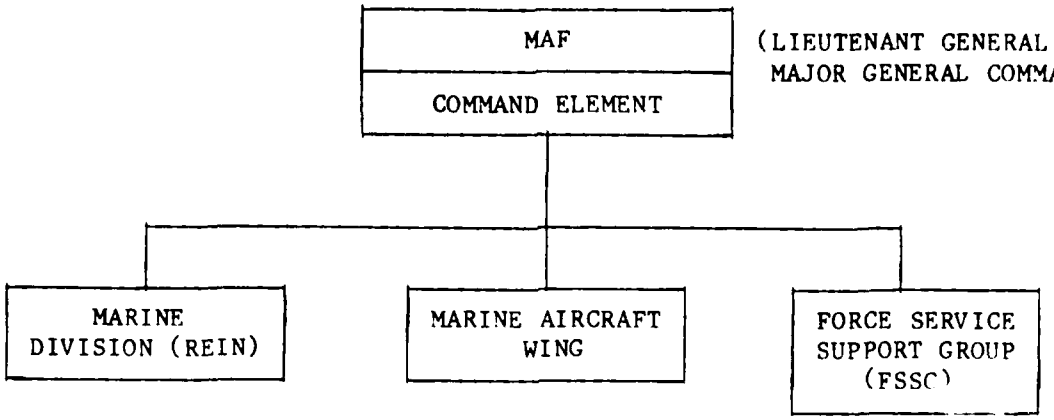
FORMED FROM FORCE SERVICE SUPPORT GROUP, DIVISION, AND WING. MAY INCLUDE NAVY ELEMENTS.

8,000 - 16,000	MARINES AND NAVY
17 - 34	MEDIUM TANKS
75 - 120	HELICOPTERS
24 - 42	ARTILLERY PIECES
45 - 79	FIXED-WING AIRCRAFT (USMC)
20 - 47	ASSAULT AMPHIBIAN VEHICLES
1 or 2	CARRIER AIR WINGS (USN)
36	LIGHT ARMORED VEHICLES

* MAY BE EMPLOYED SEPARATELY OR AS AN ADVANCE FORCE FOR A MAF.

Figure 1-6

MARINE AMPHIBIOUS FORCE



THE GROUND COMBAT ELEMENT IS USUALLY A MARINE DIVISION REINFORCED. HOWEVER, IT MAY RANGE IN SIZE FROM A DIVISION (-) TO SEVERAL REINFORCED DIVISIONS.

ORGANIZED AND EQUIPPED FOR ESTABLISHMENT ASHORE.

IF TWO DIVISIONS AND/OR TWO WINGS ARE PART OF THE MAF TASK ORGANIZATION, AUGMENTATION FROM ANOTHER FSSG WILL NORMALLY BE REQUIRED.

40,000+	MARINES AND NAVY
44 - 56	AMPHIBIOUS SHIPS
1 or 2	TANK BATTALIONS (70 TANKS/BATTALION)
150 - 200	HELICOPTERS
75 - 120	MEDIUM AND HEAVY ARTILLERY PIECES
125 - 175	FIXED-WING AIRCRAFT (USMC)
1 or 2	ASSAULT AMPHIBIAN BATTALIONS
2 - 4	CARRIER AIR WINGS (USN)
147	LIGHT ARMORED VEHICLES

A MAB OR MAU MAY BE INCLUDED AS A SEPARATE ELEMENT IN THE MAF TASK ORGANIZATION TO CONDUCT AIR-GROUND OPERATIONS SEPARATED SUFFICIENTLY IN SPACE OR TIME FROM OTHER MAF COMMAND AND CONTROL. SUCH OPERATIONS ARE NORMALLY OF LIMITED DURATION.

Figure 1-7

108. MARITIME PREPOSITIONING SHIPS (MPS) PROGRAM

a. Maritime prepositioning significantly enhances the capabilities of the Marine Corps to rapidly deploy and sustain a brigade-sized MAGTF in crisis situations throughout the world. The program involves the prepositioning of the equipment for a Marine Amphibious Brigade (MAB) and 30 days of consumable supplies aboard specifically configured commercial ships operated under long-term contract to the Military Sealift Command (MSC) and manned by civilian crews.

b. There will be three MPS squadrons with four or five ships in each squadron. The squadron commander, a Navy captain, will be assisted by a small squadron staff. One squadron will be located in the Eastern Atlantic and another will be in the Indian Ocean. The third squadron will be in the Western Pacific. In addition to the MPS ships, the aviation logistics support ship, TAVB, and the hospital ship, TAH will be important parts of the task force. The TAVB will carry a Marine aviation intermediate maintenance activity on board and have berthing capacity for 360 maintenance personnel. The hospital ship will have twelve operating rooms and 1000 beds. These two ships will join the squadron in the operating area once it is committed.

c. The concept of employment for an MPS MAB calls for the MPS squadron to be located in designated overseas waters or ports. When an MPS operation is ordered, a fly-in-echelon (FIE) made up of 16,000 Marines and Navy in the MAB and a Navy Support Element (NSE) is airlifted with its selected equipment (not suitable for prepositioning) to the vicinity of an objective area using Military Airlift Command (MAC) and MAC charter aircraft for linkup with the MPS squadron. At the same time MAB tactical aircraft are flight ferried to an airfield in or near the area of operations. The MAB can be combat capable and ready to move to an objective in 5 days or less and operate for 30 days using the supplies on the ships.

d. Maritime prepositioning and amphibious operations are complementary, and an MPS MAB must be prepared for deployment and employment in any of the following situations:

(1) In a permissive environment
-- for independent operations as a MAB
-- as the lead element of a MAF

(2) In a hostile environment as a reinforcement for another MAGTF that has previously been committed and which will provide security for the arrival/offload of the MPS MAB.

e. An MPS MAB will further be capable of executing any of the following missions:

(1) Occupy or reinforce an advanced naval base.

(2) Preemptively occupy and defend key chokepoints along sea lanes of communications.

(3) Reinforce an ally with a credible force prior to hostilities.

(4) Establish a sizable force ashore to support a land campaign.

(5) Deter adventurism through the diplomatic signalling afforded by positioning the ships and alerting Marine forces.

f. A typical MPS MAB will have a fighting capacity consisting of the following personnel and equipment:

16,000 Marines and Navy
68 Helicopters
6 HAWK Launchers
53 Tanks
36 Artillery Pieces
96 TOWs
78 Fixed-wing Aircraft
72 STINGER Missiles
109 Assault Amphibian Vehicles
28 Light Armored Vehicles

g. The success of the MPS program depends on detailed preparation in the planning and marshaling phases, the adequacy of the airfields and ports, and proper actions during the reception phase in the operating area when the actual marrying of personnel and equipment occurs. With men and equipment arriving from many different directions and by a variety of means, security and safety are also of paramount importance during offload, marriage, and assembly operations. At the same time, however, the best plans, training, and preparations, can be undone by prepositioned equipment and supplies that have not been properly maintained by the civilian crews on the MPS ships.

h. The land prepositioning equipment program is similar to the MPS program in that equipment and supplies are maintained in Norway for the immediate use of a MAB-sized unit in contingency situations. This land MAB will be smaller (13,000 Marines and Navy) than the MPS MAB and will not have any tanks, assault amphibious vehicles, or self-propelled artillery. The striking power of the organization will still be significant with increased numbers of TOWs and assault helicopter assets (155 different aircraft in all). In addition, the country of Norway will provide 151 oversnow-vehicles.

109. PERMANENT MARINE AIR-GROUND TASK FORCE HEADQUARTERS

a. Marine Corps doctrine states that MAGTFs are not permanent organizations while at the same time recognizing the need for on-hand MAGTF command elements. FMFM 0-1, Marine Air-Ground

Task Force Doctrine stipulates that each MAF headquarters has the responsibility to maintain one MAB, including its headquarters, on an operational or nucleus basis and one MAB staff nucleus on an additional duty basis. MAU staffs are to be maintained in a similar manner. The advent of maritime prepositioning, with an increased emphasis on rapid deployment, has indicated the need for a stable and uniform MAGTF headquarters program.

b. The concept of the permanent MAGTF headquarters established the MAB headquarters as the basic building block with three MAF (nucleus), three MAF headquarters and service companies (nucleus), and six MAB headquarters to be formed based on standardized Tables of Organization (T/O) and Tables of Equipment (T/E).

c. The permanent MAB headquarters will be the sum of a MAB planning headquarters, an H&S company, and two MAU headquarters. The sourcing of MAU headquarters is a capability of the MAB headquarters provided in the building block concept, but not every MAB headquarters is expected to source MAU headquarters.

d. Once the requirement for a MAF sized force is identified, for example, the designated MAF (nucleus) headquarters will be superimposed on a MAB headquarters, integrating personnel by previously identified T/O billets and line numbers. The MAF H&S Co. (nucleus) will likewise be expanded to full strength from the assets of the MAB H&S Co.

e. The building block design of the permanent MAGTF headquarters concept saves in personnel and avoids having an unnecessary number of full headquarters in being at one time. This approach also economizes on personnel who are attached to the MAGTF headquarters such as Radio Battalion detachments, interrogator translator teams, counterintelligence teams, and force reconnaissance teams.

110. COMPOSITE MARINE AIR-GROUND TASK FORCES

a. A composite MAGTF is a MAGTF using forces from two or more other MAGTFs. The concept does not involve the simpler case of a single MAGTF being reinforced. A composite MAF will be composed of some combination of forward deployed or mission deployed amphibious forces, and land or maritime prepositioning forces. The specific combination of units will depend upon, among other things, the factors of time, distance, and strategic mobility resources.

b. The basic principles in the composite MAGTF concept involve:

(1) One of the deploying MAGTFs is selected as the primary or base MAGTF which the other compositing MAGTF joins. The primary MAGTF commander is designated the composite MAGTF (Forward) commander.

(2) The primary MAGTF's ACE is designated the Wing/Group (Forward) and its commander becomes the composite ACE commander.

(3) The primary MAGTF's CSSE is designated the FSSG/BSSG (Forward) and its commander becomes the composite CSSE commander.

(4) The MAGTF headquarters other than the primary MAGTF headquarters is designated as the Division/Regiment (Forward) and its commander becomes the composite GCE commander.

(5) Augmentation, as it arrives, adds combat power, sustainability, and a more conventional command and control structure.

c. The transition phases for forming a composite MAGTF consist of the following:

(1) Expansion--arrival of two or more MAGTFs in the objective area. The primary MAGTF is designated and other actions are taken to achieve unity of command without reorganizing the MAGTFs.

(2) Integration--gradual merging of the arriving GCEs, ACEs, and CSSEs occurs. Operational control of the subordinate organizations passes to the composite element commanders.

(3) Constitution--augmentation and further reorganization produce a composited, single MAGTF. A short operation may not allow for a transition to a fully conventional MAGTF.

d. The concepts for the permanent MAGTF headquarters and the composite MAGTFs are compatible and increase the Marine Corps' abiility to rapidly deploy and employ combat forces. These processes provide a rational method of maintaining effective command and control during a build-up of forces in theater, from forward deployed MAUs to a composite MAF.

111. GROUND FORCE STRUCTURE ENHANCEMENT (GFSE) PROGRAM

a. The Commandant of the Marine Corps approved a comprehensive program decision memorandum on 3 June 1985 which ensures maximum continuity and stability through the systematic integration of structure initiatives and hardware fielding over the next several years.

b. The changes in the ground force structure include the following:

(1) Restore the 13-man Marine rifle squad and other modifications to the infantry battalions during fiscal years (FY) 1986 to 1988. The Force Commanders have been authorized to

transition their infantry battalions to an interim 11-man, triangular (three fire teams) rifle squad structure.

(2) Reorganize the heavy machine gun section during FY 1986 to lighten the combat load and provide the level of leadership required to command a platoon vice a section.

(3) Add two supply personnel and one armorer to each infantry battalion during FY 86.

(4) Reduce the number of Dragon systems in each infantry battalion from 32 to 24 during FY 86.

(5) Activate a force reconnaissance company in FMFPac during FY 1986.

(6) Reorganize each MAF's TOW assets into an anti-tank battalion with 108 TOWs commencing in FY 88 contingent upon the Force Commander's identification of suitable existent facilities. This initiative would involve a reduction of 36 JEEP/HMMWV mounted TOWs per Marine Division.

(7) Activate one tactical deception platoon in FY 1992 and two platoons in FY 93.

(8) Add an executive officer to the Headquarters Company of the infantry regiment.

(9) Enhance the fire support coordination capability of the tank battalions by adding 11 enlisted communications personnel to each battalion in FY 86. These Marines will work with the Forward Air Controller (FAC) and the Air Liaison Officer (ALO) in the establishment of a Fire Support Coordination Center (FSCC).

(10) Reorganize the Force Communication Battalion in FY 86 to reflect one headquarters and service company, two communication companies, and one support company to provide communications support for two MABs or one MAF.

(11) Field one general support rocket system (GSRS) battalion and re-equip one general support artillery battalion in FY 1990, 1991, and 1992.

SECTION 1B

FLEET MARINE FORCE
COMMAND, CONTROL, AND COMMUNICATIONS SYSTEMS (1986-1995)

112. BACKGROUND

The Command, Control, and Communications (C3) systems that are being employed in the Marine Corps are the result of evolutionary development that has its beginnings prior to World War II. Over the years, the introduction of new tactics, techniques, and equipment has gradually necessitated new command and control agencies. Most of these C3 agencies still operate in a manual mode using analog communications. Now, however, rapidly expanding technology, especially in the area of target acquisition, along with the increase in the speed and lethality of modern, sophisticated combat weapons, requires significant and timely improvements in C3 capabilities. Developments now underway in the areas of tactical data systems and digital communications will increase the quantity, accuracy, speed, reliability, usability of form, and security of information exchange among the various agencies of the Marine Corps and other U.S. and allied services.

113. GENERAL

a. Many new items of communication equipment in command and control systems will be present in the inventory during the 1986-1995 time frame. Some of this equipment has been already introduced as part of a phased development. The U.S. Marine Corps Command and Control (C2) Master Plan provides for coordinated management of development, acquisition, and employment of tactical system and communication equipment through the mid-1990s. The C2 Master Plan is a comprehensive compilation of the descriptions and status of all FMF command, control, communications, and automated data processing systems, including related systems and those of other services. It is the single management and reference document for all Marine Corps automated systems and communications and reflects current program decisions and status. Accordingly, the current version (March 1983) is undergoing revision to reflect changes to individual systems under development which have occurred in part from evolving technology and changing requirements, some of which are reflected herein.

The major components of the C2 Master Plan described in this section include the Marine Tactical Command and Control System (MTACCS) and the Landing Force Integrated Communications System (LFICS). Related Marine Corps and other service tactical systems as well as other nontactical automated information systems in support of the FMF are also covered in this section.

b. Policy. As detailed in the C2 Master Plan, all systems under development will:

o Satisfy operational requirements with minimum complexity/sophistication.

o Be operational in combat and garrison and utilize power-operating equipment projected for the 1985-1996 time frame.

o Utilize standard, common, or modular hardware to maximum extent to facilitate compatibility.

o Use existing, proven technology.

o Support maximum integration of ground and aviation systems.

o Meet inter/intraoperability requirements specified early in system requirements documentation.

o Utilize a DOD-approved high order software language.

o Meet communication requirements through LFICS to provide for transfer of information in both digital and analog form.

o Provide for continuity of operation in degraded conditions and a high degree of system availability.

o Emphasize improvement of reliability and maintainability in order to reduce the requirement for personnel and high skills for operation and maintenance.

o Provide for operation in a high electronic countermeasures (ECM) threat environment and safeguard classified material and information.

114. MARINE TACTICAL COMMAND AND CONTROL SYSTEM (MTACCS)

a. General. The objective of MTACCS is to provide the FMF commander with C2 means to cope with the increased operational tempo and complexity of the modern battlefield. This requires, where tactically necessary and logistically supportable, the use of integrated systems which can automatically receive, process, display, and distribute information. MTACCS is a conceptual association of command and control systems to support post-1980 tactical operations. It currently consists of six functionally oriented tactical and training systems that use, where feasible, common equipment, operational procedures, data bases, and design philosophy, and, where appropriate, interoperate through a common communications system.

b. Systems. The MTACCS concept embraces six systems. The systems and their dates of initial operational capability (IOC) are as follows:

o Marine Integrated Fire and Air Support System -- IOC FY 91

- o Tactical Combat Operations System -- IOC FY 93
- o Position Location Reporting System -- IOC FY 87
- o Tactical Air Operations Module -- IOC FY 90
- o Marine Air/Ground Intelligence System
  - Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) -- operational
  - Imagery Interpretation segment (II) -- operational
  - Imagery Processing (IP) segment -- operational
  - Intelligence Analysis Center (IAC) -- IOC FY 85
- o Tactical Warfare Simulation, Evaluation, and Analysis System (TWSEAS) -- operational

c. The following discussion of each of the six systems designed for the FMF will encompass concept, key features, interoperability with the other systems of MTACCS and LFICS, as well as any significant impacts on manpower, maintenance, or training.

d. Marine Integrated Fire and Air Support System (MIFASS)

(1) MIFASS will be capable of near real time display and information processing that will provide automated assistance to all levels of MAGTF commanders to accomplish command, control, and coordination functions inherent in the employment of direct air support, artillery, naval gunfire, and mortars in support of the MAGTF. MIFASS equipment will be found at the Marine division, the artillery and infantry regiments and battalions, and the Direct Air Support Center (DASC) of the Marine Air Support Squadron. Technological improvements in information processing and display equipment, supported by improvements in communications and ground navigation, will be selectively applied to improve the task and functions of the ground combat element's Fire Support Coordination Center (FSCC), the aviation combat element's DASC, and some of the functions of the supporting artillery's Fire Direction Center (FDC). This, along with supporting real time information display equipment in MIFASS, will provide improved mission response time and increase the volume of fire support. Additionally, greater accuracy, improved troop safety, increased mission throughput capability, and closer integration of supporting arms will be provided.

(2) The net effect of MIFASS on manpower requirements is uncertain and will be dependent upon the organization and doctrine adopted for employment of the system and the supporting communications. A production decision during 1986 is anticipated

upon completion of the Engineering Development Phase. MIFASS will interface with the Position Location Reporting System (PLRS), Tactical Combat Operations System (TCO), Marine Air/Ground Intelligence System (MAGIS), Tactical Air Operations Module (TAOM), and Digital Communications Terminal (DCT), as well as with a number of other service or joint systems that will be identified in Section 1C of this document.

e. Tactical Combat Operations System (TCO)

(1) The TCO will be a secure semiautomated tactical command and control system. It will provide an improved capability for receiving, processing, storing, retrieving, displaying, summarizing, and disseminating selected information that is vital at each command echelon for effective planning and execution of combat operations. It will also retrieve summary data as required to support operations, and improve and expedite the flow of information.

(2) TCO will be the nucleus of the combat operations center, which is the focal point for operational information within the MAGTF. Its mission is to provide an accurate data input, storage, information retrieval, and processing system for the support of ground, combat service support, aviation, MAGTF G-3/S-3 operational, and intelligence functions (except for those intelligence functions supported by the MAGIS IAC). A concurrent project, the Tactical Intelligence Management System (TIMS), may serve as an interim extention of the MAGIS (IAC) at the MAB level and below until TCO is fully developed. TIMS uses commercial off-the-shelf computer hardware. At division, wing, MAF, and MAB headquarters, TCO will support operations centers; plans and briefing centers; and intelligence, reconnaissance, and surveillance centers. An interface may exist between MAGIS and TCO to provide intelligence information to appropriate MAGTF OPFACs. Infantry battalions/regiments, artillery battalions/regiments, and tank and reconnaissance battalions will have TCO-equipped operations centers. These will include appropriate personnel, communications, and equipment to plan, direct, and monitor tactical operations. FSCCs, supported by MIFASS, will be collocated with TCO centers at infantry battalion, infantry regimental, and division levels. Marine aircraft group and squadron operations centers will also be supported by appropriate TCO equipment. Current plans are for TCO hardware to be identical with MIFASS.

(3) TCO will require some revision (rank and billet descriptions only) to the table of organization of TCO-equipped units. A small number of additional maintenance personnel will be required at the force logistic support organization or supply depots. TCO training exercises will provide individual operators and technicians with basic required skills.

f. Position Location Reporting System (PLRS)

(1) PLRS will provide highly accurate, real time, three-dimensional position location and identification information for selected PLRS-equipped air and ground elements and vehicles. This information will be made automatically available to appropriate commanders and their staffs within the MAGTF through PLRS, MIFASS, TCO, and TAOM in order to assist with maneuver control, fire support planning and coordination, conflict avoidance, and other C2 functions. In addition to being available to the various command center installations served by the MTACC systems, position location and other PLRS data will be provided to all PLRS users, on request, via the PLRS user unit. A complete PLRS will consist of master stations and user units with a mixture of user units in manpack, surface vehicle, airborne, and auxiliary ground unit configurations. PLRS will be employed with the MAB down to the platoon level with user units also installed in the helicopter, OV-10, and AV-8B.

(2) PLRS will be particularly useful in maintaining precise location and identification of friendly elements which in the past have been difficult to locate with any degree of accuracy (e.g., remote area patrols, low-flying helicopters, and observation aircraft). Combat functions, such as reconnaissance team insertion and retraction and medical evacuation, will be greatly facilitated. While PLRS can be utilized as a stand-alone system, its maximum effectiveness will be achieved through its interoperation with MIFASS. PLRS will provide the capability for users to send and receive a variety of position/navigation information including, but not limited to, the following:

- o Own and other unit position coordinates.
- o Range and bearing data of other users.
- o Area alerts.
- o Aircraft navigation through multilegged air-navigation lanes.
- o Tactical operation control points (e.g., night attack).

(3) PLRS user unit operators will come from within current Marine Corps personnel allocations. Additional personnel will be required to man the master station operation and maintenance of the PLRS platoon, which will be located at the Headquarters Battalion, Marine Division.

g. Tactical Air Operations Module (TAOM) - AN/TYQ-23

(1) The TAOM is a transportable, modularized, software-intensive, automated air command and control system capable of controlling and coordinating the employment of a full range of air defense weapons-interceptors and surface-to-air missiles in support

of the MAGTF. Formerly known as TAOC-85, the TAOM is a second generation command and control system being developed to replace equipment built under the Marine Tactical Data System program. MTDS program equipment has been in use by operational Marine Corps units since 1966 and will be phased out when replaced by TAOM equipment. TAOMs will be located at the two active Marine Air Control Squadrons (MACS) per each Marine aircraft wing and perform real time air control functions presently performed by the Tactical Air Operations Center (TAOC) and the Tactical Air Command Center (TACC).

(2) A single TAOM, housed in a standard 8'x8'x20' ANSI ISO shelter, contains all mission-essential equipment with the exception of search radar, IFF, and prime power equipment. TAOMs provide the capability for: accepting target reports generated by search radar and IFF equipment; performing automatic track correlation, acquisition, identification, classification, tracking, threat evaluation, and weapon selection and assignment; receiving and processing track information, orders, commands, and status data received via digital data links from other command and control systems and from TAOM-controlled weapons systems; and processing inputs from operator consoles and displaying on console units the real time tactical air situation. Interfaces for this system include MIFASS, TCO, and the Marine Air Traffic Control and Landing System (MATCALS).

(3) The TAOM is not expected to require the creation of new-operator military occupational specialties. With built-in test equipment for automatic/manual fault detection and isolation in the electronic maintenance unit of the MACS, maintenance may be reduced. Formal training courses will be modified to incorporate new operational concepts and equipment techniques.

h. Marine Air-Ground Intelligence System (MAGIS). MAGIS is employed by the FMF as a tactical intelligence system. The system consists of equipment, procedures, techniques, and trained personnel required to process large quantities of information into timely, accurate, and detailed multisource intelligence. MAGIS consists of modular, functional segments housed in mobile air-transportable shelters which can be moved by FMF organic assets. Automated assistance is being provided where it is economical and beneficial. The four constituent--but independently deployable--MAGIS segments include Imagery Processing, Imagery Interpretation, Tactical Electronic Reconnaissance Processing and Evaluation System, and the Intelligence Analysis Center.

(1) Intelligence Analysis Center (IAC), AN/TYQ-19(V). The IAC is the central processing core of MAGIS and will be employed by the MAF staff to produce information from the II, TERPES, MAF, division and wing intelligence centers, and other sources which will enter the IAC for processing into intelligence. Major automated functions include:

o Reception, recording, and internal routing of intelligence data.

o Support of evaluation, analysis, and interpretation of analysis data.

o Management of information processing and coordination of intelligence product with other activities.

o Support for fast coordination of manual intelligence and electronic warfare resources.

Interfaces include TERPES, TCO, ASIP, and II. Major IAC preplanned product improvements currently undergoing concept development include reduction in physical size from three 8'x8'x20' shelters to one 8'x8'x10' shelter; procurement of microprocessors for use at echelons below the MAF; incorporation of JINTACCS, a general services digital data link (FY 86); and an LHA backfit consisting of a better executive and graphics capability (FY 86).

(2) Imagery Processing (IP) Segment, ES-40. The IP provides an improved capability to process photography and other types of imagery collected by reconnaissance aircraft. This system interfaces with the II.

(3) Imagery Interpretation (II) Segment, AN/TYQ-12(V)2. The II segment provides the imagery interpreter with a computer-assisted capability to rapidly and accurately exploit multisensor imagery and to produce formated interpretation, reports, plots, and other products. The II interfaces with the IAC.

(4) All Source Imagery Processor (ASIP). The ASIP is a soft-copy imagery system that will exploit, in near real time, radar, infrared, electrooptical (RF-4B/F/A-18(R)), and natural sensors. The ASIP will process both tactical and national imagery in a small, compact system capable of deploying with the ground combat elements of the MAGTF. It will be capable of rapid setup and backdown to meet mobility requirements of the support unit. The ASIP will replace the IP and II in FY 90.

(5) Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES), AN/TSQ-90. The TERPES is an integrated tactical data system that performs functions necessary for conducting EA-6A/B electronic warfare flight processing, evaluating, and reporting of electronic reconnaissance information collected by the EA-6A/B aircraft system. Major functions performed are EA-6A/B aircraft-type mission data reduction, data analysis, and reporting of data to the wing intelligence center and MAF IAC; TERPES is undergoing a comprehensive product improvement program to replace the CP 808 computer and to develop a tactical UHF, team-transportable receiver suite known as the Tactical Data Information Exchange System (TADIXS)-B Tactical Radio Equipment (TRE) by FY 88. The EA-6B will be equipped with a Joint Tactical Information Distribution System (JTIDS) terminal by FY 91, which

will provide secure jam-resistant, vocal and data communications capabilities and inherent relative navigation, position location, and identification capabilities.

i. Tactical Warfare Simulation, Evaluation, and Analysis System (TWSEAS). TWSEAS is an automated tactical command and control system for use in design, control, evaluation, and analysis of tactical exercises, including both field and map maneuvers. Systems are already in use in FMFPAC, FMFLANT, and at the Marine Corps Development and Education Command, thus forming a training network of identification, development, and communication of solutions to combat training requirements. An integrated software system is currently being introduced for common use in both field maneuver and map exercises. The TWSEAS project will undertake the development of capabilities to achieve intraoperability with fielded MTACC systems and selected air combat agencies of the MACCS.

115. COMMUNICATIONS EQUIPMENT DEVELOPMENTS (1986-1995)

a. General. Several new items of equipment will enter the FMF inventory during the 1986-1995 time frame. This is the result of presidential directives stipulating the requirement for end-to-end security of all communications within a specified time frame. Since there is no pure analog encryption capability in existence today, digital communications devices are being developed to meet the requirement.

The tactical communications network consisting of all personnel, equipment, and data required for communications within the FMF is entitled the Landing Force Integrated Communication System (LFICS). LFICS is not a single system, but is a communications architecture. It encompasses all communications assets which allow FMF commanders to exercise command and control of assigned tactical forces. LFICS provides all internal and external communications required to enable the commander at each echelon to perform his assigned mission. The C2 Master Plan contains more detailed technical information concerning LFICS equipment. The basic objective of Marine Corps communications development is the achievement of a fully digital communication environment. To achieve this objective, LFICS must meet the following operational requirements:

(1) Analog to Digital Transition. Provide an orderly transition to a fully digital environment in the 1990s.

(2) Intraoperability. Accommodate the command and control needs of the commander by providing voice and data communication interoperability between Marine Corps systems. This includes tactical data systems, communication centers, and individual users.

(3) Interoperability. Provide necessary interfaces with communications systems of other services.

(4) Communication Security. Provide end-to-end security for all traffic.

(5) Network Disruption. Allow for degraded modules of operation in which losses of switches and interswitch links can be accommodated with a minimum disruption to network traffic handling.

b. Significant developments for LFICS will occur in the following areas:

(1) Electronic Equipment Design Development. The progression in electronic development is from tubes to transmitters to integrated circuits. This produces equipment that is lighter and more operationally capable, but usually more expensive. Modular construction is a design goal, providing quicker and easier repair and less down time, but often is more expensive to logistically support. However, this trend has begun to change in the past few years and integrated circuits are being mass produced in tremendous quantities at very low cost.

(2) Digital Communications. The basic design goal of LFICS is toward an all-digital communications environment in consonance with the philosophies adopted by the joint services. At present, the predominant tactical communications networks are analog. Analog and digital modes are the two means of transmission. The advantages of digital over analog include the following characteristics:

- Easier to secure and switch.
- Resistant to line noise and crosstalk.
- Capable of better quality retransmission.
- Capable of sophisticated error detection and correction.
- Simplifies system hardware maintenance.
- The capability of realizing lighter weight, smaller size, and lower power requirements.
- Time sharing of transmission channels.

The disadvantages of digital communications are:

- Requires management of timing distribution.
- Requires more costly voice communications; either in increased bandwidth, making HF recommendations difficult, or in increased equipment cost.

o Incompatibilities with existing equipment complicate implementation of digital systems.

o High conversion cost.

(3) Tactical Data (TD) Systems . This is the age of the computer and its impact is strongly felt in communications. For example, the computer makes possible the long sought after progression from manual to automatic operation in such areas as switching and message processing. In addition to communications equipment, TD systems are proliferating in all areas. Examples are MTACCS (including 6 systems), Battery Computer System (BCS), JTIDS, and the Global Positioning System (GPS). These systems are designed to collect, display, evaluate, and disseminate data for the purpose of assisting commanders in the battle area in the conduct of their combat and combat support functions. Most of these TD systems do not contain organic communication and depend on LFICS to provide the communication link. Compared with the equipment tactical commanders are familiar with, they provide much more capability but are apt to be heavier, require more space, take longer to install and move, and require a power source and some form of transport.

(4) Interoperability. A number of service and joint service programs have been instituted in an overall design to achieve joint service interoperability with existing and new equipment under development. Examples are briefly described below:

(a) JINTACCS. The Joint Interoperability of Tactical Command and Control System (JINTACCS) program was established in 1971 by the Joint Chiefs of Staff to ensure compatibility, interoperability, and operational effectiveness of tactical command and control systems that support ground and amphibious military operations.

(b) JTAO (formerly TACS/TADS). The Joint Tactical Air Operations (JTAO) program was established in 1973 to ensure compatibility, interoperability, and operational effectiveness among service air control and air defense systems in the exchange of service digital data on a real time or near real time basis in support of joint military operations.

(c) TACSIIP. The Marine Corps Tactical Systems Inter/Intraoperability Program (TACSIIP) was established in 1976 to ensure that computer-assisted programs are interoperable with other services and allied systems in joint and combined operations, and intraoperable to the degree required by joint/combined documentation and validated Marine Corps operational requirements.

(5) COMSEC. In consonance with national policy, a LFICS goal is to provide end-to-end security for its subscribers. The intent is to ensure that the transition from the largely unsecure analog environment of today to the secure digital world of tomorrow is as smooth as possible. An effort is underway during the 1986-

1995 time frame to provide security for all forms of communication, including radios, telephones, and data devices.

(6) Miscellaneous. Other research and development efforts in communications include technical control facilities, computer facilities, and computer devices to enable communications personnel to monitor and control communications systems, to monitor and select optimum operating frequencies, and to provide overall assistance in the management of communications. Various means of emission are being developed to provide more reliable communications and better protection from enemy electronic warfare. Multipurpose, multiapplication power sources are being developed to provide more standardization, maximum interoperability, improved operational capability, and fewer logistical problems.

What all of the foregoing communications developments will mean to the commander on the battlefield is best shown by the following illustration: At present, for a battalion commander to place a telephone call to a distant field command post, the call must proceed through several manual switchboards and manually switched single channel or multichannel transmission media. The result is a time-delayed communication connection that is not secure. If he wants a secure voice capability, the commander must be physically located near the COMSEC device and utilize radiotelephone procedures. In the future, he will be able to pick up his telephone, dial the distant number, and almost immediately obtain secure voice communications with a distant party. He will have this type of rapid, secure communications whether he wishes to talk to regiment, division, or into joint service networks. The capability will be obtained by a series of automatic terminal, switching, transmission, interface, and COMSEC devices.

c. Communications Equipment Terminology

(1) General. Communications equipment development will be discussed under eight categories commonly used throughout LFICS. This organization for presentation was chosen for LFOSS in order to gain a grasp on a technical subject and present it in a nontechnical manner. Following are the eight categories, which will be detailed in the following pages.

(a) Switching Equipment
(b) Multichannel Transmission Equipment
(c) Single Channel Transmission Equipment
(d) Terminal Devices
(e) Technical and System Control Equipment
(f) Satellite Communication Equipment
(g) Interface Equipment
(h) Communication Security Devices

(2) Equipment Description Definitions. Within categories, a term will usually be included to denote size and employment, such as "manpack" or "shelter-mounted". The most commonly used terms are defined and illustrated below:

(a) Hand-held. Portable, capable of being operated and held by hand (e.g., AN/PRC-68).

(b) Manpack. Portable, capable of being carried by one man (e.g., AN/PRC-77).

(c) Teampack. Portable, requires more than one man (e.g., AN/PRC-104).

(d) Bench-Mounted. Not portable, designed to be operated on the ground or mounted on a bench, table, etc., (e.g, AN/TRC-193).

(e) Vehicle-Mounted. Designed to be operated in a vehicle which is not part of the equipment (e.g., AN/GRC-160).

(f) Vehicular. The vehicle is part of the equipment (e.g., AN/MRC-87).

(g) Shelter-Mounted. The equipment is mounted within a shelter or enclosure. The shelter varies with these types of equipment; for example, it could be a collapsible shelter common to MAW units or one of the new family of standard shelters. (Both are truck and helicopter transportable.)

d. Communications Equipment Progression

The following paragraphs show the progression of the communications period. While the text describes mainly those items considered to have the greatest impact on the FMF, all items being replaced, their replacements, and items offering new capabilities are shown in the figures within this section. The matrixes will display the items of equipment, their dates of introduction (if new), and their life spans (within the 1985-1995 time period). This depicted relationship is important so that a continuity can be established between different items of equipment. In later sections of LFOSS, communications equipment items will be identified with the owning and/or using unit. Items of equipment which were scheduled for entry into the FMF during 1985 may not yet be reflected in the major items of equipment listings in subsequent sections of this document. This is due to the natural time lag in the table of equipment updating. In order to cover this shortfall, the key 1985 entry items will be mentioned within this section.

(1) Switching Equipment. This category includes all equipment performing a communication switching function, for example, manual and automated telephone switchboard and equipment performing circuit or message switching. Telephone or current switches transfers one line to another or signals that the line is "busy". A message switch will store the message until a free line is available. The goal for development in switching is to program from manual to automatic and eliminate most of the time delay that

commanders have been familiar with in manually switching a telephone call, patching a radio circuit into a telephone line, or switching a teletype circuit from one line to another. Among the new automatic switches are unit level circuit switches (ULCS) and unit level message switches (ULMS), which will be used to interface various elements of MTACCS.

(a) The Automatic Switchboard SB-3614 will be replaced by the SB-3865 (ULCS) at Regiment, Group, and BSSG levels beginning in FY 90. The manual cordless switchboard SB-3082 will be phased out; however, the SB-22, because of its small size and versatility, will still be used where switching need is not critical. In addition, by FY 90, the Automatic Telephone Central AN/TTC-42 (ULCS) will replace the AN/TT-38.

(b) The AN/GYC-7 (ULMS), a new item, is to be a lightweight, rugged, tactical, real time automatic switch that will be used in conjunction with digital transmission systems to provide a common user system to support tactical C2 requirements beginning in FY 90. It will be deployed down to the infantry regiment, artillery regiment, and Marine air group levels.

(c) The foregoing items of equipment and their projected span of use are illustrated in Figure 1-8 below.

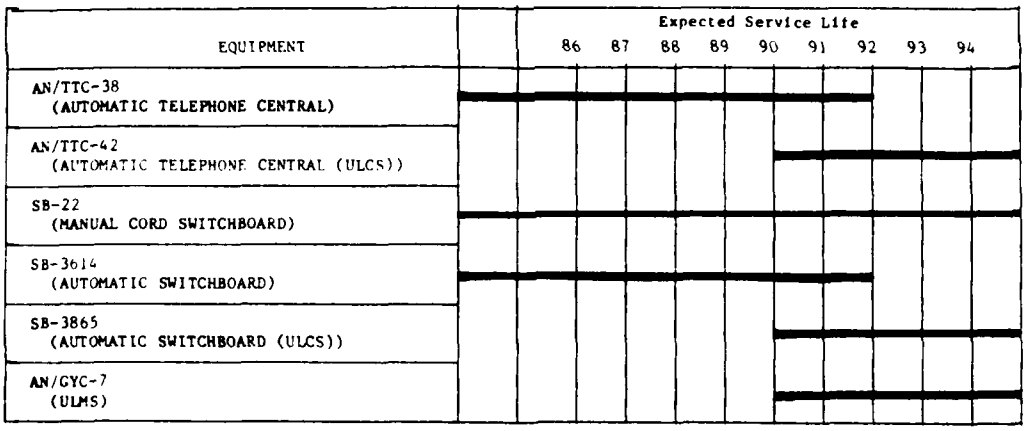


Figure 1-8 -- Switching Equipment Evolution (1986-1995)

(2) Multichannel Transmission Equipment. This equipment provides more than one channel of communication simultaneously (e.g., voice, teletype, digital data, etc.). It includes multichannel radio equipment (less satellite equipment) and the various multiplex and modem equipment related to multichannel transmission. A multichannel capability can be provided by equipment that is capable of multiplexing several channels of

communication on one transmitter or is capable of transmitting several channels of communication using separate transmitters.

(a) When introduced in FY 89, the Communications Central (AN/TSC-60) will provide communication from the MAGTF command post to its major subordinate commanders inside as well as outside of the amphibious objective area. It will also be used for communications within the air combat element.

(b) In FY 91, the Digital Multiband Transmission System (AN/MRC-139(XN-1)) will be introduced as a replacement for the AN/MRC-134 and AN/MRC-135 VHF multiplex radio equipment. It will provide a highly mobile digital or analog communication capability for 60 KM line-of-sight paths.

(c) The Troposcatter Radio Set (AN/TRC-170) will be introduced during FY 91 to replace the Radio Set AN/GRC-201. It is housed in an S-250 shelter and provides the capability for SHF transmission and reception of 60 channels for digital and analog voice, or digital data signals. It will be employed at MAF, division, MAW, FSSG, and MAB headquarters.

(d) Ground-to-air communications for elements of the Marine Air Command and Control System will be provided by the OE-334/TRC Auxiliary Ground Transportable Radio Shelter in FY 87 as a replacement for the AN/TYA-11.

(e) The time-division-multiplexing capability for AN/MRC-( ) type vehicles will be provided by FY 89 with the TD-1234 Multiplexer-Combiner (RCM), which is being developed as part of the digital groups multiplexer family for use as transmission equipment under TRI-TAC.

(f) Beginning in FY 91, JTIDS programs will provide a secure jam-resistant communication link for ship-to-shore and beyond-line-of-sight digital communications and will replace the current VHF multichannel link between ship and shore elements and between the regiment/aircraft group and battalion/squadron. Joint and combined interoperability requirements will also be met. Under the JTIDS program, the Navy is developing a family of enhanced technology terminals based on Distributed Time Division Multiple Access associated with the implementation and employment of JTIDS as the parallel message standard development of Tactical Digital Information Link J (TADIL-J).

(g) Most of the multichannel equipment with IOCs of new development are shown in Figure 1-9.

(3) Single-Channel Equipment. These are radios that provide only one channel of communication, such as voice, teletype, data, etc. Single channel transmission equipment has its most important use in combat maneuver elements. Because of the high degree of mobility required, communication from the infantry and light armored assault battalions must be conducted predominately by

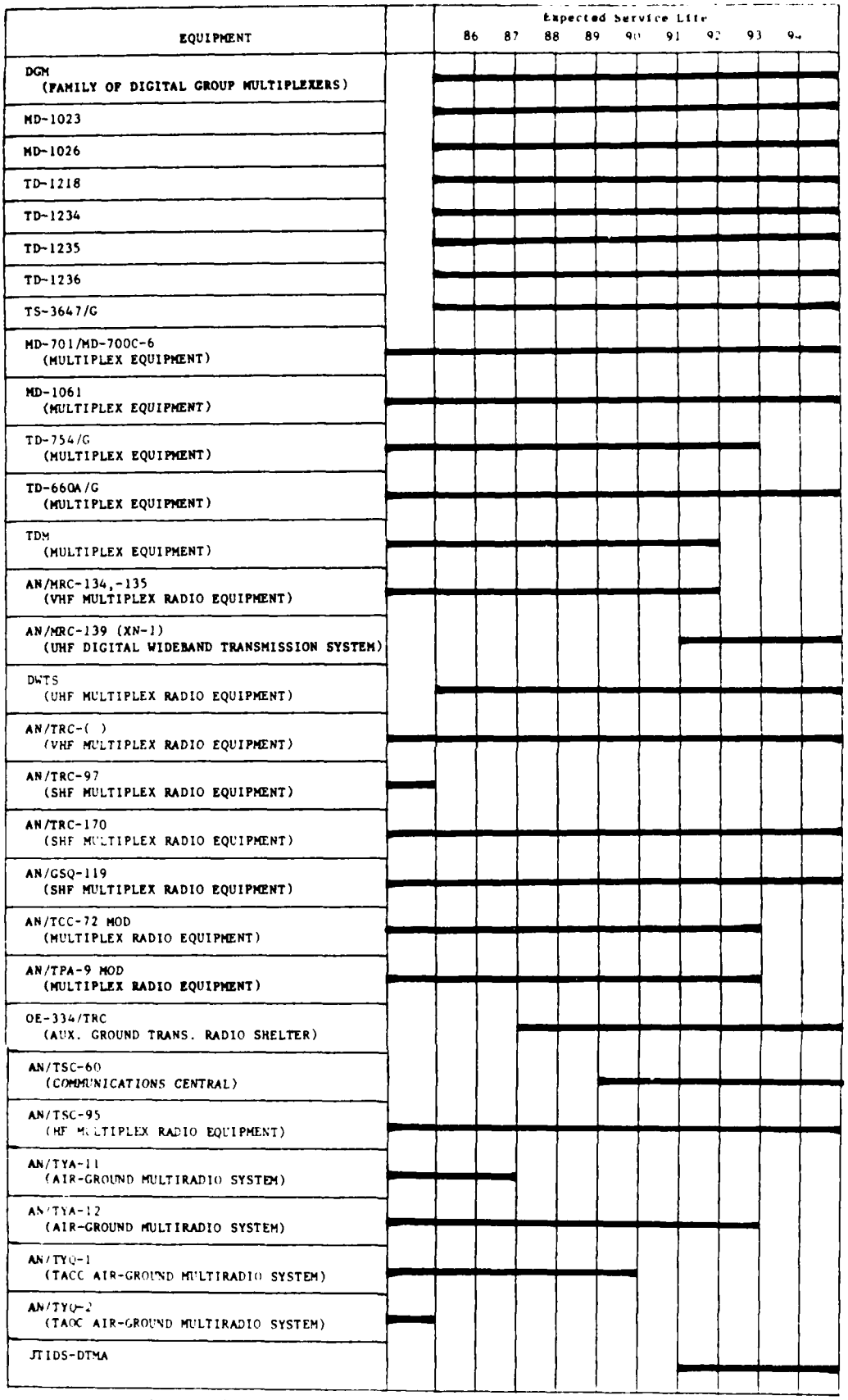


Figure 1-9. Multichannel Transmission Equipment Evolution (1986-1995)

single channel radio. Multichannel transmission systems and the attendant switches will be available, but only in those situations when the command post will remain static long enough to permit the engineering and installation necessary for their effective use. Generally, this operational philosophy prevails at any level. Several significant developments will take place with single channel transmission equipment throughout the 1986-1995 time frame.

(a) Although no new high frequency radios will be introduced during the period, the AN/PRC-104 and AN/GRC-193 will be equipped with a modification kit, developed under the Army STAJ program, to provide an Electronic Counter-Countermeasure (ECCM) frequency-hopping capability. STAJ-capable radios will be employed by all elements of the MAGTF for normal communications as fixed-frequency radio systems and as frequency hoppers in designated nets. A move towards standardization in the development of radios will continue with the replacement of the AN/PRC-75 and AN/ARC-51A UHF radios with the UHF manpack AN/PRC-113 and AN/VRC-83 vehicular version, which will be used for ground-air communications for close air support missions. In FY 86, the UHF/AM vehicular AN/VRC-85 also will provide voice communications using the receiver-transmitter RT-695A.

(b) The current aging family of VHF/FM manpack and mobile tactical radios (AN/VRC-12, AN/PRC-77, AN/GRC-125, -160, etc.) will be replaced in FY 90 by the Single Channel Ground and Airborne Radio Subsystems (SINCGARS) family of equipment. The AN/GRC- ( ) will provide anti-jam communications in the frequency range of 30 to 87.975 MHz and 25 Khz channel spacing. It is mission-flexible for voice or data, plain or cipher text, and will also accommodate interoperability in joint and combined operations.

(c) Single channel equipment developments during the 1995 time frame are reflected in Figure 1-10.

(4) Terminal Devices. The category includes the following:

- o Telephone equipment
- o Cable equipment
- o Teletype equipment
- o Data equipment
- o Facsimile equipment
- o Radar equipment. (Radar equipment--ground surveillance, counter battery, air control, etc., will be covered separately under the Marine division and Marine aircraft wing sections.)

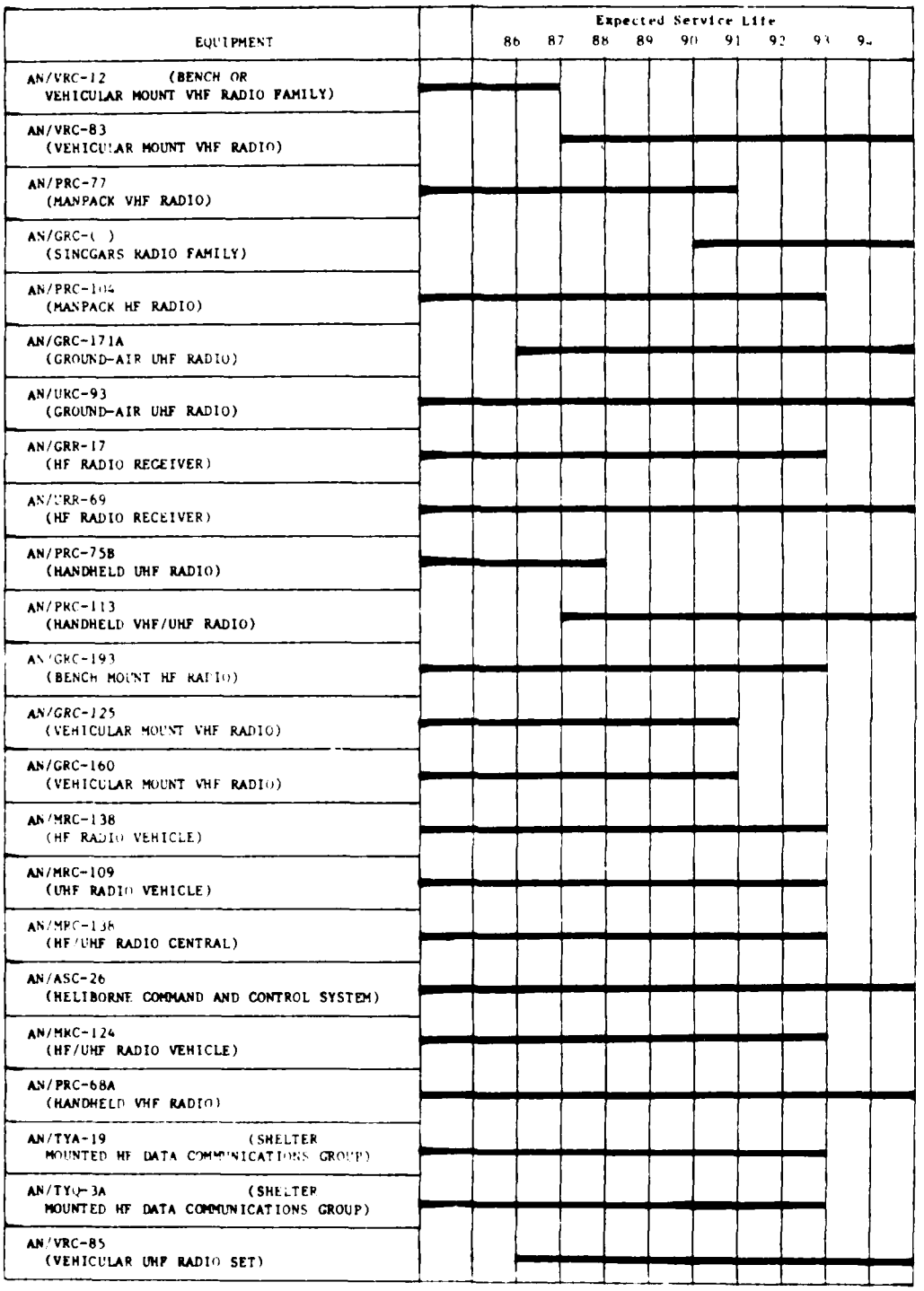


Figure 1-10 -- Single-Channel Equipment Evolution (1986-1995)

(a) The recent capability for facsimile transmission of traffic reports and graphics overlays from battalion and regiment levels will be enhanced in FY 87 with the replacement of the AN/GXC-7A with the AN/UXC-7 Tactical Facsimile Set. Around this time, a Tactical Reproduction/Distribution Facility (R/DF) will also be introduced which will incorporate the AN/UGC-74A Modular Input/Output Terminal to provide MAF, division, wing, FSSG, regiment, and group levels with a greatly improved teletypewriter capability.

(b) In FY 89, the Tactical Communications Central AN/MSC-63 used in the Special Security Communication Center as the entry into the Defense Special Security Communication System will be replaced by the AN/MSC-63B.

(c) Current tactical field telephones, including those with a dialing capability (TA-838), will be replaced beginning in FY 88 by digital telephones with the digital nonsecure voice terminal (DNVT) TA-954 and its secure counterpart, the digital subscriber voice terminal (DSVT) TSEC/KY-68.

(d) State-of-the-art technology will significantly enhance LFICS with the acquisition in FY 88 of the Fiber Optic Communication System (FOCS) which will replace the CX-1230 coaxial cable between digital switches, wideband transmission systems, and technical control facilities based in and among tactical command posts. The FOCS will be employed at battalion/squadron level and above and will be more reliable and easier to install due to a material reduction in cable weight and size. An accompanying multiplexer system is also being developed to translate the many electrical signals into one signal that is suitable for activating the FOCS light source.

(e) A major development in support of MTACCS will be introduced during FY 86 with the Digital Communication Terminal (DCT), AN/PSC-2, which will materially improve Marine Corps communications in the areas of reliability, accuracy, and speed. Combat units will have the capability to burst transmit data to MTACCS using existing and proposed communications devices. DCT-to-DCT communication of standard or free text messages will also be possible.

(f) The ADPE-FMF "green machine" will receive an interim communications capability during FY 86 with a communications message processor. The ADPE-CMP will essentially be replaced after the introduction of the AN/MSC-63B.

(g) The foregoing developments and product improvements with IOCs are reflected in Figure 1-11.

(5) Technical and System Control Equipment. This is equipment used by communication-electronics personnel (within Tactical Communications Control Facilities (TCCF)) to engineer,

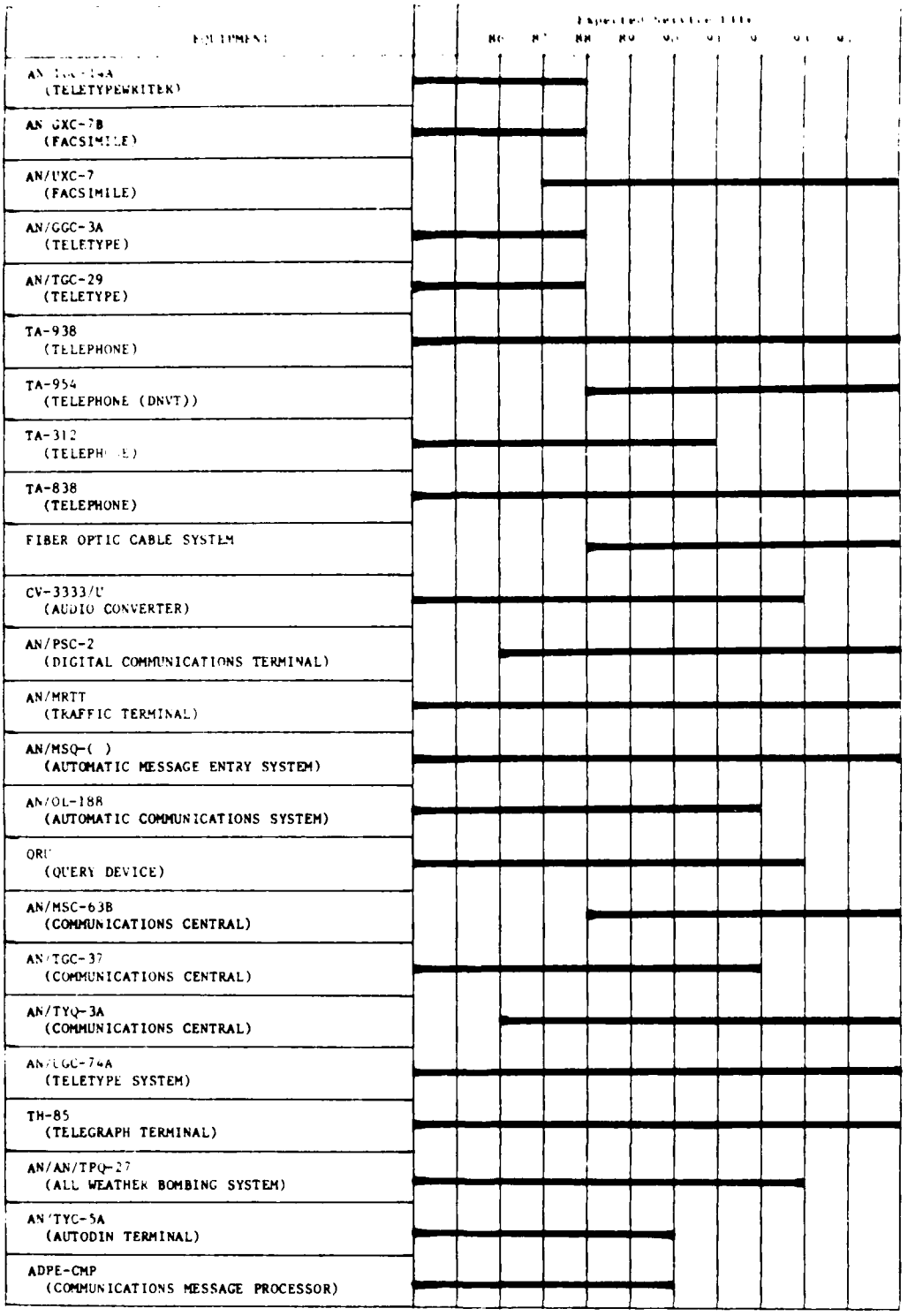


Figure 1-11 -- Terminal Device Evolution (1986-1995)

monitor, test, and perform other communiction control (COMMCON) functions. Current TCCF equipment consists of the AN/TSQ-84 Communications Technical Control Center, which was fielded in 1977 and is adequate for the needs of the present analog communications systems until 1990. The TRI-TAC TCCF family of equipment is not suited for Marine Corps use because of size, weight, cost, and operational capabilities. TCCF equipment must be developed along with procedures to support FMF COMMCON in a digital environment.

The analysis and management of critical high frequency communication circuits in a tactical environment will be provided by the Tactical Frequency Management System (TFMS), AN/TRQ-35, which was introduced during FY 85. It is located at the Force Communication Battalion, Division Headquarters, Battalion and Wing Communications Squadron. The equipment is depicted in Figure 1-12.

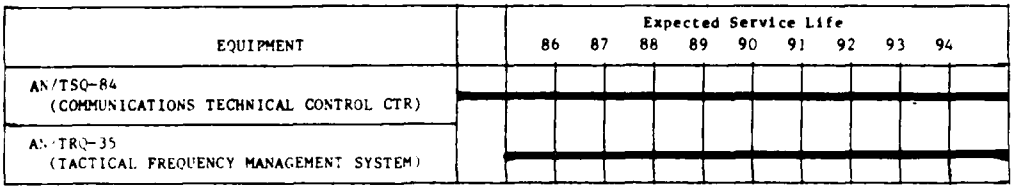


Figure 1-12 -- Technical and Systems Control Equipment Evolution (1986-1995)

(6) Satellite Communications Equipment. This relatively new category of equipment does include both single-channel and multichannel radio equipment. The two satellite systems used by the FMF are the Fleet Satellite Communication UHF system and the Ground Mobile Force (GMF) SHF system. The AN/TSC-96 Shelter-Mounted Satellite Communications (SATCOM) System was introduced in 1981. This system, along with the Satellite Communications Terminal AN/TRC-85A and the manpack UHF SATCOM Radio AN/PSC-3, will be used beginning in FY 86 as a parallel means to high frequency radio circuits for satisfying FMF long-haul communications requirements. The AN/USC-7 is a vehicle-mounted version of the AN/PSC-3. The GMF Satellite Communications Terminal AN/TSC-93 will be introduced in FY 86 at the division, MAW, and FSSG headquarters as a multichannel terminal linked with the AN/TSC-85A at the MAF headquarters. It provides voice, digital, data, and teletype communications. The Single-Channel Objective Tactical Terminal (SCOTT) is an EHF system with a demand-assigned multiple access capability. It will be fielded in FY 91 to provide highly survivable communications for critical C3 functions at the MAF, MAB, division, and MAW headquarters levels. SCOTT will replace or augment existing SATCOM and conventional terrestrial terminals in the 1990s. SATCOM developments and their IOCs are shown in Figure 1-13.

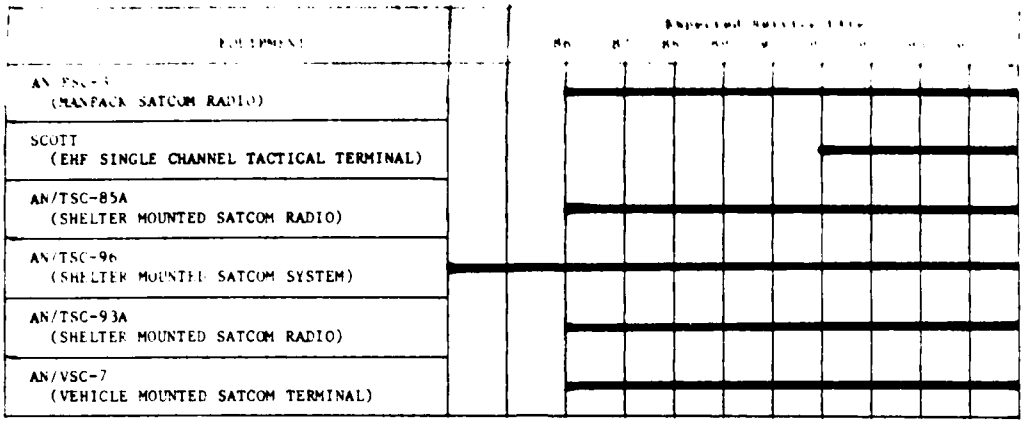


Figure 1-13 -- Satellite Communications Equipment Evolution (1986-1995)

(7) Interface Equipment. This category includes remote control and data control equipment. Remotes allow radio equipment to be controlled from a point other than the radio equipment itself. Data control equipment allows one type of equipment to interoperate with another not normally compatible, e.g., analog to digital. The only significant development is the Digital Data Adapter, MX-9810/9811, which reached IOC during FY 85. This and other current interface equipment items are shown in Figure 1-14.

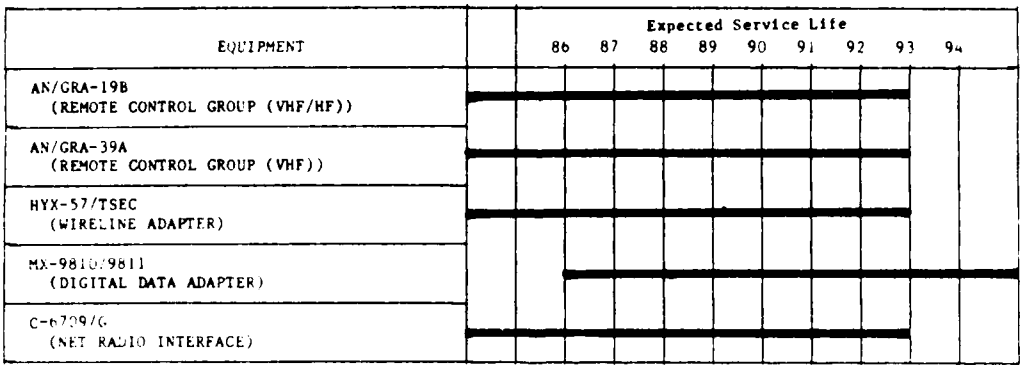


Figure 1-14 -- Interface Equipment Evolution (1986-1995)

(8) Communication Security Devices. LFICS has a goal of end-to-end COMSEC for 100 percent of its user equipment. In addition to monitoring state-of-the-art COMSEC techniques and using them to meet internal communications needs, it is necessary to assure interoperability with other tactical and strategic communications systems. This category encompasses all COMSEC equipment as well as those ancillary items necessary for the hookup of the COMSEC system. Most of the items in this category will be listed in the chart following this text; however, only significant developments will be described.

(a) The VINSON family of COMSEC equipment (TSEC KY-57 and KY-58) is 5 years behind schedule but will be fielded throughout the FMF in FY 86 to provide end-to-end transmission security to current and planned tactical VHF/FM and UHF/AM radio equipment. The equipment incorporates the latest technology in large-scale integrated circuitry and reflects major cryptology improvements. Advanced technology has allowed a reduction in size and weight and an increase in reliability.

(b) The ANDVT (Advanced Narrowband Digital Voice Terminal) will extend secure voice and data communications over narrowband net radio links beginning in FY 86, with the introduction of the ANDVT TACTERM vehicular/shelter configuration TSEC/KYV-5). The MINTERM (TSEC/KY-99) version is intended for use with manpack radios and has an IOC of FY 89. The ANDVT will begin to replace PARKHILL (TSEC/KY-65) throughout the Marine Corps beginning in FY 86.

(c) In FY 87, the Dedicated Loop Encryption Device (TSEC/KG-84A) will provide COMSEC with point-to-point and netted circuits in addition to accessing TRI-TAC message switches (ULMS). The SEELEY Trunk Encryption Device (TSEC/KGX-93) will provide automated distribution and key variable generation in FY 88. The Digital Secure Voice Terminal (DSVT) will provide audio processing, signaling, and crypto functions necessary to provide secure and nonsecure access to the TRI-TAC family of digital circuit switches (ULCS). The ruggedized (TSEC/KY-68) and fixed-plant (TSEC/KY-78) versions will reach IOC in FY 90.

(d) The Secure Digital Net Radio Interface Unit (SDNRIU) (TSEC/KY-90) will provide the capability for single channel radio operators to access the digital switching system. The SDNRIU is a ruggedized, man transportable, semiautomatic interface unit. Its IOC is FY 88.

(e) The full spectrum of COMSEC equipment with approximate life spans and IOCs of new developments is shown in Figure 1-15.

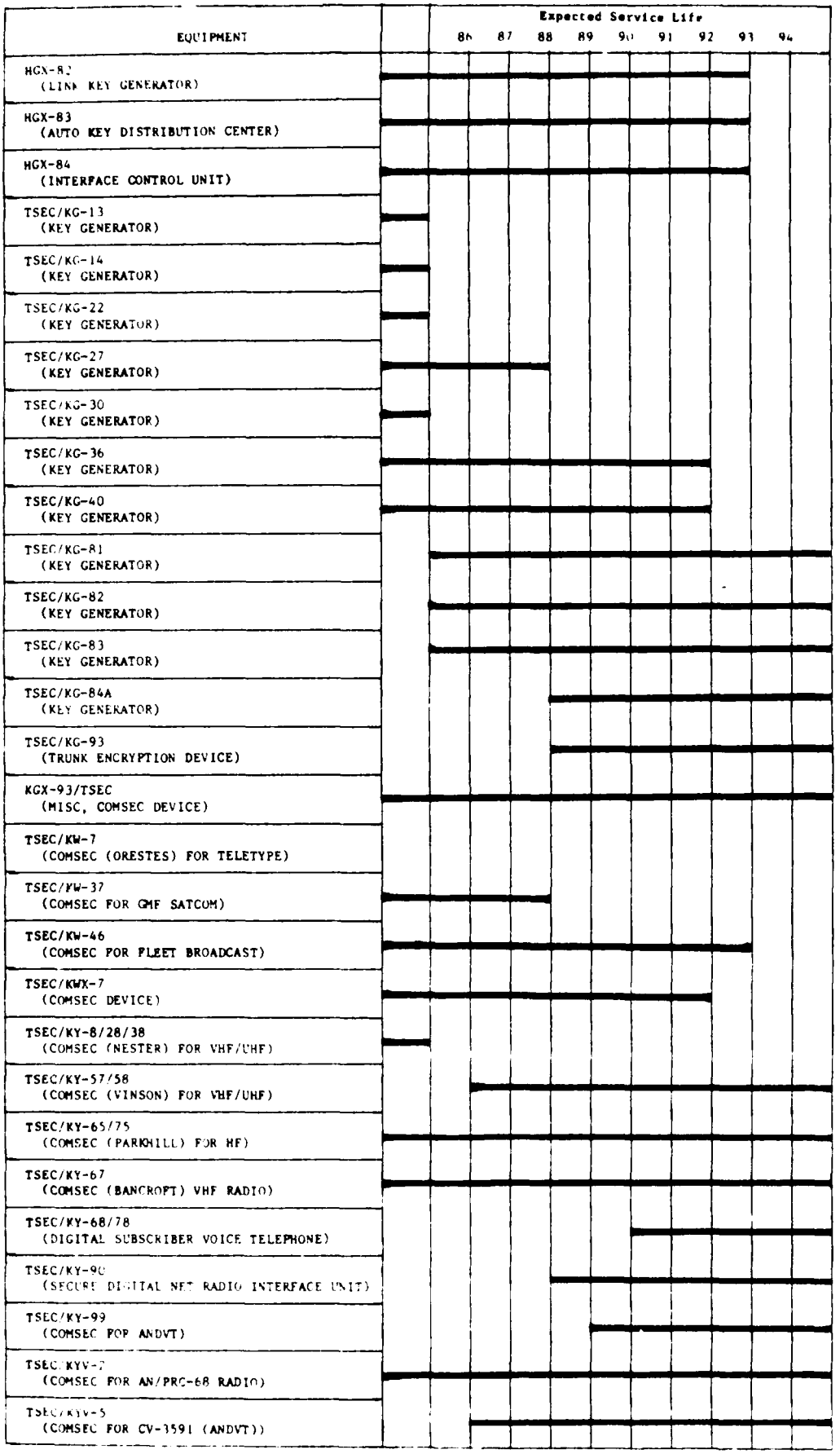


Figure 1-15. Communications Security Devices Evolution (1986-1995)

SECTION 1C
AUTOMATED INFORMATION SYSTEMS

116. GENERAL

In addition to MTACCS, the FMF will be supported by other Automated Information Systems (AISs) when deployed as MAGTFs with a naval amphibious task force or in a joint/combined operation. This section will address the deployable Marine AISs and selected AISs of the other services/agencies with which the MAGTF may interoperate or interface.

a. U.S. Marine Corps Systems

(1) Automated Data Processing Equipment - Fleet Marine Force (ADPE-FMF). The Marine Corps has provided FMF units with ruggedized minicomputer systems to support their organic data processing needs in garrison and when deployed. These ADPE-FMF devices allow deployed MAGTF units to automate data entry for Class I standard applications and to support local processing requirements. The ADPE-FMF devices process transactions to produce floppy diskettes for input to major Marine Corps AISs. The diskettes are sent to the nearest Regional Automated Services Center (RASC) or Remote Job Entry (RJE) facilities by courier or converted to paper tape and transmitted via naval message to a central processing facility. Output is returned by reversing the process.

- Standard Embarkation Management System (SEMS). SEMS allows the manipulation and consolidation of data based on unit embarkation task organization and transportation mode on ADPE-FMF devices. SEMS has five basic files that can be updated during embarkation and in an objective area for all movement operations. SEMS produces standard embarkation reports defined by the unit and higher headquarters.

(2) Deployable Force Automated Service Center (DFASC). DFASC will support the increased data processing needs of a brigade or larger MAGTF deployed for an extended period of time or in combat. DFASC will be housed in two semitractor vans transportable by land, sea, or air and positioned in the MAGTF Combat Service Support Area (CSSA). Inputs to DFASC may be by wire from units within the CSSA or floppy disc by others. While the first module DFASCs will not have sufficient capacity to process completely the major Marine AISs, they will be able to perform the necessary data aggregation/processing to update the following Class I AIS segments.

(a) Supported Activities Supply System (SASSY). SASSY provides the primary supply accounting function, requisitioning capability, requirements determination, and asset visibility for deployed MAGTFs. Phase II SASSY provides for generating a local data base and reports on ADPE-FMF devices as well as interface with the local Marine Integrated Maintenance

Management System (MIMMS). Input to SASSY is by diskettes to a RASC/DFASC or by naval message using a Message Entry Processing System (MEPS) to produce a paper tape for transmission to the cognizant SASSY Management Unit (SMU). Interface with other supply and financial management systems is by standard military transaction formats.

(b) Marine Integrated Maintenance Management System (MIMMS). MIMMS provides the MAGTF with visibility of all ground equipment undergoing maintenance, to include repair part requirements, equipment modification status, and maintenance actions pending or completed. MIMMS is a user-oriented system designed to work with SASSY and other AISs under development. Of the two MIMMS subsystems, only the Field Maintenance Subsystem (FMSS) will deploy with a MAGTF assigned a DFASC. Initial input to the FMSS will be by means of ADPE-FMF devices to update the unit's data base prior to sending a floppy diskette to a DFASC for aggregation/processing and return of output.

(c) Maintenance and Material Management System (3M). 3M is a naval aviation unique system. It provides integrated aviation equipment maintenance management and related support functions that the MAGTF air combat element uses to achieve CNO safety standards, analyze part failures/requirements, and expedite aircraft readiness. 3M data can be processed initially on ADPE-FMF devices at the squadron level and transferred to a RASC/DFASC for further processing and output of reports.

(d) Flight Readiness Evaluation Data System (FREDS). The FREDS database elements are constructed to manage Marine aircraft and/or flight crew utilization based on daily flight actions at the squadron level. The data is entered on ADPE-FMF devices and transmitted to the RASC/DFASC for further processing and output of reports. FREDS interfaces with the 3M system to produce daily/monthly flight activity and utilization reports.

(e) Joint Uniform Military Pay System/Manpower Management System (JUMPS/MMS). JUMPS/MMS is an integrated personnel pay and management system that uses reports of personnel and pay changes by designated reporting units in garrison and during a deployed status. Data to update the Marine Corps central facility master data base are submitted by unit diary entry or magnetic tape via a RASC/DFASC.

1 Pay Option Election System (POES). A payment option election selected by each deployed Marine is maintained on the unit ADPE-FMF device. The individual Marine receives pay based on the POES with residuals submitted by magnetic tape media to the Marine Corps Finance Center (MCFC), Kansas City, Missouri, through a RASC/DFASC for central accrual, since all Marine Corps pay processing is accomplished at MCFC. The POES provides needed flexibility to respond to emergency pay situations for deployed MAGTFs.

2 Bond and Allotment System (B&A). B&A allows automated establishment, maintenance, and accurate, timely payment of allotments/issuance of U.S. Savings Bonds selected by deployed MAGTF personnel. Initial data input is made on the ADPE-FMF device and transmitted to the MCFC through interface with JUMPS/MMS at a RASC/DFASC.

3 Disbursing Officer Voucher System (DOV). The DOV is an accounting system of disbursements and collections that interfaces with the Navy's Integrated Disbursing and Accounting (IDA) system. MAGTF disbursing officers use ADPE-FMF devices to provide daily input to a RASC/DFASC for monthly transmission of bulk data to the MCFC and through it to the IDA.

(3) Deployable Equipment/AIS Improvement Programs. Current deployable ADPE-FMF devices and AISs are undergoing enhancement/replacement. Concomitantly, new AISs are being developed to provide deployed MAGTFs with new ADP capabilities based on the most current technology.

(a) ADPE-FMF Program Enhancement. During FY 85, ADPE-FMF devices will be upgraded to provide a memory expansion, binary synchronous communications capability and a new diskette attach card. Additionally, 34 ADPE-FMF devices modified to provide AUTODIN transmission and reception, message relaying, and filing capabilities to communications centers will be acquired. In addition, power line filters are to be installed on each ADPE-FMF device to minimize power line surges and drops.

(b) End User Computing (EUC) Program. The EUC program will replace existing ADPE-FMF devices with a common family of compatible portable microcomputers and a range of peripheral equipment and software packages. The EUC equipment will be deployable, TEMPEST certified, and meet the environmental specifications of the equipment it replaces. Ruggedization will be limited to the carrying case.

(c) DFASC Program. Preliminary testing of the DFASC indicates it does not have sufficient capacity to process the major AISs in a deployed environment. A FY 86 program is planned to correct this deficiency.

(d) MAGTF Automated Services Center (MASC). A deployable MASC is being planned to replace the DFASC to provide brigade or larger size MAGTFs with the capability to process Marine Corps standard AISs.

(e) Marine Corps Standard Supply System (M3S). The M3S will support and consolidate the functions now performed by MIMMS, SASSY, and the Direct Support Stock Control (DSSC). Early conversion of these AISs to database management system technology will permit users on-line access to their data through Material

Issue Points (MIPS) established geographically or task organized to support MAGTFs deployed in response to various contingency plans.

(f) Marine Air Ground Task Force Lift Model II (MAGTF LIFT II). This system will support the information requirements of joint/strategic mobility planners within the FMF and at higher headquarters. The MAGTF LIFT II will compute lift requirements in support of deployment planning and execution of MAGTFs based on a data base updated from various sources. Networking selected sites will provide a capability to exchange both classified and unclassified data.

(g) Real Time Finance and Manpower Management Information System (REAL-FAMMIS). REAL-FAMMIS is being designed to replace JUMPS/MMS support of the FMF in garrison and where deployed. The system will include conventionally prompted input/extract summaries and statistical retrieval information.

- Marine Integrated Personnel System (MIPS). MIPS is the deployable version of REAL-FAMMIS. ADPE-FMF devices at the battalion/squadron and separate company levels will process MIPS in conjunction with a DFASC/MASC to provide a limited manpower base for the entire MAGTF. Edited manpower transactions prepared on programmable terminals at the unit level will be transmitted/transported to the DFASC/MASC to update the local manpower data base. A consolidated transaction tape/disc will be transmitted to a supporting RASC. A reconciliation diskette will be returned to the DFASC/MASC for purification/verification of the local manpower data base.

b. U.S. Navy Systems. Essential to a MAGTF, as part of an amphibious task force, are the U.S. Navy Command and Control (C2) System and other AISs with which the MAGTF will interface/interoperate. These systems include:

(1) Navy Tactical Data System (NTDS). The NTDS is the foundation of a shipboard automated combat direction system. It comprises the manpower, actual processors, display consoles, peripheral devices, link terminal equipment, and system integrating software installed aboard a ship. NTDS can display the overall tactical situation and pass real time information to participating units. The NTDS coordinates data collection from all sources and provides a capability to transmit decisions for tactical action electronically to selected weapons systems.

(2) Airborne Tactical Data Systems (ATDS). The ATDS is the combat direction system installed on E-2C aircraft. Its primary operational use is to extend the early warning radar coverage of shipboard and shorebased radars of the naval task force. Other roles of the NTDS include directing strike aircraft, controlling search and rescue missions, and assisting in airspace control tasks by providing aircraft detection and tracking data via TADIL-A and -C links.

(3) Naval Intelligence Processing System (NIPS). NIPS receives, organizes, and interprets information derived from a variety of sources to include the MAGTF intelligence facilities ashore. The system provides available data for current analysis and special studies, and the generation of intelligence products including photo interpretation reports. NIPS on LHA, LHD, and CVN type ships that have been modified with a MAGIS Intelligence Analysis Center (IAC) configuration will have a data base in common with MAGIS. This will allow MAGIS-trained Marines to operate as NIPS watchstanders during the movement phase of an amphibious operation and facilitate the transfer of intelligence data between the shipboard NIPS and the shorebased MAGIS IAC.

(4) Flagship Data Display System (FDDS). The FDDS is a computer and display complex that provides the Commander, Amphibious Task Force (CATF) with near real time and real time information. The FDDS can interface with all elements of the Navy C2 System and the MTACCS, as necessary, to obtain and manipulate data necessary to assist the CATF's decisionmaking process. The FDDS is scheduled to be installed on the LHD 1 class ship to assist both the CATF and the Commander, Landing Force (CLF).

(5) Integrated Tactical Amphibious Warfare Data System (ITAWDS). The ITAWDS provides a command and control capability over a coordinated airborne/seaborne amphibious assault, and automated assistance in administrative logistic staff functional areas. It supports the combined command and control functions of the CATF and CLF onboard the LHA 1 and LHD 1 class ships.

(a) Executive Operating System. This system controls the ITAWDS in a real time environment. It controls the interfaces between the system application functions and various computer resources and sensor components of the C2 system.

(b) Tactical Data System (TDS). TDS links the personnel, radars, computers, and display devices dispersed on several ships, aircraft, and shore installations to present a shared real time display of tactical and strategic information to support rapid decisions. NTDS additionally monitors the tactical situation in the amphibious objective area to include coordination of air traffic, control of assault boats and craft and defense of the force against air and sea attack.

(c) Tactical Information Processing System (TIPS). TIPS is a generalized information storage, retrieval, and processing system that provides a capability to define, generate, and update the data base supporting both the logistic/administrative requirements of the embarked units and execution of the amphibious operation.

(6) Amphibious Flagship Data System (AFDS). AFDS is comprised of two systems, each of which is capable of operating independently. The NTDS is a tactical system employing three computers. The Amphibious Support Information System (ASIS) has

one computer that uses a stored program in conjunction with a mass memory to provide a generalized search and retrieval capability based on data input generated by the user. AFDS modules are located in the various command and control spaces to coordinate and control the execution of all phases and functions of an amphibious operation.

(7) Shipboard Uniform Automated Data Processing System (SUADPS). SUADPS is an aviation repair parts requisitioning system designed to improve supply management of naval aviation assets by use of ADPE. Under the SUADPS concept, all inventory and financial records are maintained on magnetic tape. SUADPS-Real Time (SUADPS-RT) will be an on line integrated/iterative system using source data automation equipment and advanced data management techniques to provide responsive file maintanance and query techniques.

(8) Naval Aviation Logistics Command Management Information System (NALCOMIS). NALCOMIS equipment will be dedicated to processing the data previously contained in the 3M system and will input data to FREDS as well as interface with SUADPS-RT and the Standard Naval Aviation Supply System (SNASS). Each MAGTF aircraft squadron will process NALCOMIS data on SUADPS-RT while enroute to an objective area. In addition, there will be media compatibility between NALCOMIS equipment and ADPE-FMF devices to provide aviation maintenance and material managers with timely, accurate, and complete information on which to base day-to-day decisions.

(9) Standard Naval Aviation Supply System (SNASS). SNASS compiles the output from SUADPS, which is processed on an AN/UYK-5(v). Output from all Marine Aircraft Groups are processed twice monthly and the information is compiled/aggregated at the RASC/DFASC. SNASS can be used to locate and transfer spare parts stored within one MAG and from one MAG/MAW to another.

c. U.S. Army Systems

(1) Force Level and Manpower Control System (SIGMA). SIGMA will provide automated support for selected C2 functions in the areas of intelligence, maneuver control, fire support, combat service support, and air defense. It will provide an interface with other Army C2 systems and with other service/allied C2 systems. SIGMA will promulgate the Army force commander's decisions, monitor the integrated battlefield, and determine when thresholds are met which require a new decision to be made.

- Maneuver Control System (MCS). The MCS is the first phase of the SIGMA system. It will provide a full database storage and retrieval capacity as well as decision support functions to assist commanders in the control and coordination of operations. MCS will monitor combat operations and coordinate preparation of detailed places for tactical air strikes, air space

use, service support requirements and forecasts, integration of supporting arms fires, and engineer efforts.

(2) Missile Minder (AN/TSP-73). The AN/TSP-73 is a fully automated mobile tactical air defense command and control system. It includes a Group Operation Center (GOC) that provides a real time information display of the air battle situation in a Corps tactical area. The system provides a capability for air defense artillery group and battalion commanders to control their unit air defense activities. The Missile Minder is a candidate for JTIDS/TADIL-J joint service testing in FY 86.

(3) PATRIOT Command and Control System (PATRIOT-CCS). The PATRIOT-CCS is a fully automated mobile tactical command and control system that allows PATRIOT battalion commanders to control the air defense battalion's air defense activities. The system provides a real time information display and interfaces with the Missile Minder GOC and the battalion fire units. It identifies and tracks targets, evaluates threats, assigns weapons, and protects friendly aircraft. The system is a candidate for JTIDS/TADIL-J joint service testing in FY 86.

(4) Tactical Fire Direction System/Army Field Artillery Tactical Data System (TACFIRE/AFATDS). TACFIRE is a field artillery command and control system that also processes fire missions. TACFIRE can receive a request for fire, select the appropriate ammunition, assign the firing unit, and calculate the ballistic solution in a matter of seconds. The AFATDS is undergoing concept evaluation to investigate alternatives for replacement of the TACFIRE system less the digital message device and the battery computer system.

(5) All Source Analysis System (ASAS). ASAS is an automated intelligence system used to determine the accurate location and status of enemy forces within 6000km of the forward edge of the battle area. The system provides a quick assessment of the enemy threat, identification of potential targets, and a complete identification of the enemy situation based on status information received from subordinate units and other sources.

(6) Mobile Army Ground Imagery Interpretation Center (MAGIIC). MAGIIC is an integral component of the Army Aerial Reconnaissance and Surveillance System (ARS). MAGIIC facilitates the rapid exploitation of imagery collected by all sources including MAGTF assets. It will exchange data with the MAGIS by standard communication systems in service at the time through the MAGIS IAC.

(7) Standard Army Intermediate-Level Supply Subsystem (SAILS). SAILS is the automated supply system designed to operate at intermediate command levels to automatically process reports and supply requisitions. SAILS will interface with SASSY/M3S in a joint Army/MAGTF operation.

(8) Combat Service Support (CSS) Control System. The CSS Control System is one of the Army's five key elements of the Command and Control System (CCS2) concept. When the CSS is fielded, it will leave an automated interface with MCS (SIGMA), TACFIRE, and SAILS to provide only administrative and logistic support data that has an immediate influence on the force's capability to fight.

d. U.S. Air Force Systems

(1) Airborne Warning and Control System (AWACS). AWACS is an airborne automated system designed to support the Tactical Air Control System (TACS). AWACS provides an airborne command and control capability extending the TACS range of control for air defense warning, aircraft control, navigational assistance, SAR missions, and tactical missions well beyond the forward edge of the battle area. AWACS interfaces with the TAOM, MACCS, AN/TSQ-73, NTDS, and ATDS.

(2) Computer-Assisted Force Management System (CAFMS) CAFMS enhances the manual TACC (AN/TSQ-92) by providing a near real time capability to assess the status and capabilities of friendly forces. CAFMS expedites generation of the air tasking order and the information transfer/manipulation and display of mission data through an automated data base at the TACC.

(3) Control and Reporting Center/Post Information Processing Module (CRC/CRP IPM) AN/TSQ-91. This system functions as the major weapons control agency of the USAF Tactical Air Control System (TACS). It performs all functions of surveillance and weapons control in its assigned areas of responsibility. The CRC/CRP IPM is linked to other joint tactical air operation tactical data systems through the Message Processing Center (MPC) using TADIL-A,-B, and NATO links. It will exchange data with the MAGTF TACC through the MPC either directly or via the TAOC. The TACC will be sending and receiving these messages using TAOM type equipment.

(4) Message Processing Center (MPC) AN/TYC-10. The MPC consists of a data processing module, operations control group, and a communications central (AN/TSC-60(v)1) that interfaces ground and airborne surveillance facilities of the Air Force, Army, Navy, and Marine Corps in a joint operation. It is used to exchange air and surface surveillance, weapons control, air space control, system (digital) information, and data management messages. The MPC is the Air Force Interface Control Unit (ICU) when employed in a joint operation using the interface capability developed by the TACS/TADS program.

(5) Tactical Information Processing Information System (TIPI). TIPI is a family of equipment developed to support intelligence processing, exploitation, and analysis functions at various echelons by means of a Display and Control/Storage and Retrieval (DC/SR) segment, the Imagery Interpretation (II) segment,

and the Manual Radar Reconnaissance Exploitation System (MARRES). TIPI will exchange data with MAGIS through standard communication systems in service at that time via the MAGIS IAC.

e. Joint Systems

(1) NAVSTAR Global Positioning System (GPS). GPS is a joint service project to develop a highly accurate near real time position-fixing capability to satisfy position and navigation needs of certain ground force missions and aircraft operations. GPS is intended to complement the PLRS system, provide accurate positioning and navigation of users outside the PLRS network, and permit positioning and navigation of units prior to establishing a command and control network.

(2) Joint Tactical Information Distribution System (JTIDS). JTIDS is a developmental digital information distribution system that will provide users with a secure, jam-resistant voice and data communications capability. When integrated into a host tactical data system, JTIDS will support a high-capacity, near real time exchange of tactical information and provide inherent navigation, position location, and identification capabilities. The system provides the capability to interconnect surveillance, intelligence, weapons systems, and C2 facilities to assist commanders in the real time direction of forces.

(3) PLRS/JTIDS Hybrid System (PJH). The PJH is being developed to satisfy the need for communications capable of supporting existing and programmed automated systems for C2, Air Defense, Field Artillery, Intelligence, and Combat Service Support. The PJH will provide resistance to jamming, security, low levels of mutual interference, and freedom from contention with voice communications users. The PJH development objectives will pursue data link capabilities related to future MTACCS communications throughput and input/output access.

(4) Joint Interoperability of Tactical Command and Control Systems (JINTAACS). The JINTAACS is designed to assure that the tactical command and control systems and related facilities used by the military services in joint ground and amphibious operations possess the degree of technical compatibility and interoperability necessary for the tactical commander to command and control joint military operations. Marine Corps tactical C2 systems involved in the JINTAACS technical interface concept include the MACCS, MAGIS, and MIFASS. All JINTAACS functional segment standards are scheduled for compatibility and interoperability testing, as well as operational effectiveness demonstrations by designated military services and selected agencies. As each segment is approved by the Joint Chiefs of Staff, it will be implemented by the services and agencies for operational use.

(5) Tactical Air Control System/Tactical Air Defense System (TACS/TADS). The TACS/TADS now referred to as JTAO is

designed to provide compatibility, interoperability, and operational effectiveness in the exchange of secure digital data on a real time or near real time basis in support of joint military operations involving Army Air Defense Command, Control, and Communications (AN/TSP-73); Navy NTDS; Air Force CRC/CRP (AN/TSQ-91(v)4) and MPC (AN/TYC-10); Marine Corps MACCS; and the National Security Agency Special Information System. All the military services and the National Security Agency are providing resources and assistance essential for the joint program.

SECTION 1D

FLEET MARINE FORCE
LOGISTICS DEVELOPMENTS (1986-1995)

117. GENERAL

A number of the logistic developments in the Field Logistics System and the Tactical Vehicle Fleet apply to units throughout the FMF and these developments will be covered in this section. The Marine Corps Field Logistics System (FLS) is an integrated program that provides intensive life cycle management of selected combat service support equipment to assure success in amphibious operations while exploiting the benefits of containerization. The system is designed around international dimensional standards in order to use all modes of transportation, especially the container-capable fleet. Major FLS subsystems are shelters, motor transport, service support, containers, and material handling equipment. The goals of the system are to reduce manpower; to lower equipment acquisition, logistics support costs, and shipping space requirements; and to decrease training needs while enhancing the effectiveness of the logistics/support system and the readiness posture of the Marine Corps amphibious forces. This section covers the shelters, containers, and the SIXCON fuel and water module in the FLS, and the new vehicles in the Marine Corps Tactical Vehicle Fleet (TVF). The material-handling equipment and the service support systems in the FLS are discussed with the units to which the equipment will be assigned. Items of equipment which are scheduled for entry into the FMF during the 1985-1986 time frame may not be shown with the major items of equipment in the 1986 baseline FMF organizations. This is due to the natural time lag in table of equipment updating. The Navy Landing Craft Air Cushion (LCAC) vehicle is included in this section because of its impact on Marine Corps operational and logistical capabilities.

a. Marine Corps Expeditionary Shelter System (MCESS). MCESS is a family of expeditionary tactical shelters, joining corridors, and complexing kits that provide environmental protection for designated functions in support of Marine Corps operations. The Small Shelter Family consists of four types of shelters, joining corridor, and a complexing kit. Approximately 20 systems (e.g., communications, command and control, medical, maintenance, and combat service support functions) have been identified for integration into the Small Shelter Family. The shelters are helicopter transportable and can be moved by the Logistics Vehicle System (LVS) Container Hauler.

(1) General Purpose Shelter-- 8'x8'x20'. This shelter is designed to meet a variety of needs associated with material storage, maintenance and repair, medical aid, and shop spaces. Hard shelters and dedicated vans will be replaced by this rigid framed structure.

(2) Knockdown Shelter--8'x8'x20'. This modular panel shelter will replace hard shelters, and is designed to provide an easily erected/relocated facility that is compatible with current transportation methods.

(3) Electromagnetic Interference Shielded (EMI) Shelters--8'x8'x10' and 8'x8'x20'. These shelters will replace EMI hard shelters, which are not designed to ISO specifications, and will be configured with permanently installed equipment for each function to be served.

(4) Joining Corridor--7'x7'x11'. This item does not replace any existing piece of equipment. Compatible with all the small shelters, the joining corridor is used to complex one shelter to another and to provide environmental and blackout protection when transiting from one shelter to another. The joining corridor will be used primarily with the EMI shelters.

(5) These shelters are scheduled to reach the FMF at the beginning of FY 87. The medical units have been given first priority in the allocation of the knockdown and rigid shelters. The fielding schedule for the EMI-shielded shelters will depend on the plans and requirements of the commodity managers in the preparation of the functional subsystems.

(6) The maintenance manpower requirements for MCESS can be absorbed by current tables of organization. The training program for the shelters will involve formal schools where no additional instructors will be required and unit training.

b. Containers. The container component of FLS consists of cargo containers, inserts, and shipping frames.

(1) Pallet Container (PALCON)--40"x41"x48". The PALCON is an intermediate-size container to be used for the storage and movement of organizational property and consumable supplies. Its design permits stowage aboard amphibious ships and handling by forklift, pallet hoist, crane, and helicopter.

(2) Quadruple Container (QUADCON)--82"x57-1/2"x96". The QUADCON is a reusable, weatherproof container that provides a high mount-out readiness capability in garrison and a well-organized storage and supply capability in the field. An array of up to four QUADCONs can be created by complexing the containers, and the tineway base allows for stowage aboard most amphibious ships. A 10,000-pound forklift, crane, or helicopter can handle the QUADCON.

(3) Commercial Container--8'x8'x20'. This container will be leased or purchased commercially when needed to support operations.

(4) Insert Container (Insert)--17"x10'x45". The Insert is an improved mount-out box that can be used as a separate field

box or bin-drawer, of which 6 will slide into a PALCON and 36 into a QUADCON.

(5) Shipping Frames--8'x8'x10' and 4'x6-2/3'x8'. These intermediate-size, open containers are compatible with amphibious and merchant shipping and have four-way forklift handling capability. The 8'x8'x10' shipping frame will be used to support the mounting and movement of water purification equipment. The other frame will house the fuel/water pump and storage modules, firefighting equipment, and general cargo. Both these items will be procured and supplied as government furnished equipment to end items, such as the SIXCON Water Module, and will not be fielded as separate end items.

(6) The QUADCONs and PALCONs will be fielded in the FMF in FY 86. These containers will undergo first-use production validation and comments will be solicited from CG, FMFLant, and CG, FMFPac for possible later integration of product improvements.

c. Tactical Vehicle Fleet (TVF) Program

(1) The Marine Corps is pursuing a comprehensive Tactical Vehicle Fleet (TVF) Program to replace all overage, mission degraded, table of equipment deficient tactical wheeled vehicles in the current inventory. The light, medium, and heavy tactical vehicle requirements will be satisfied by the High Mobility Multipurpose Wheeled Vehicle (HMMWV) and Commercial Utility Cargo Vehicle (CUCV), the M809 retrofit and M939 procurement, and the LVS, respectively. Fielding of the TVF equipment began in FY 82 and will be completed in FYs 88-89. The TVF will vastly improve wheeled-vehicle capabilities and supportability with concurrent increases in the operational flexibility of the MAGTF.

(2) Light Fleet. The current M151, M561, M274, and M880 vehicles and light tactical trailers will be replaced by the HMMWV and the CUCV. The HMMWV is a diesel engine, automatic transmission vehicle with common engine chassis and drive train. Adopted to multiple mission roles through the use of special-purpose kits and various body configurations, the HMMWV will be used in command and control, weapons platform and carrier, utility, medical evacuation, and other combat and combat support roles. The CUCV also has a diesel engine and an automatic transmission and will be used in light tactical vehicle roles in the FMF which do not require the full mobility and capabilities of the more expensive HMMWV.

(3) Medium Fleet. The current 2-1/2-ton and older 5-ton trucks will be replaced by the M809 retrofit and the M939 procurement programs. The M809 program will accelerate the 5-ton combat readiness upgrade by converting M39 series 5-ton trucks into the improved M809 series vehicles using serviceable M39 series components. The M939, a new product, is an improved 5-ton, 6-wheel drive vehicle with a 250 HP diesel engine, automatic transmission, power steering, and full air brakes.

(4) Heavy Fleet. The M123 10-ton truck tractor assets will be replaced and the heavy fleet capability enhanced by the LVS, which consists of one front power unit and four different rear body units.

(a) MK48 Front Power Unit. The MK48 is a 4x4 tractor with a diesel engine and automatic transmission that marries to any of the four rear body units through an articulation joint, which provides an exceptionally capable 8x8 heavy-lift vehicle.

(b) MK14 Container Hauler. This rear body unit provides the capability to transport 8'x8'x20' standard containers up to 22-1/2 tons in an expeditionary environment.

(c) MK15 Wrecker. The MK15 wrecker provides an LVS recovery capability and supports field maintenance (tank and AAVP power-pack removal).

(d) MK16 5th Wheel. This rear body unit variant enables the LVS to serve as a prime mover for the conventional heavy trailers, such as the M870, in the current inventory.

(e) MK17 Dropside Cargo with Crane. The MK17 can transport up to 10 tons of cargo cross-country with self-loading/unloading capabilities provided by onboard material-handling equipment.

(5) Trailers

(a) Semi-Trailer, Low Bed, 40-Ton, M870. This vehicle is a low, flat bed semi-trailer with a folding goose neck and three axles. The M870 is used to transport construction equipment and material over improved and secondary roads with limited off-road capability.

(b) Semi-Trailer, Heavy Equipment Transporter (HET), 70-Ton, XM1000. The HET will be used to transport tanks and AAVs over improved and secondary roads with limited cross-country operation. The vehicle replaces the M793 semi-trailer.

(6) The M970 5,000-gallon refueler provides bulk fuel support for the Marine Aircraft Wing.

d. Fuel, Water, and Firefighting Module (SIXCON)--96"x80"x48". The SIXCON is part of the service support subsystem of the FLS. This module will hold up to 900 gallons of liquid, and can be connected into an array of up to six modules (five water and one pump). Fuel and water tankers can be created by combining the required number of liquid modules with one of the two pumping modules on the MK48/MK14 LVS, or a nondedicated 5-ton cargo truck, depending on mobility requirements and unit mission. The IOC for the SIXCON water modules is FY 86. Solicitations to contractors

were let in October 1985 for the fuel modules in anticipation of an IOC of 2nd quarter FY 87. The SIXCON firefighting module is compatible with the medium truck fleet and the LVS vehicles. The module can be used to extinghish Class A, B, and C fires, but it is not to be used with fires resulting from airplane crashes. In addition, the firefighting module is interoperable with the SIXCON water modules, and has an IOC for FY 90.

e. Landing Craft Air Cushion (LCAC). The Navy has begun procurement of a high-speed (40 knot), over-the-water landing craft that will support the capability to initiate the ship-to-shore movement of an amphibious operation at a distance of 15-100 miles from the beach, as compared with the present 4,000 yards. Capable of a 60- to payload, it is designed to lift all types of ground equipment organic to the MAGTF in an amphibious operation. While the LCAC is not organic to the FMF, it will greatly impact on its capability in amphibious landing.

SECTION 2A
MARINE DIVISION
1986 BASELINE

201. PRIMARY MISSION

To execute amphibious assault operations and such other operations as may be directed, supported by Marine aviation, force service support units, and other supporting forces.

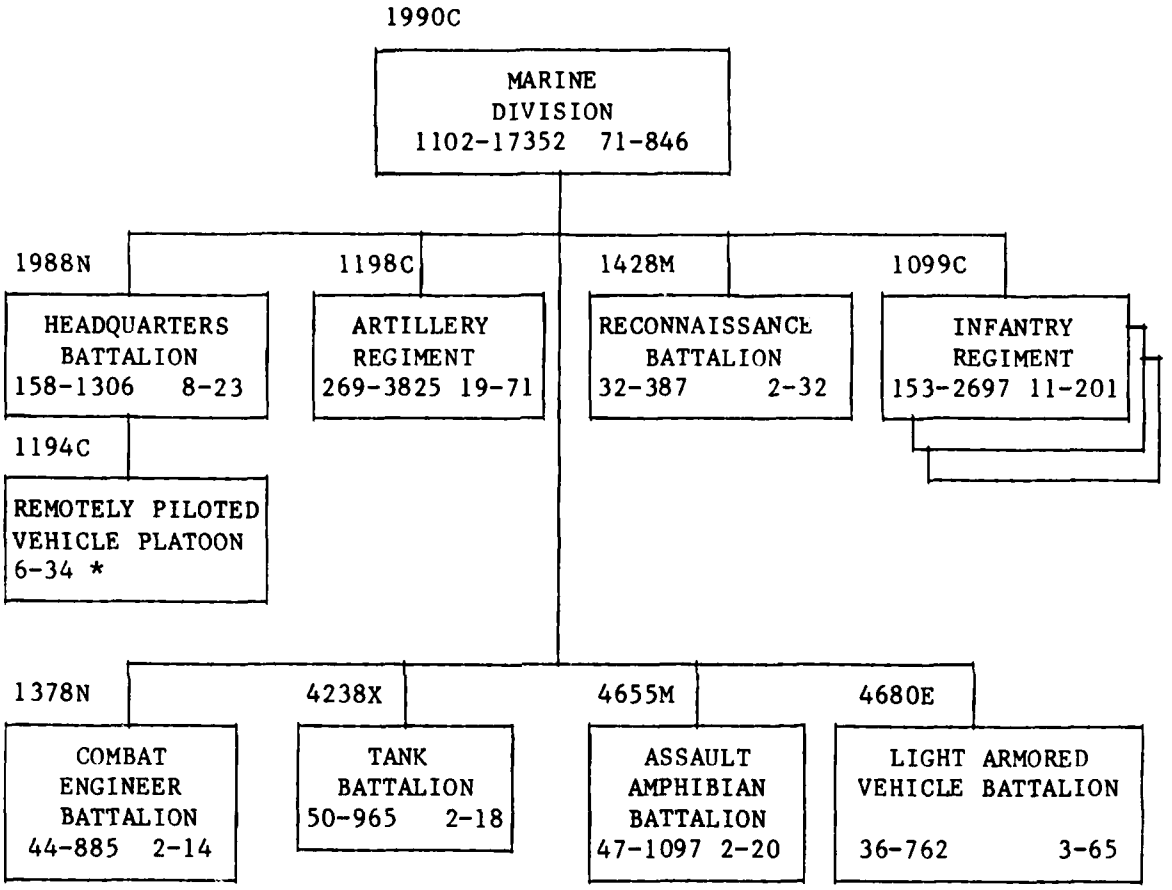
202. CONCEPT OF EMPLOYMENT

The Marine division is employed in conjunction with a Marine aircraft wing (MAW), as an integral part of a MAF in amphibious operations and in land operations ashore under conditions of limited or general war.

203. DIVISION ORGANIZATION (See Figure 2-1)

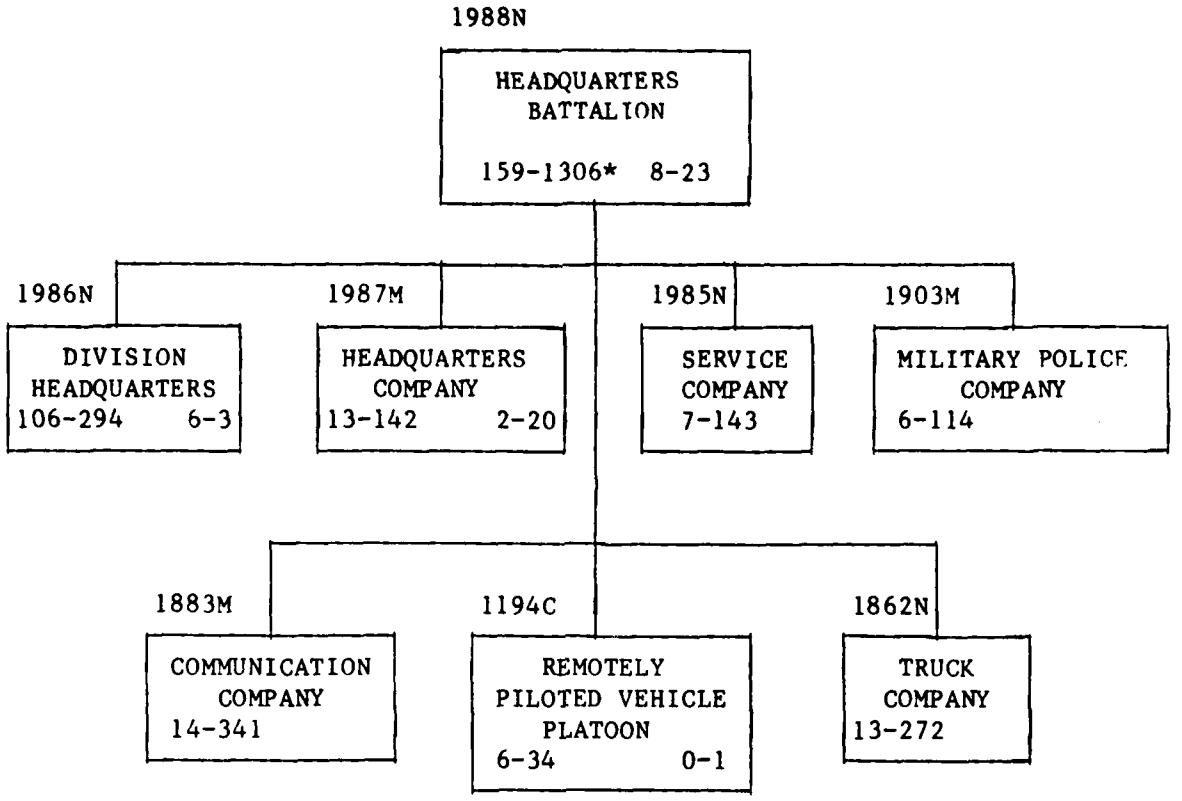
a. Headquarters Battalion

(1) Mission and Organization. The primary mission of the Headquarters Battalion is to exercise command, control, and administration of a Marine division. The Headquarters Company provides command and administrative functions for the Headquarters Battalion, and chaplain service to those units of the division that do not have chaplains. The Headquarters Company includes the Sensor Control and Management Platoon (SCAMP), and the Interrogator-Translator Teams (ITT) of the division. The Service Company provides organic supply and motor transport support for the battalion as well as reproduction and photographic services. The Military Police company provides route reconnaissance for the purpose of determining control measures, changes in route conditions, and other changes that may affect the movement of personnel and equipment; for the evacuation, care, custody, treatment, and control of U.S. military prisoners as well as enemy prisoners of war (EPW); a CID to conduct crime surveys, investigative laboratory, evidential, statistical, drug detector/patrol dogs and related activities as requested; beach and perimeter defense including command post, rear area security, reaction forces and crowd control for the Marine division. The Truck Company provides general support motor transport to the Marine division. The Communication Company installs, operates and maintains communication facilities for division headquarters, including radio, multichannel radio, wire and communication center facilities at the division command post, and the administrative command post, and between the division command post, the alternate command post, and the next lower echelons of the division. The alternate division command post will normally be located at the artillery regimental command post and will be manned by the assistant division commander. The administrative command post is located in a separate area to the rear. (See Figure 2-2.)



* UNIT ACTIVE IN 2ND MARINE DIVISION IN FY 86

Figure 2-1 -- Marine Division



*TOTALS DO NOT INCLUDE RPV PLATOON

Figure 2-2 -- Headquarters Battalion

(2) Combat Service Support Capabilities. (Less Truck Company).

(a) Administrative Capability. Capable of self-administration.

(b) Maintenance. Each company is capable of organizational (1st echelon) maintenance on assigned equipment. Service Company provides organizational (2d echelon) maintenance on battalion motor transport, engineer, and ordnance equipment. Organizational (2d echelon) and intermediate (3rd echelon) maintenance on communications-electronics equipment is provided by Communication Company.

(c) Supply. Service Company operates the organic supply account for the battalion.

(d) Medical. The Medical Section, Headquarters Company, provides emergency treatment and preparation for evacuation of all casualties, treats minor illnesses and injuries and supervises disease prevention and control measures for the battalion.

(e) Transportation. The battalion has organic transportation required to support its mission. The Service Company provides motor transport support to augment the organic capabilities of the companies of the battalion, as required.

(f) Messing. The Dining Section of the Service Company provides messing support to the battalion.

(3) Headquarters Company

(a) Mission. To provide command and administrative functions for the Headquarters Battalion and band support for the Marine division, and to provide a remote sensor surveillance employment capability within the Marine division.

(b) Concept of Organization.

1 Organized into functional groupings to provide for:

a A battalion headquarters which directs and coordinates the actions of the entire battalion.

b A division band which provides band support for the entire division.

c A company headquarters which provides the necessary administrative, security and limited logistics support of the company.

d A sensor control and management platoon which provides control and management of remote sensors and surveillance equipment; inspects and maintains sensor surveillance equipment; stocks sensor devices for anticipated requirements; prepares sensors for employment; provides sensor employment squads and teams as required; provides sensor training and conducts sensor testing as required.

2 Command and Control (Company)

a Command and Staff--The company commander and his small staff direct and control all matters pertaining to the administration, logistic support and security of the company.

b Communications--Internal communications are limited to telephone and messenger service.

3 Firepower. Firepower available to the company commander is represented by personnel armed with light infantry weapons and capable of defending the division headquarters against infiltration by small groups of the enemy.

4 Mobility. The basic means of ground mobility of the company is by foot. All elements are helicopter transportable and are compatible with other means of transportation (amphibian vehicle, motor transport, fixed wing aircraft and ships).

5 Logistics. Principal logistic support for the company is provided by the Service Company, Headquarters Battalion.

(c) Concept of Employment

1 The company headquarters is employed primarily to provide internal administration, logistics, security and working space facilities for the company. The physical layout, support and displacements incident to the battalion headquarters are directed toward providing the battalion commander and his staff with the most effective means of directing and controlling the battalion.

2 The band unit of this company functions either in an administrative role in support of the entire division or in an operational role within the entire battalion and not the company itself, and is normally employed in support of the tactically disposed headquarters battalion.

3 The Sensor Platoon will establish the capability for remote sensor surveillance employment in amphibious operations, support contingency operations, and conduct sensor surveillance training and testing as required. SCAMP will be established at the division and function under the staff cognizance of the Assistant Chief of Staff, G-2. The platoon headquarters is capable of operating a Tactical Surveillance Center (TSC) at division level. Sensor employment squads are utilized to support infantry regiments with Sensor Employment Teams (SET) functioning in support of subordinate infantry battalions.

(d) Administrative Capability. None. Administrative support provided at the Headquarters Battalion level.

(e) Logistic Capabilities

1 Maintenance

a All elements of the company are capable of providing organizational maintenance (1st echelon) on all assigned equipment.

b Organizational maintenance (2d echelon) is provided by the Service Company, Headquarters Battalion on all battalion engineer, motor transport and ordnance (less fire control) materiel.

c Capable of organizational maintenance (2d echelon) on all sensor/sensor associated equipment authorized for the Sensor Control and Management Platoon.

d Second and third echelon maintenance on organic communications-electronic equipment, less sensor and sensor-related equipment will be provided by the Communication Company, Headquarters Battalion.

2 Medical. The battalion medical section provides for emergency treatment and preparation for evacuation by external means of all casualties within the battalion requiring hospitalization. The medical section is capable of operating a field dispensary for treatment of minor illnesses and injuries. It also exercises technical supervision of measures for the prevention and control of diseases.

3 Transportation

a The Company has no organic motor transportation capability.

b Necessary vehicular transportation support is normally provided by the Service Company, Headquarters Battalion.

4 Supply

a The battalion receives supplies from division service elements and provides for distribution within the battalion.

b The company headquarters receives supplies for internal supply of the Headquarters Company and arranges for distribution.

5 Messing

a The Company has no organic capability to establish a company mess.

b Headquarters Battalion either operates a battalion mess or furnishes cooks and equipment to the Company from Service Company, Headquarters Battalion for the operation of a company mess.

6 The major items of equipment are shown below:

HEADQUARTERS COMPANY, HEADQUARTERS BATTALION

Circle, Aiming, M2	2
Ground Sensor Set, Unattended	1
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	9
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	66
Rifle, 5.56mm, M16A2	157
Rifle, Sniper, M40A1	2
Radar Set (LBSR), AN/PPS-12(V)6	6
Radiac Set AN/PDR-56G	2
Radio Frequency Monitor Set, AN/USQ-46A	40
Radio Set, Control Group, AN/GRA-39B	4
Radio Set, AN/GRC-160	3
Radio Set, AN/PRC-77	12
Sensor, Monitoring, AN/USQ-66(V)	3
Telescope, Observation, M49	2

(4) Truck Company

(a) Mission. To provide the Marine division with sufficient general support motor transport to produce the initial logistic support necessary to conduct limited tactical mobility.

(b) Concept of Organization. The Truck Company consists of a company headquarters, and three truck platoons containing two truck sections each.

1 Command and Control--The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower--Organic firepower capability is limited to individual and automatic weapons for security.

3 Mobility--Possesses organic capability to accomplish displacement.

4 Communications--The Truck Company is organized to provide communications support for control of convoys and subordinate units.

(c) Concept of Employment. The Company provides a pool of transportation support for the Marine division. It is capable of transporting the assault elements of two infantry battalions simultaneously. Truck platoons are structured to be attached to or placed in support of infantry regiments. The truck platoons are capable of sustained operations on a twenty-four hour basis. When the tactical situation permits and motor transport assets are available the Truck Company may be used to augment the organic capability of division units in support of administrative/logistic requirements.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities.

1 Maintenance

a Organic. Capable of providing organizational (1st and 2d echelon) maintenance on all assigned equipment except communications equipment. 2d and 3d echelon maintenance on organic communications equipment is provided by Communication Company, Headquarters Battalion, Marine Division. Intermediate (3d and 4th echelon) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by Service Company, Headquarters Battalion, Marine Division.

3 Medical. None organic. Support is provided by Medical Section, Headquarters Company, Headquarters Battalion.

4 Transportation. Capable of providing organic motor transportation incident to the accomplishment of the Company's primary mission.

5 Messing. None organic. Support is provided by Service Company, Headquarters Battalion, Marine Division.

6 The major items of equipment are shown below.

TRUCK COMPANY, HEADQUARTERS BATTALION

Machine Gun, Cal.50, M2	30
Machine Gun, 7.62mm, M60	14
Night Vision Sight, Crew Served Weapon AN/TVS-5	5
Pistol, Automatic, Cal .45, M1911A1	31
Rifle, 5.56mm, M16A2	254
Radio Set, Control Group, AN/GRA-39A	1
Radio Set, AN/GRC-160	3
Radio Set, AN/MRC-110	4
Radio Set, AN/PRC-77	4
Trailer, Amphib. Cargo, 1/4T, M416	5
Trailer, Cargo, 1-1/2T, M105A2	57
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	13
Truck, Wrecker, 5T, M936	3

Truck, Cargo, 5T, M923	100
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	3
Truck, Utility, 1/4T, 4x4, M151A2	12
Truck, Cargo, 1-1/4T, M1008	1
Truck, Utility, Cargo/Troop Carrier, M998	12

(5) Communication Company

(a) Mission. To install, operate and maintain the communications system for a Marine division headquarters.

(b) Tasks

1 Install, operate and maintain communication center facilities for the division headquarters.

2 Maintain radio stations on command and control, administrative, logistical and other radio nets as required.

3 Install, operate and maintain switchboard and telephone services for the division headquarters.

4 Install, operate and maintain multichannel radio terminals for support of internal division communication links as required.

5 Provide communications support for the Division Naval Gunfire Officer, Division Air Officer and Division Fire Support Coordination Center.

(c) Concept of Organization. The division communication company is organized into functional groupings to provide for:

1 A company headquarters which directs and coordinates the actions of the entire company.

2 Six platoons organized along functional lines tailored to support the mission and tasks listed above.

(d) Concept of Organization. The division communication company will furnish communications for the division command post (CP), alternate division CP and the administrative CP. Multichannel radio will be the primary means of communication with major subordinate units. Duplicate facilities will be maintained at the division CP and alternate CP which will provide multichannel communications to the three infantry regiments, direct air support center, and between the division CP and alternate CP. Wire communications will not normally be installed to major subordinate units but may be installed to separate battalions if located within

approximately one mile of the division CP. Otherwise, wire service will be restricted to internal CP installations if located within approximately one mile of the division CP. Otherwise, wire service will be restricted to internal CP installations for local telephone, teletype and multichannel lines. Only minimum continuity of communications can be provided during echeloned displacement of the division CP.

(e) Administrative Capability. None. Administrative support provided at Headquarters Battalion.

(f) Logistic Capabilities.

1 Maintenance. Capable of organizational (1st echelon) maintenance on assigned equipment. Service Company provides organizational (2d echelon) maintenance on motor transport, engineer, and ordnance equipment. Capable of organizational (2d echelon) and intermediate (3d echelon) maintenance on communications-electronic equipment.

2 Supply. None. Supply support provided by the Service Company.

3 Medical. None. Medical support provided by the Headquarters Company.

4 Transportation. Organic capability augmented by the Service Company.

5 Messing. None. Support provided by the Service Company.

6 The major items of equipment are shown below.

COMMUNICATION COMPANY, HEADQUARTERS BATTALION

Central Office, Telephone, AN/TTC-38(V)	1
Communications Central, AN/TGC-37(V)	2
Control Central, Comm. Tech., AN/TSQ-84	1
Control, Radio Set, C-6709/G	2
Communications Terminal, AN/UGC-74A(V)3	16
Chassis, Trailer, GP, 3-1/2T, M353	8
Generator Set, MEP-021A	9
Generator Set, MEP-016A	13
Generator Set, MEP-003A	2
Generator Set, MEP-112A	4
Generator Set, MEP-005A	4
Generator Set, MEP-114A	2
Generator Set, MEP-006A	2
Generator Set, MEP-007A	2
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	1
Pistol, Automatic, Cal .45, M1911A1	71

Rifle, 5.56mm, M16A2	286
Radio Set, AN/VRC-85	3
Radio Terminal, AN/TRC-166	8
Radio Set, Control Group, AN/GRA-39B	48
Radio Set, AN/MRC-138	17
Radio Set, AN/MRC-110	6
Radio Set, AN/PRC-77	33
Radio Set, AN/PRC-75B	8
Radio Set, AN/VRC-47	1
Radio Terminal, AN/MRC-135	20
Radio Set, AN/PRC-68A	48
Radio Set, AN/PRC-104	16
Receiving Set, AN/GRR-17	6
Switchboard, Telephone, Manual, SB-22A/PT	9
Switchboard, Telephone, Automatic, SB-3614(V)TT	7
Telephone Set, TA-838/TT	175
Teletypewriter, AN/GGC-3A	8
Terminal, Telephone-Telegraph, TH-85A/GCC	28
Terminal Set, AN/VCC-1	1
Trailer, Amphib. Cargo, 1/4T, M416	37
Trailer, Flatbed, 3/4T, M762	18
Trailer, Cargo, 1-1/2T, M105A2	18
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Cargo, 5T, 6x6, M923	13
Truck, Utility, 1/4T, 4x4, M151A2	9
Truck, Utility, Cargo/Troop Carrier, M998	19

(6) Military Police Company

(a) Mission. Military police provide the division commander a resource, in areas not normally occupied by tactical units, that can engage small enemy elements by offensive or defensive operations as an extension of law enforcement and security activities.

(b) Concept of Organization. The Company is organized into functional groupings to provide:

1 Route reconnaissance for the purpose of determining control measures, changes in route conditions, and other changes that may affect the movement of personnel and equipment.

2 For the evacuation, care, custody, treatment, and control of U.S. military prisoners as well as enemy prisoners of war (EPW).

3 A Criminal Investigation Division (CID) to conduct crime surveys, investigative laboratory, evidential, statistical, drug detector/patrol dogs and related activities as required.

4 Beacn and perimeter defense to include: command post, rear area security, reaction forces and crowd control for the Marine division.

(c) Concept of Employment. The Company operates with Headquarters Battalion or it can be deployed independently. Each platoon can be task organized to meet the operational needs of a Marine division.

(d) Administrative Capability. Not capable of self-administration.

(e) Logistic Capabilities. The Company is capable of organizational maintenance (1st echelon) on all authorized material. Service Company provides organizational (2d echelon) maintenance on motor transport, engineer and ordnance equipment. Second and third echelon maintenance of organic communications-electronic equipment provided by Communication Company, Headquarters Battalion. The major items of equipment are shown below.

MILITARY POLICE COMPANY, HEADQUARTERS BATTALION

Machine Gun, 7.62mm, M60	4
Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	18
Rifle, 5.56mm, M16A2	109
Radio Set, Control Group, AN/GRA-39B	3
Radio Set, AN/GRC-160	7
Radio Set, AN/PRC-68A	8
Radio Set, AN/MRC-110	6
Radio Set, AN/PRC-77	17
Revolver, Cal.38, M10	2
Shotgun, 12 Gauge, M870/MK1	6
Trailer, Amphib. Cargo, 1/4T, M416	1
Truck, Utility, 1/4T, 4x4, M151A2	1
Truck, Cargo, 1-1/4T, M1008	4
Revolver, Cal.38	2
Shotgun, 12 Gauge, M870/MK1	6
Truck, Utility, Cargo/Troop Carrier, M998	1

(7) Service Company

(a) Mission. To provide organic supply, food service, and motor transport support for the Headquarters Battalion; and to provide reproduction and photographic services support for a Marine division.

(b) Concept of Organization. The Company is organized into a Company Headquarters, containing a Reproduction

Section and Photographic Section, a Motor Transport Platoon, and a Service Platoon containing a Supply Section and Dining Section.

1 Command and Control. The company commander exercises command and control of the Company.

2 Firepower. Limited to individual weapons for personal security.

3 Mobility. Organic capability to displace is provided by the Motor Transport Platoon for the Company, and Headquarters Battalion of the Marine division.

4 Communications. None organic. Support is provided by Communication Company, Headquarters Battalion of the Marine division.

(c) Concept of Employment. The company headquarters primarily provides internal administration, logistics, security, and working space facilities for the Company. The Motor Transport and Service Platoons provide transportation, supply, and food service support for the Headquarters Battalion of the division while the battalion is employed in support of combat operations of division units or elements of the MAF.

(d) Administrative Capability. Not capable of self-administration.

(e) Logistic Capabilities

1 Maintenance

a Organic--Capable of providing organizational (1st echelon) maintenance on all authorized equipment. Capable of providing organizational (2d echelon) maintenance of engineer, motor transport, and ordnance equipment authorized the battalion.

b Support--None.

2 Supply. The Company operates the organic supply account for the battalion.

3 Medical. None organic. Support is provided by Headquarters Company of the Marine division.

4 Transportation. Organic capability provided by the Motor Transport Platoon.

5 Messing. Organic capability provided for all of Headquarters Battalion by the Dining Section of the Service Platoon.

6 The major items of equipment are shown below:

SERVICE COMPANY, HEADQUARTERS BATTALION

Decontamination Apparatus, M12A1	1
Machine Gun, Cal.50, M2	6
Machine Gun, 7.62mm, M60	2
Pistol, Automatic, Cal .45, M1911A1	22
Rifle, 5.56mm, M16A2	123
Trailer, Amphib. Cargo, 1/4T, M416	39
Trailer, Cargo, 3/4T, M101A1	7
Trailer, Cargo, 1-1/2T, M105A2	10
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Wrecker, 5T, M936	1
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	10
Truck, Cargo, 5T, 6x6, M54A2C	3
Truck, Cargo, 5T, M923	18
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	49
Truck, Wrecker, 5T, 6x6, M543A2	1
Semi-Trailer, Stake, 6T, M118A1	4
Truck, Utility, Cargo/Troop Carrier, M998	49

(8) Division Headquarters

(a) Primary Mission. To direct and coordinate the operations of the division.

(b) Administrative Capability. Not capable of self-administration.

(c) Logistic Capabilities. Not capable of logistic support.

(d) The weapons in the Division Headquarters are shown below.

DIVISION HEADQUARTERS, HEADQUARTERS BATTALION

Pistol, Automatic, Cal.45, M1911A1	243
Revolver, Cal.38	1
Rifle , 5.56mm, M16A2	159

(9) Remotely Piloted Vehicle Platoon. Concept of employment has not been determined at this time.

b. Infantry Regiment

(1) Mission. The primary mission of the infantry regiment is to locate, close with, and destroy the enemy by fire and maneuver, or to repel his assault by fire and close combat.

(2) Concept of Organization. The infantry regiment consists of a headquarters company and three infantry battalions. The infantry battalions are the basic tactical units with which the regiment accomplishes its mission. When combined with other combat support and CSS units, it will form a Regimental Landing Team (RLT) in amphibious operations. Command and staff functions for the regiment are exercised through a compact operational command group consisting of the commander and an executive staff. The staff is capable of integrating the efforts of attached and supporting units. The staff can support an alternate command post during displacement. The basic means of ground mobility of the regiment is by foot, supplemented by small, light-weight vehicles for the transportation of electronics equipment, weapons, and limited amounts of ammunition and supplies. All elements are helicopter transportable and are compatible with other means of transportation (assault amphibian vehicles, motor transport, fixed wing aircraft, and ships). (See Figure 2-3.)

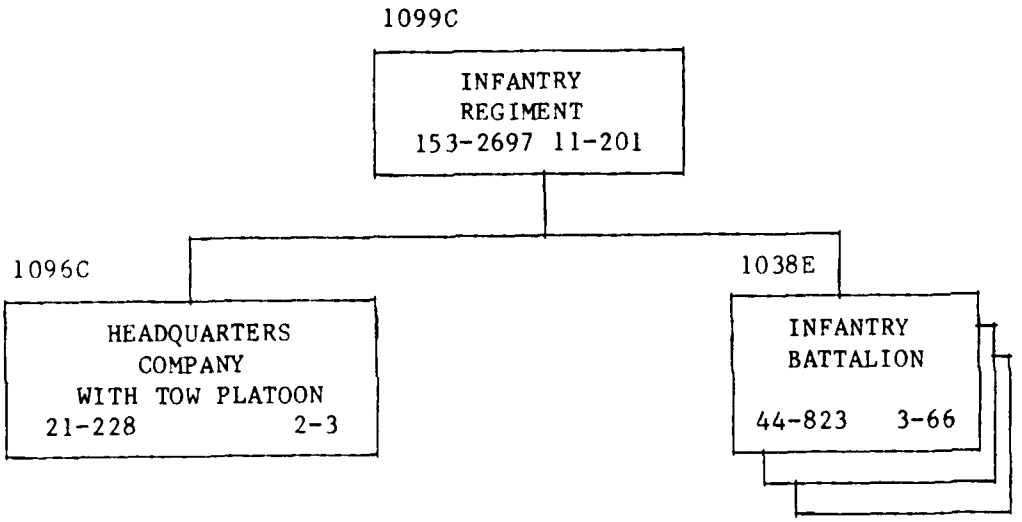


Figure 2-3 -- Infantry Regiment

(3) Concept of Employment. The infantry regiment is the major element of close combat power of the Marine division. The regiment with appropriate attachments is capable of independent, sustained operations.

(4) Headquarters Company

(a) Mission. To provide the regimental commander with the facilities for effective command and control.

(b) Concept of Organization

1 Organized into functional groupings to provide for:

a A regimental headquarters which directs and coordinates the actions of the entire regiment.

b A communications platoon which provides the necessary communication links for exercising control and coordination.

c A company headquarters which provides the necessary administrative, internal security and logistic support of the company.

d An antitank (TOW) platoon to provide organic antitank and antimechanized support to the regiment.

2 Command and Control. (Company).

a Command and Staff--The company commander and his small staff direct and control all matters pertaining to the administration, logistics and internal security of the company.

b Communications--Internal communications are limited to telephone and messenger service.

3 Firepower

a The TOW Platoon provides an organic long-range, anti-armor capability for the regiment.

b Firepower available to the company commander is limited to light infantry weapons which provide the capability of internal defense of the regimental headquarters against infiltration by small groups of enemy.

4 Mobility. The basic means of ground mobility of the company is by foot, supplemented by organic, small, lightweight vehicles for the transportation of electronics equipment, TOW weapons systems, a limited number of the headquarters group, and limited amounts of internal supplies and equipment. All elements are helicopter transportable and are compatible with other means of transportation (amphibian vehicle, motor transport, fixed wing aircraft and ships).

5 Logistics. Logistic support of the company is provided through internal distribution of supplies, simple supply procedures, and limited organizational maintenance. Company service platoon carries authorized allowance only. Additional supplies, maintenance, medical support and transportation are provided by service support units of the division.

(c) Concept of Employment. The company headquarters is employed primarily to provide internal administration, logistics, internal security and working space

facilities for the company. The physical layout, support and displacements incident to the regimental headquarters are directed toward providing the regimental commander and his staff with the most effective means for directing and controlling the regiment. The antitank platoon is employed as part of the regimental antimechanized defense system, closely coordinated with other fire support means such as air, artillery, and tanks. The platoon may be employed in general support of the regiment or attached by sections or squads to subordinate battalions or other elements of the regiment.

(d) Administrative Capability. Simplified self-administration while in garrison; in combat, may furnish administrative personnel to the division administrative center.

(e) Logistic Capabilities

1 Maintenance

a All elements of the company are capable of providing organizational maintenance (1st echelon) on assigned equipment.

b Organizational maintenance (2d echelon) is provided by company headquarters on company motor transport and ordnance, and communications-electronics equipment. The antitank platoon is capable of 3d echelon maintenance on the M220 (TOW) weapon.

2 Medical. The medical personnel of the company provide for emergency treatment and preparation for evacuation by external means of all casualties within the company requiring hospitalization. These personnel are capable of operating an aid station for treatment of minor illnesses and injuries, and exercising technical supervision of measures for the prevention and control of disease.

3 Transportation

a Transportation for the Headquarters Company is provided from a pool of small general purpose vehicles maintained within the company headquarters. Vehicles are allocated within staff and liaison personnel, communications equipment, limited medical evacuation, and internal supply distribution.

b When required, a light helicopter is provided to the regimental commander on a daily basis, for command, liaison and observation purposes.

4 Supply. The Company receives supplies from supporting division service elements and provides for distribution within the company.

5 Messing. Company headquarters operates a mess hall for the company in garrison, or in the field, as practicable.

6 The major items of equipment are shown below.

HEADQUARTERS COMPANY, INFANTRY REGIMENT

Generator Set, MEP-016A	2
Launcher, TOW, M220E4	24
Machine Gun, 7.62mm, M60	2
Night Vision Goggles, Individual, AN/PVS-5A	20
Night Vision Sight, Tripod Mounted, AN/TVS-4	1
Night Vision Sight, Individual Served Weapon, AN/PVS-4	10
Pistol, Automatic, Cal .45, M1911A1	43
Rifle, 5.56mm, M16A2	131
Radio Set, AN/VRC-85	2
Radar Set (LBSR), AN/PPS-15(V)2	2
Radiac Set AN/PDR-56G	2
Radio Set, Control Group, AN/GRA-39B	25
Radio Set, AN/GRC-160	45
Radio Set, AN/MRC-138	4
Radio Set, AN/MRC-110	3
Radio Set, AN/PRC-77	11
Radio Set, AN/PRC-75B	2
Radio Set, AN/PRC-104	5
Radio Set, AN/VRC-47	1
Radio Terminal, AN/MRC-135	8
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	5
Shotgun, 12 Gauge, M870/MK1	36
Switchboard, Telephone, Automatic, SB-3614(V)TT	3
Telephone Set, TA-838/TT	40
Teletypewriter, AN/GGC-3A	3
Terminal, Telephone-Telegraph, TH-85A/GCC	10
Trailer, Amphib. Cargo, 1/4T, M416	18
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	3
Truck, Utility, 1/4T, 4x4, M151A2	15
Truck, 1/4T, 4x4, GM Equipment	24
Truck, 1/4T, 4x4, GM Carrier	12
Truck, Utility, Cargo/Troop Carrier, M998	12
Tactical Intelligence Imagery Processor	1

c. Infantry Battalion

(1) Mission. To locate, close with and destroy the enemy by fire and maneuver, or to repel his assault by fire and close combat. (See Figure 2-4.)

(2) Concept of Organization

(a) Command and Control

1 Command and Staff. Command and staff functions are exercised through a compact operational command group consisting of the commander and his executive staff. The staff, utilizing the sequence of command and staff action, assists the commander in the decision making process. When divided into two groups, the staff is capable of establishing an alternate command post.

2 Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to subordinate units is by wire and single-channel radio. Alternate methods of communication are messenger (helicopter, vehicle, foot) and visual.

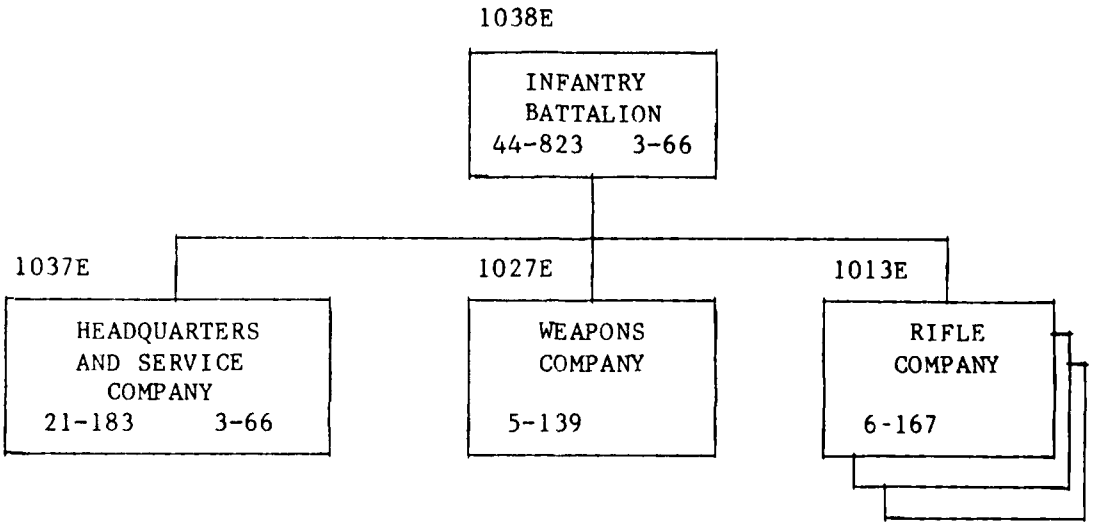


Figure 2-4 -- Infantry Battalion

3 Intelligence. Intelligence efforts are organized to provide surveillance, reconnaissance, and target acquisition commensurate with fire-and-maneuver capabilities of the battalion and responsive to the reaction time available to the commander. Information, collected by subordinate units as an integral part of their normal combat activities, is translated quickly into intelligence for use by the commander and his staff. Capable of limited intelligence processing only, the battalion forwards collected intelligence data to higher headquarters for further processing and use.

(b) Firepower. In addition to individual weapons, the organic firepower of the infantry battalion consists of light and medium mortars; light, medium and heavy machine guns; light and medium antitank weapons; shoulder-launched multipurpose assault weapons; grenade launchers; multishot flame weapons and sniper rifles.

(c) Mobility. The infantry battalion is primarily foot mobile, but, when necessary, high mobility multipurpose wheeled vehicles (HMMWV's) provide transportation for weapons, equipment and administrative and logistic functions. The battalion is transportable by helicopter, amphibious ships and craft, and tactical and strategic air transportation.

(3) Concept of Employment. The infantry battalion, the nucleus of the Battalion Landing Team, is the basic unit of tactical combat power organized to form a balanced fire-and-maneuver team. It can be employed separately, or as part of a larger force, in all types of operations. When operating separately and with reinforcement, the battalion is capable of sustained operations spanning several days.

(4) Administrative Capability. The infantry battalion is capable of self-administration.

(5) Logistic Capability

(a) Maintenance. The battalion is capable of organizational maintenance (1st and 2d echelon) on all organic equipment.

(b) Medical. The battalion medical platoon provides preventive medicine, treatment for minor illnesses and injuries and emergency life saving for battle and non-battle casualties. Injured and sick persons requiring hospitalization are readied and evacuated to the rear. Normally, a battalion aid station (BAS) serves as the hub for medical support.

(c) Transportation. High mobility multipurpose wheeled vehicles (HMMWV's) provide organic transportation for the infantry.

(d) Supply. Battalion supply is capable of providing organic supply support for the battalion. Generally, unit-distribution is the preferred method of supply, although, depending on the situation, supply-point distribution may also be used.

(e) Messing. The infantry battalion is capable of operating a battalion mess in garrison or in the field. When required, the battalion has a limited capability to establish company messes.

(6) Headquarters and Service Company

(a) Mission. To provide the battalion with the means for command, control, surveillance and target acquisition, and service support. (See Figure 2-5.)

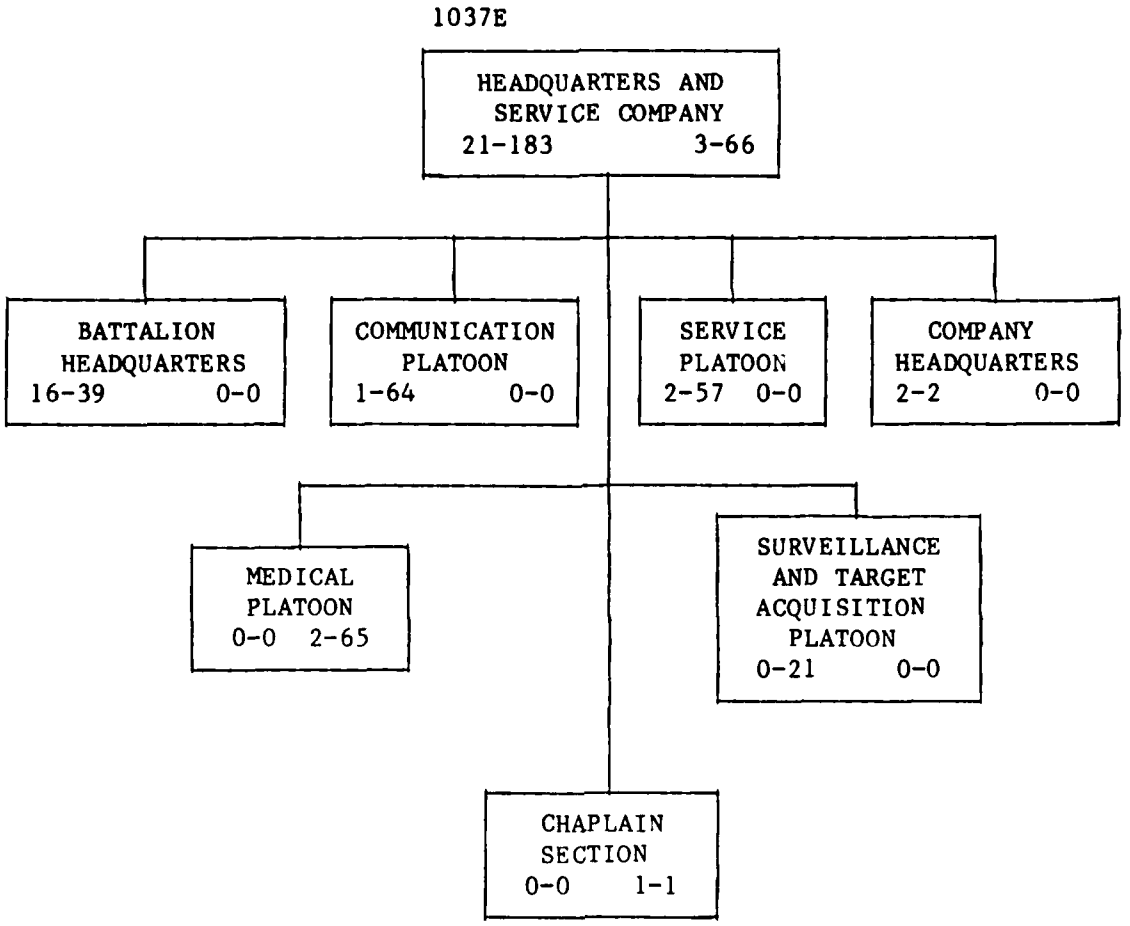


Figure 2-5 -- Headquarters and Service Company

(b) Concept of Organization

1 Command and Control

a Battalion Command and Control. The battalion headquarters directs and coordinates the entire battalion, including attached and reinforcing units.

b Command and Staff. With the assistance of a small company headquarters, the company commander analyzes the mission, develops and considers courses of action, makes decisions, issues orders, and directs and supervises the operations of the company.

c Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to subordinate units is by wire and single-channel radio. Alternate methods of communication are messenger and visual.

d Intelligence. Information gathered during combat operations is expedited to higher headquarters for processing. Processed intelligence is passed back to the company by higher headquarters on a regular basis.

2 Firepower. In addition to the individual weapons, the organic firepower of this H&S company consists of grenade launchers, medium machine guns and sniper rifles.

3 Mobility. Although the H&S Company is, to a great extent, foot mobile, high mobility multipurpose wheeled vehicles (HMMWV's) provide mobility for weapons, equipment and administrative and logistic functions. The company and its subordinate elements are also readily transported by tracked vehicles and helicopters as well as amphibious ships and craft, and tactical and strategic air transportation.

(c) Concept of Employment. The company headquarters is primarily employed to assist in coordinating combat service support, security and facilities for the company and the battalion headquarters. The STA, communications, medical, and service platoons are used in support of the entire battalion.

(d) Administative Capability. The H&S Company provides administrative support for the entire battalion.

(e) Logistic Capabilities

1 Maintenance. The H&S Company is capable of organizational maintenance (1st and 2d echelon) on all equipment organic to the battalion.

2 Medical. The Medical Platoon provides preventive medicine, treatment of minor illnesses and injuries and emergency life saving for battle and non-battle casualties. Injured and sick persons requiring hospitalization are readied and evacuated to the rear. Normally, a battalion aid station (BAS) serves as the hub for medical support.

3 Transportation. The MT Section, Service Platoon provides wheeled vehicles (HMMWV's) for organic transportation for the entire infantry battalion.

4 Supply. The Supply Section, Service Platoon is capable of providing organic supply support for the entire battalion. Generally unit-distribution is the preferred method of supply, although, depending or the situation, supply-point distribution may also be used.

5 Messing. The Dining Facility Section, Service Platoon is capable of operating a battalion mess in garrison or the field. When required, the section has a limited capability to establish company messes.

6 The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, INFANTRY BATTALION

Decontamination Apparatus, M12A1	1
Launcher, Grenade, 40mm, M203	17
Night Vision Goggles, Individual, AN/PVS-5A	10
Radar Set (LBSR), AN/PPS-15(V)2	4
Radio Set, AN/VRC-85	1
Radio Set, Control Group, AN/GRA-39B	27
Radio Set, AN/GRC-160	11
Radio Set, AN/MRC-138	3
Radio Set, AN/PRC-68A	94
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	58
Radio Set, AN/PRC-75B	5
Radio Set, AN/PRC-104	5
Radio Set, AN/VRC-47	2
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	3
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Machine Gun, 7.62mm, M60	6
Night Vision Sight, Tripod Mounted, AN/TVS-4	4
Pistol, Automatic, Cal.45, M1911A1	133
Rifle, 5.56mm, M16A2	136
Rifle, Sniper, M40A1	8
Night Vision Sight, Individual Served Weapon, AN/PVS-4	10
Night Vision Sight, Crew Served, Weapon, AN/TVS-5	4
Telescope, Observation, M49	10
Revolver, Cal.38	3
Laser, Infrared Observation Set, AN/GVS-5	4
Machine Gun, Lt., Sgd Auto Wpn, M249	8
Terminal Telephone-Telegraph, TH-85A/GCC	4
Truck, Cargo, 1-1/4T, M561	3
Telephone Set, TA-838/TT	18
Teletypewriter, AN/GGC-3A	1
Trailer, Amphib. Cargo, 1/4T, M416	22
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	4
Truck, Utility, 1/4T, 4x4, M151A2	28
Truck, Utility, Cargo/Troop Carrier, M998	19
Tactical Intelligence Imagery Processor	1

(7) Weapons Company

(a) Mission. To provide medium mortar, antimechanized, assault and heavy machine gun support for the infantry battalion and its subordinate elements. (See Figure 2-6.)

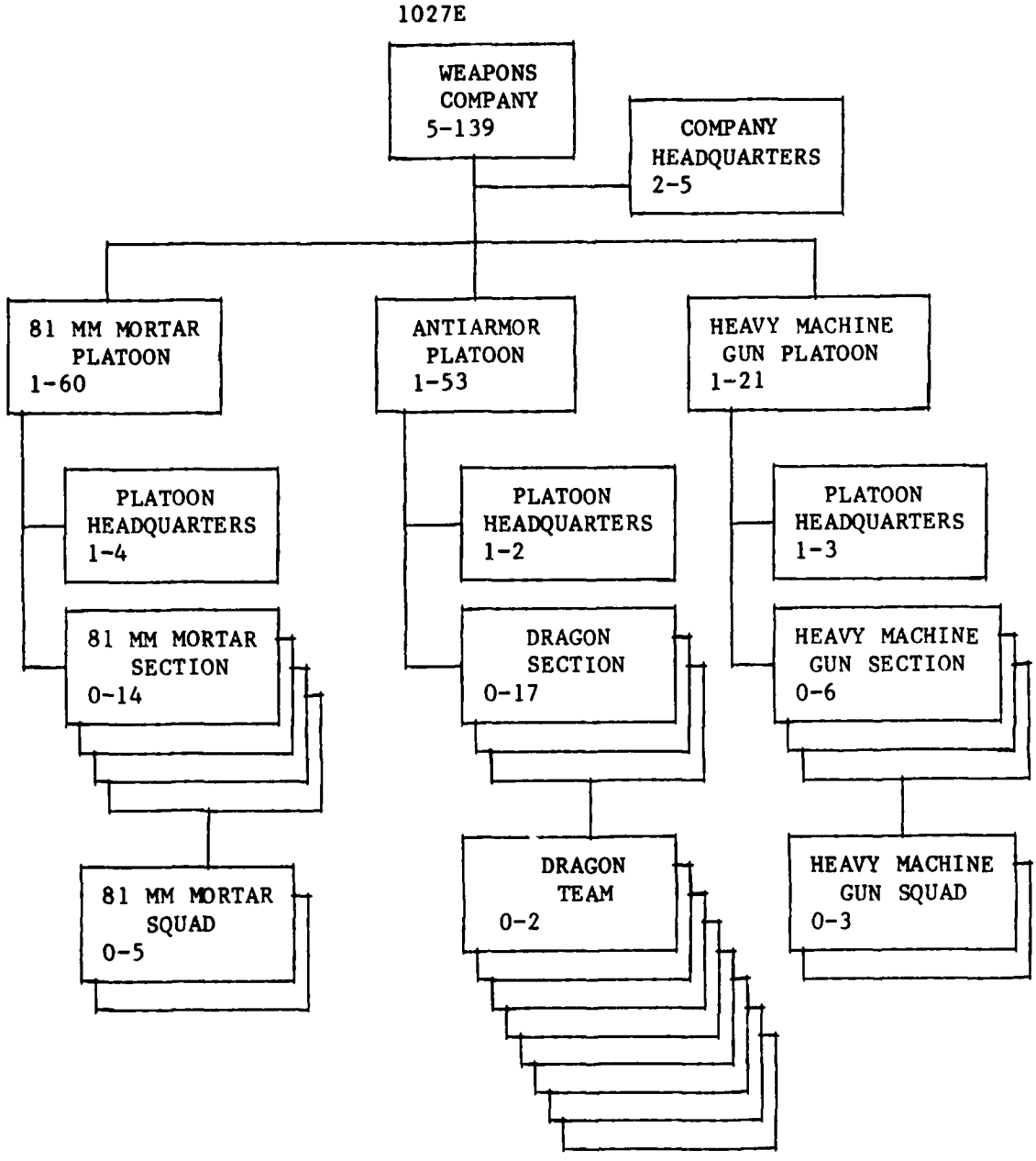


Figure 2-6 -- Weapons Company

(b) Concept of Organization

1 Command and Control

a Command and Staff. With the assistance of a small company headquarters, the company commander analyzes the mission, develops and considers courses of action, makes decisions, issues orders, and directs and supervises the operations of the company.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headqurters. The primary methods of communication to higher headquarters and subordinate units is by wire and single-channel radio. Alternative methods of communication are messenger and visual.

c Intelligence. Information gathered during combat operations is expedited to higher headquarters for processing. Processed intelligence is passed back to the company by higher headquarters on a regular basis.

2 Firepower. In addition to individual weapons, the organic firepower of the Weapons Company consists of medium mortars, light and medium antitank weapons, medium and heavy machine guns and grenade launchers.

3 Mobility. High mobility multipurpose wheeled vehicles (HMMWV's) organic to the infantry battalion, provide mobility for weapons, equipment and administrative and logistic functions. Also, the company is transportable by helicopter, amphibious ships and craft, and tactical and strategic air transportation.

(c) Concept of Employment. Generally, the company's mortar platoon, antiarmor platoon and heavy machine gun platoon are employed under battalion control; however, they may be attached to rifle companies.

(d) Administrative Capability. Administrative support is provided by the infantry battalion.

(e) Logistic Capabilities

1 Maintenance. The Company performs organizational maintenance (1st echelon) on all equipment organic to the company and organizational maintenance (2d echelon) on the DRAGON weapons system.

2 Medical. Medical support is provided by the infantry battalion.

3 Transportation. The Weapons Company has no organic transportation assets; however, transportation is provided by higher headquarters.

4 Supply. The Company does not stock, but it does receive and distribute supplies, generally using the unit-distribution method of supply. Supply-point distribution, although not the preferred method of supply, is also used.

5 Messing. Food service support is provided by the infantry battalion.

(f) The major items of equipment are shown below.

WEAPONS COMPANY, INFANTRY BATTALION

Circle, Aiming, M2A2	2
Launcher, Grenade, 40mm, M203	9
Laser, Infrared Observation Set, AN/GVS-5	14
Machine Gun, Lt., Sqd. Auto. Wpn., M249	6
Machine Gun, Cal.50, M2	6
Machine Gun, 40mm, MK-19, Mod-3	6
Machine Gun, 7.62mm, M60	6
Mortar, Inf. 81mm, M29A1	8
Night Vision Sight, Tracker, Infrared, AN/TAS-5	16
Night Vision Goggles, Individual, AN/PVS-5A	8
Night Vision Sight, Crew Served Weapon, AN/TVS-5	8
Pistol, Automatic, Cal .45, M1911A1	17
Rifle, 5.56mm, M16A2	127
Tracker, Infrared, SU-36/P	8
Truck, Utility, 1/4T, 4x4, M151A2	22
Truck, Utility, Cargo/Troop Carrier, M998	8

(8) Rifle Company

(a) Mission. To locate, close with and destroy the enemy by fire and maneuver, or to repel his assault by fire and close combat. (See Figure 2-7.)

(b) Concept of Organization

1 Command and Control

a Command and Staff. With the assistance of a small company headquarters, the company commander analyzes the mission, develops and considers courses of action, makes decisions, issues orders, and directs and supervises the operations of the company.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to subordinate

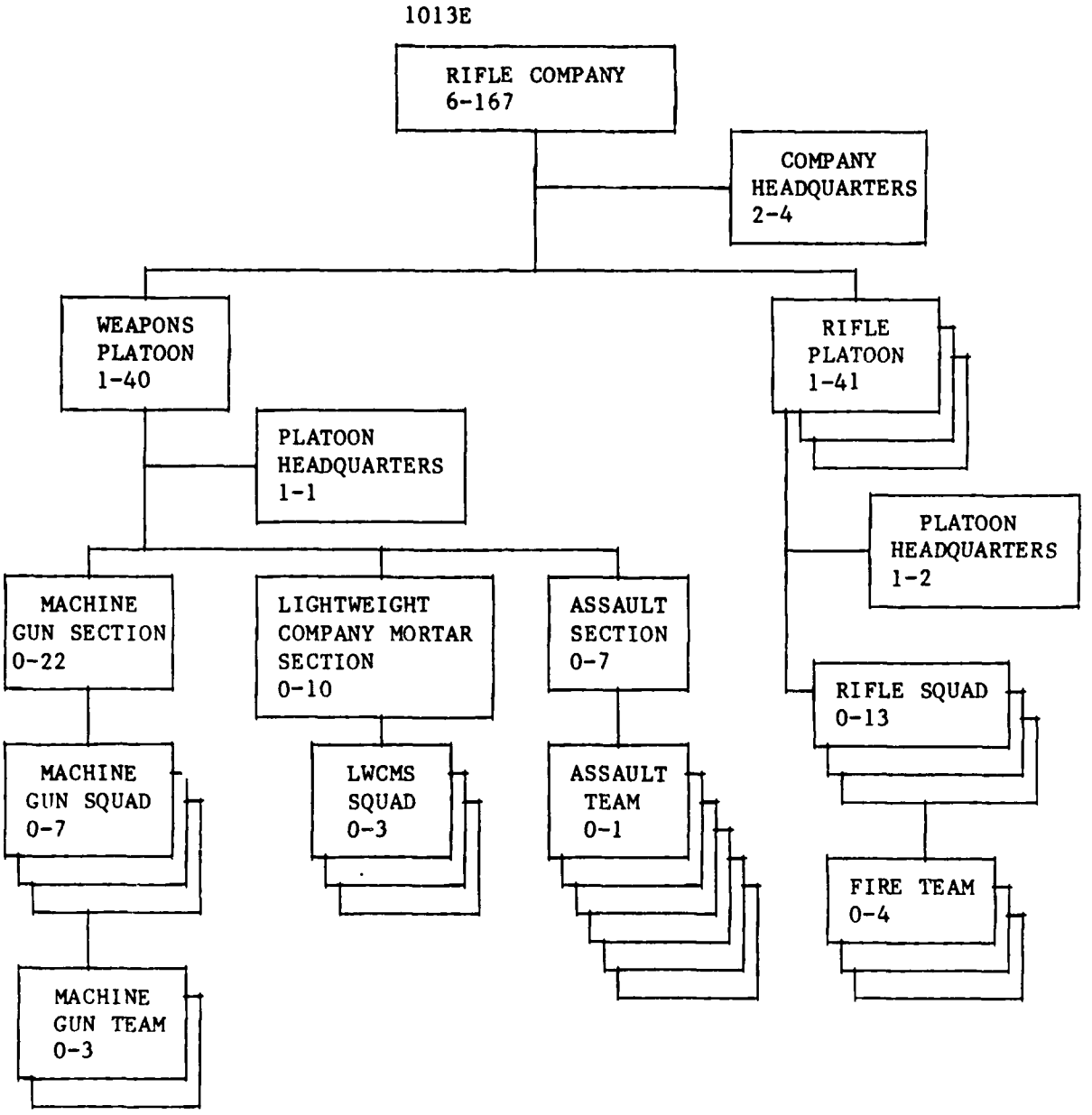


Figure 2-7 -- Rifle Company

units and higher headquarters is by wire and single-channel radio. Alternate methods of communication are messenger and visual.

c Intelligence. Information gathered during combat operations is expedited to higher headquarters for processing. Processed intelligence is passed back to the company by higher headquarters on a regular basis.

2 Firepower. In addition to individual weapons, the organic firepower of the rifle company consists of light and medium machine guns, light mortars, light antitank weapons, shoulder-launched multipurpose assault weapons, grenade launchers and multishot flame weapons.

3 Mobility. The Rifle Company is primarily foot mobile, but the company is readily transported by tracked and wheeled vehicles as well as helicopter, amphibious ships and craft, and tactical and strategic air transportation.

(c) Concept of Employment. Normally the rifle company operates as a maneuver element of the infantry battalion; but, with attachments, the company can be employed separately for short periods.

(d) Administrative Capability. Administrative support is provided by the infantry battalion.

(e) Logistic Capabilities

1 Maintenance. The Company performs organizational maintenance (1st echelon) on all equipment organic to the company.

2 Medical. Medical support is provided by the infantry battalion. Except when medical personnel are consolidated for efficiency -- as often occurs in garrison -- a medical team is assigned to each rifle company to provide first aid and emergency medical treatment to prepare the casualty for evacuation to the Battalion Aid Station (BAS).

3 Transportation. The Rifle Company has no organic transportation assets; however, transportation is provided by higher headquarters.

4 Supply. The Company does not stock, but it does receive and distribute supplies, generally using the unit-distribution method of supply. Supply-point distribution, although not the preferred method of supply, is also used.

5 Messing. Food service support is provided by the infantry battalion.

(f) The major items of equipment are shown below.

Launcher, Grenade, 40mm, M203	37
Laser, Infrared Observation Set, AN/GVS-5	2
Launcher, Assault, 83mm, SMAW, MK-153, Mod 0	6
Machine Gun, Lt., Sqd. Auto. Wpn., M249	27
Machine Gun, 7.62mm, M60	6
Mortar, 60mm, M224	3
Night Vision Goggles, Individual, AN/PVS-5A	14
Night Vision Sight, Individual Served Weapon, AN/PVS-4	20
Pistol, Automatic, Cal .45, M1911A1	23
Rifle, 5.56mm, M16A2	123

d. Artillery Regiment

(1) Mission. The artillery regiment provides artillery support for the Marine division in the amphibious assault and in subsequent operations ashore. (See Figure 2-8.)

(2) Concept of Organization

(a) Command and Control

1 Command and Staff. Command and staff functions are exercised through a compact operational command group consisting of the commander and his executive staff. The staff, using the sequence of command and staff action, assists the commander in the decision making process.

2 Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication is radio, supplemented by wire.

3 Intelligence. The regimental intelligence section coordinates target intelligence and target acquisition for the entire artillery regiment.

4 Firepower. The firepower capability of the artillery regiment consists of 155mm towed howitzers, 155mm self-propelled howitzers, 8" self-propelled howitzers, medium and heavy machineguns, and individual weapons.

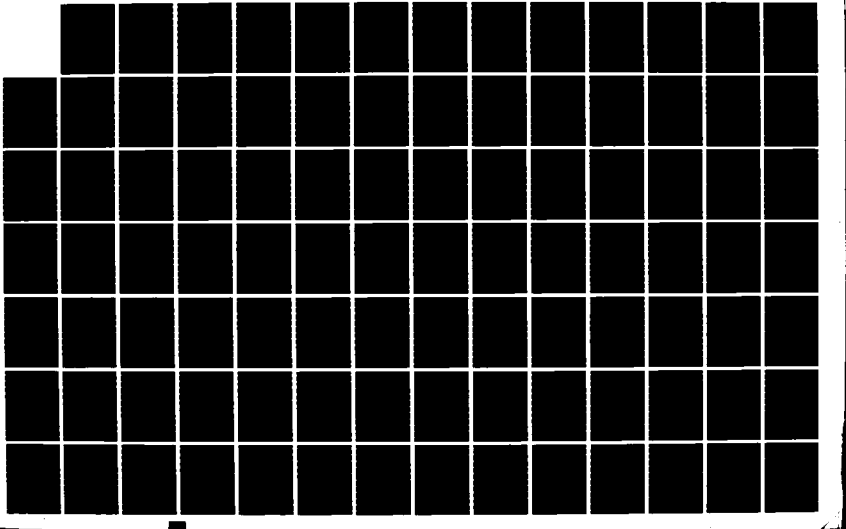
(c) Mobility. General purpose vehicles provide mobility for personnel, equipment and weapons.

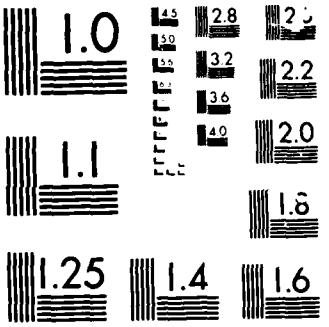
(3) Concept of Employment. The artillery regiment provides direct support and general support artillery fires to the Marine division.

(4) Administrative Capabilities. The artillery regiment is capable of self-administration.

AD-A165 268 US MARINE CORPS LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)(U) CACI INC-FEDERAL ARLINGTON VA D R LEISTEN DEC 85 M00027-84-D-0037 2/3

UNCLASSIFIED F/G 15/7 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.8
3.2
3.6
4.0

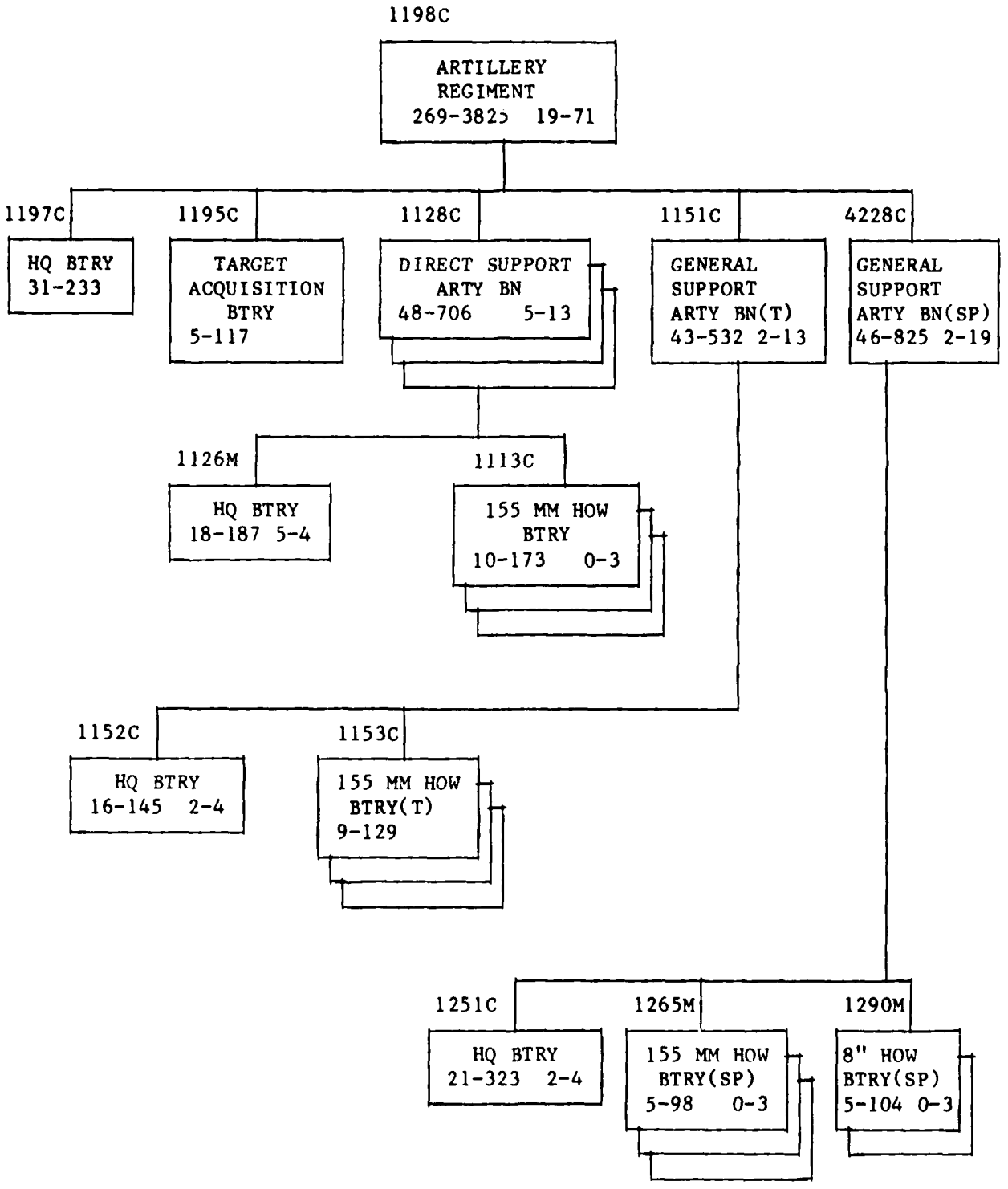


Figure 2-8 -- Artillery Regiment

(5) Logistic Capabilities

(a) Maintenance. The artillery regiment is capable of organizational maintenance (1st echelon) of all organic equipment, organizational maintenance (2d echelon) of communication-electronics (less crypto) equipment, and intermediate maintenance (4th echelon) of unique artillery electronics equipment.

(d) Medical. In addition to treating minor illnesses and injuries, the artillery regiment provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, medical section personnel supervise disease prevention and control measures.

(e) Transportation. The artillery regiment has the organic transportation means to displace elements of subordinate battalions, the regimental headquarters and the target acquisition battery (TAB) in a single echelon.

(d) Supply. Supply, as a rule, is oriented around supply-distribution, although there is some unit distribution. Class V supply is directed to firing batteries without physically passing through higher headquarters.

(e) Messing. Food service support is provided by organic food service personnel.

(6) Headquarters Battery

(a) Mission. To provide the regimental commander with the means for effective command and control of the artillery regiment as well as administrative and logistic support for the headquarters battery. This battery detaches survey, engineer, and meteorological sections in support of separately deployed units.

(b) Concept of Organization.

1 Command and Control

a Regimental Command and Control. The regimental commander and the headquarters battery direct and coordinate the entire regiment, including attached and reinforcing units, and provide the Fire Support Coordination Center for the division headquarters.

b Battery Command and Staff. The battery headquarters provides command and control for the battery.

c Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary means for internal communication is

wire. External communications are normally provided by radio and multi-channel, supplemented by wire when feasible.

d Intelligence. The regimental intelligence section coordinates target intelligence and target acquisition for the entire artillery regiment.

2 Firepower. In addition to the individual weapons, the battery has medium and heavy machineguns and grenade launchers to provide limited self-protection.

3 Mobility. General-purpose vehicles provide the Headquarters Battery with tactical mobility.

(c) Concept of Employment. Except when personnel are assigned to separately operating battalions, the Headquarters Battery is employed as a unit.

(d) Administrative Capability. The Headquarters Battery, Artillery Regiment, is capable of self-administration.

(e) Logistic Capabilities

1 Maintenance. The Headquarters Battery, Artillery Regiment will have the capability of organizational maintenance (1st echelon) of all organic equipment; organizational maintenance (2d echelon) of communication/electronics (less cryptographic equipment), ordnance (less fire control optics), motor transport and engineer equipment. Additionally, the Electronics Maintenance Section provides intermediate maintenance (3d and 4th echelon) support for survey, battery computer systems (BCS), counterfire radar and meteorological equipment assigned to the regiment.

2 Medical. In addition to treating minor illnesses and injuries, the Medical Section, Artillery Regiment provides emergency treatment and preparation for evacuation of casualties requiring hospitalization within the regiment. Also, the medical section personnel supervise disease prevention and control measures within the regiment.

3 Transportation. General-purpose vehicles provide transportation for command and staff personnel, communication equipment, limited medical evacuation and internal supply distribution.

4 Supply. The battery headquarters receives supplies for internal support of the battery and provides for distribution.

5 Messing. The battery headquarters is capable of operating a mess hall for the Headquarters and Target Acquisition Batteries (TAB) in garrison and in the field.

6 The major items of equipment are shown below:

HEADQUARTERS BATTERY, ARTILLERY REGIMENT

Computer, Gun, M18	5
Chassis, Trailer, GP, 3-1/2T, M353	9
Decontamination Apparatus, M12A1	2
Revolver, Cal.38	1
Launcher, Grenade, 40mm, M203	16
Machine Gun, Cal.50, M2	6
Machine Gun, 7.62mm, M60	6
Night Vision Goggles, Individual, AN/PVS-5A	6
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	74
Rifle, 5.56mm, M16A2	214
Radiosonde, Baseline Check Set, AN/GMM-1A	1
Radiosonde Recorder, AN/TMQ-5C	1
RAWIN Set, AN/GMD-1B	1
Radio Set, AN/VRC-85	2
Radar Set, with trailer, AN/MPQ-4A	4
Radiac Set, AN/PRD-56G	1
Radio Set, Control Group, AN/GRA-39B	37
Radio Set, AN/GRC-160	3
Radio Set, AN/MRC-138	7
Radio Set, AN/PRC-68A	4
Radio Set, AN/MRC-110	5
Radio Set, AN/PRC-77	30
Radio Set, AN/PRC-75B	2
Radio Set, AN/PRC-104	7
Radio Set, AN/VRC-47	1
Radio Terminal, AN/MRC-135	14
Receiving Set, AN/GRR-17	1
Shop, Electronic, AN/GRM-94	3
Shelter, Electronics Maint. Spt., AN/GRM-86X	3
Switchboard, Telephone, Manual, SB-22A/PT	3
Switchboard, Telephone, Automatic, SB-3614(V)TT	3
Semi-trailer, Lowbed, 25T, M172A1	3
Truck, Tractor, 5T, M931	3
Tractor, Rubber, 72-31MP-2	1
Truck, Cargo, 1-1/4T, M561	3
Tractor, Medium, FT-D7G Caterpillar	2
Truck, Forklift, RT, MC-4000	12
Telephone Set, TA-838/TT	40
Terminal, Telephone-Telegraph, TH-85A/GCC	9
Trailer, Amphib. Cargo, 1/4T, M416	25
Trailer, Flatbed, 3/4T, M762	52
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Tractor, Full-tracked, MC-1150	3
Truck, Wrecker, 5T, M936	1
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	2
Truck, Cargo, 5T, M923	26

Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Trailer, Cargo, 1-1/2T, M105A2	7
Truck, Utility, 1/4T, 4x4, M151A2	12
Truck, Wrecker, 5T, 6x6, M543A2	1
Truck, Utility, Cargo/Troop Carrier, M998	16

(7) Target Acquisition Battery

(a) Mission. The primary mission of the TAB is to detect and locate enemy force indirect fire weapons. Secondary missions include:

1 Adjusting friendly artillery fire.

2 Registering friendly artillery fire.

3 Collecting battlefield information.

4 Verifying the location of friendly nuclear bursts.

5 Providing laser designation and observation in support of scheme of maneuver.

(b) Concept of Organization.

1 Command and Control

a Command and Staff. The Headquarters Section of the battery provides command and control for the battery. The commander and the section direct, coordinate and control the entire battery including attached units.

b Communications. Communication means are provided to maintain reliable and continuous communication channels for communication to subordinate units, attached units and higher headquarters. The primary means of internal communication is wire. External communications are normally provided by radio, supplemented by wire when feasible.

c Intelligence. Information gathered during combat is processed and then is passed to higher headquarters.

2 Firepower. Firepower consists of individual weapons.

3 Mobility. General-purpose vehicles provide mobility for personnel and equipment.

(c) Concept of Employment. Normally the battery will be employed as a unit; however, the battery has the capability to provide two detachments.

(d) Administrative Capability. The Battery is capable of self-administration.

(e) Logistic Capabilities

1 Maintenance. The Battery is capable of organizational maintenance (1st and 2d echelon) on all organic ordnance and motor transport equipment. The regimental Headquarters Battery provides support for 2d echelon maintenance of communication/electronics equipment.

2 Medical. Medical support is provided by the regimental Headquarters Battery. A medical team is organic to the battery to provide first aid.

3 Supply. The combination of supply point and unit distribution methods of supply is used to support the battery.

5 Messing. Food service support is provided by the regimental Headquarters Battery.

6 The major items of equipment are shown below:

TARGET ACQUISITION BATTERY, ARTILLERY REGIMENT

Circle, Aiming, M2	2
Machine Gun, Cal.50, M2	4
Periscope, BC, M65	4
Truck, Cargo, 1-1/4T, M1008	2
Pistol, Automatic, Cal .45, M1911A1	11
Rifle, 5.56 mm, M16A2	30

(8) Direct Support Artillery Battalion

(a) Mission. The Direct Support Artillery Battalion provides direct support, general support, and reinforcing fire to a landing force in the amphibious assault and subsequent operations ashore.

(b) Concept of Organization.

1 Command and Control

a Command and Staff. Command and staff functions are exercised through a compact operational command group consisting of the commander and his executive staff. The staff, using the sequence of command and staff action, assists the commander in the decision making process.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary means for internal communication is wire; the secondary method is radio. External communications are normally provided by radio, supplemented by wire.

c Intelligence. Because the battalion has limited target acquisition capabilities, primary sources of target information are from external agencies: infantry and landing forces intelligence sections, target acquisition radars, air observers, forward observers, and aerial photos. The Intelligence Section of the Operations Platoon in the Headquarters Battery coordinates target information.

d Fire Direction. The battalion Fire Direction Center provides tactical and technical fire direction for batteries under the battalion's control. Batteries also have a fire direction capability; during sustained periods of centralized fire direction, firing batteries augment the battalion fire direction center with personnel and equipment. Forward observers for supported infantry units are provided by firing batteries. The battalion Naval Gunfire Section provides liaison and spotting elements for coordination and control of naval gunfire.

2 Firepower. The firepower capability of the battalion consists of 155mm howitzers, medium and heavy machine guns and individual weapons.

3 Mobility. General-purpose vehicles provide mobility for personnel, equipment and weapons.

(c) Concept of Employment. Normally the battalion will be employed as a unit, but firing batteries can be employed separately for short periods of time.

(d) Administrative Capability. The Battalion is capable of self-administration.

(e) Logistic Capabilities

1 Maintenance. The Battalion is capable of organizational maintenance (1st echelon) of all organic equipment and organizational maintenance (2d echelon) of communication-electronics, ordnance (less fire control optics), and motor transport equipment. Division of maintenance tasks between firing batteries and the battalion depends upon the extent to which maintenance is decentralized within the battalion.

2 Medical. In addition to treating minor illnesses and injuries, the battalion provides emergency treatment and preparation for evacuation of all casualties requiring

hospitalization. Also, medical section personnel supervise disease prevention and control measures.

3 Transportation. The battalion has the organic transportation means to displace the headquarters and firing batteries in a single echelon, including the basic load.

4 Supply. Supply, as a rule, is oriented around supply point distribution. Although there is some unit distribution, the battalion does not have the transportation assets to do extensive unit distribution. Generally, Class V supply is directed to firing batteries without passing through the battalion logistics section, although the battalion does account for Class V.

5 Messing. The battalion Food Service Section can operate a battalion mess both in garrison and the field. If necessary, the section provides personnel and equipment to firing batteries to operate a battery mess. In such situations the battalion can support one battery in addition to operating a battalion mess.

(f) Headquarters Battery

1 Mission. To provide the facilities with which the battalion commander directs, controls and coordinates the tactical operations of the battalion in the amphibious assault and subsequent tactical operation and technical fire direction ashore. To provide limited amounts of appropriate service and support for subordinate elements of the battalion.

2 Concept of Organization. The Battery is organized into functional groupings to provide:

a A battalion headquarters for command, direction and coordination of actions of the entire battalion, including attached or reinforcing units.

b An operations platoon which provides the commander the means for technical fire direction control of subordinate units, intelligence, observation, survey, and meteorological information to these units and liaison to the supported infantry regiment.

c Naval gunfire liaison and spotting elements for coordination and control and naval gunfire in support of the supported infantry regiment.

d A service platoon for logistics, supply, motor transport, food service, and medical support to the battalion.

e A communications platoon which provides the necessary communications for the exercise of battalion command functions.

f A battery headquarters for command of the battery.

3 Concept of Employment. The Battery operates only with the artillery battalion. Personnel of the battery may be assigned to a firing battery to provide necessary support when the firing battery is operating independent of the battalion.

4 Administrative Capability. None. Support provided at the battalion level.

5 Logistic Capabilities

a Maintenance. The Battery is capable of organizational maintenance (1st echelon) of all materiel authorized the battery and organizational maintenance (2d echelon) of ordnance (less fire control optics), and motor transport materiel authorized. Second echelon maintenance of communications equipment is performed by the communications platoon as reinforcement of the capability of the batteries.

b Medical. Medical field technicians are organic to the battery to provide for emergency medical treatment of minor illnesses and injuries, preparation of casualties for evacuation, and supervision of measures for the prevention and control of disease. The battalion Medical Section is capable of operation of a small field dispensary when supplemented by medical personnel from the battery.

c Transportation. Transportation for the Headquarters Battery is provided from a pool of general purpose vehicles maintained within the battery headquarters. Vehicles are allocated within the battery for the purpose of providing transportation for command, staff and liaison personnel, communications equipment, survey teams, limited emergency medical evacuation, and supply distribution within the battalion headquarters and to firing batteries.

d Supply. The Battery is capable of organic supply functions. All classes of supplies will be maintained at the minimum level essential for continuous operations as prescribed by higher headquarters. The Battery relies on unit distribution except for Class V. The battery headquarters receives supplies for internal support of the battery and provides for distribution. The battalion Supply Section receives supplies (less Class V) from division service elements and provides for distribution within the battalion.

e Messing. The Battery is capable of operating a battery mess when provided limited food service facilities and food service personnel from the battalion food service section. The battalion Food Service Section is capable of

operating a battalion mess when in garrison and in the field as practicable. When required, the battalion Food Service Section furnishes cooks and equipment to firing batteries for the operation of battery messes.

6 The major items of equipment are shown below.

HEADQUARTERS BATTERY, D/S BATTALION

Computer, Gun, M18	3
Integrated Observation System, AN/GSQ-184	1
Launcher, Grenade, 40mm, M203	10
Meteorological Station Manual, AN/TMQ-7	1
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	6
Night Vision Sight, Tripod Mounted, AN/TVS-4	2
Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	50
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	143
Reproducer, Signal, AN/GSQ-64	1
Radiac Set AN/PDR-56G	1
Radio Set, Control Group, AN/GRA-39B	28
Radio Set, AN/GRC-160	6
Radio Set, AN/MRC-138	5
Radio Set, AN/PRC-68A	8
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	39
Radio Set, AN/PRC-75B	5
Radio Set, AN/PRC-104	8
Receiving Set, AN/GRR-17	1
Survey Set, Field Arty Bn	2
Switchboard, Telephone, Manual, SB-22A/PT	3
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Truck, Cargo, 1-1/4T, M561	2
Telephone Set, TA-838/TT	18
Terminal, Telephone-Telegraph, TH-85A/GCC	2
Trailer, Amphib. Cargo, 1/4T, M416	7
Trailer, Cargo, 1-1/2T, M105A2	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Utility, 1/4T, 4x4, M151A2	8
Truck, Wrecker 5T, M936	2
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	5
Truck, Cargo, 5T, M923	6
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Truck, Utility, Cargo/Troop Carrier, M998	11

(g) 155MM Howitzer Battery (Towed)

1 Mission. To provide direct support and reinforcing artillery fires to units of a Marine division in the amphibious assault and subsequent operations ashore.

2 Concept of Organization.

a Command and Control. The headquarters section of the battery headquarters provides command and control for the battery. The commander and the section direct, coordinate and control the entire battery including attached units. Communications means are provided to maintain reliable and continuous communication channels for fire control and communications to subordinate units, attached units and higher headquarters. The primary means for internal communication is wire. External communications are normally provided by radio, supplemented by wire when feasible.

b Firepower. Eight 155mm (towed) howitzers, medium and heavy machine guns, grenade launchers and individual weapons comprise the firepower capability of the battery.

c Mobility. General purpose vehicles are provided for tactical mobility.

3 Concept of Employment. The Battery will normally operate as an integral firing element of the artillery battalion; however, when necessary and properly augmented, the battery and firing platoons can be employed separately. Without augmentation a firing platoon is capable of operating separately for a period not to exceed forty-eight hours.

4 Administrative Capability. None. Support consolidated at battalion level.

5 Logistic Capabilities

a Maintenance. The Battery is capable of organizational maintenance (1st echelon) of all organic equipment and organizational maintenance (2d echelon) on communications-electronics, ordnance (less fire control optics), and motor transport equipment. Division of maintenance tasks between firing batteries and the battalion depends upon the extent to which maintenance is decentralized within the battalion.

b Medical. The Medical Section, in addition to treating minor illnesses and injuries in the battery, provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, Medical Section personnel supervise disease prevention and control measures.

c Transportation. A pool of general purpose vehicles is used for transportation support. Transportation assets, spread throughout the battery headquarters and firing platoons, provide transportation for howitzers and the supply point distribution system.

d Supply. Supply, as a rule, is oriented around supply point distribution. Units within the firing battery generally use their own transportation assets for supply. The Ammunition Section provides firing platoons with ammunition resupply.

e Messing. The Headquarters Battery provides food service support. When provided with personnel and equipment the firing battery is capable of operating its own mess.

6 The major items of equipment are shown below.

155MM HOWITZER BATTERY (TOWED)

Collimator, Infinity Aiming, M1A1	9
Howitzer, Medium, M198	8
Launcher, Grenade, 40mm, M203	10
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	8
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Pistol, Automatic, Cal .45, M1911A1	20
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	150
Radio Set, Control Group, AN/GRA-39B	9
Radio Set, AN/GRC-160	4
Radio Set, AN/PRC-68A	16
Radio Set, AN/MRC-110	4
Radio Set, AN/PRC-77	17
Switchboard, Telephone, Manual, SB-22A/PT	4
Truck, Forklift, RT, MC-4000	2
Trailer, Amphib. Cargo, 1/4T, M416	10
Trailer, Cargo, 1-1/2T, M105A2	10
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Cargo, 1-1/4T, M561	1
Truck, Cargo, 5T, M923	20
Truck, Utility, 1/4T, 4x4, M151A2	10
Truck, Utility, Cargo/Troop Carrier, M998	10

(9) General Support Artillery Battalion (Towed)

(a) Mission. The General Support Artillery Battalion destroys, neutralizes or suppresses targets in support of maneuver operations. When contingency billets (forward observer teams) are manned, the battalion can perform the direct support artillery mission.

(b) Concept of Organization

1 Command and Control

a Command and Staff. Command and staff functions are exercised through a compact operational command group consisting of the commander and his executive staff. The staff, using the sequence of command and staff action, assists the commander in the decision making process.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of internal communication is wire; the secondary method is radio. External communications are normally provided by radio, supplemented by wire when feasible.

c Intelligence. Because the battalion has limited target acquisition capabilities, primary sources of target information are from external agencies: infantry and landing forces' intelligence sections, target acquisition radars, air observers, forward observers, and aerial photos. The Intelligence Section of the Operations Platoon in the Headquarters Battery coordinates target information.

d Fire Direction. The Battalion and battery Fire Direction Centers can perform tactical and technical fire direction. Normally, the Battalion performs tactical fire direction and technical fire direction is decentralized to Howitzer Battery Fire Direction Centers.

2 Firepower. The firepower capability of the battalion consists of 155mm howitzers, medium and heavy machine guns and individual weapons.

3 Mobility. General-purpose vehicles and materiel handling equipment provide mobility for personnel, equipment, weapons and ammunition.

(c) Concept of Employment. Normally the Battalion will be employed as a unit and assigned a standard artillery tactical mission. Howitzer batteries can be employed separately for short periods of time.

(d) Administrative Capability. The Battalion is capable of self-administration.

(e) Logistic Capabilities

1 Maintenance. The Battalion is capable of organizational maintenance (1st echelon) of all authorized material and organizational maintenance (2d echelon) of ordnance (less fire control optics), motor transport, engineer and communication-electronics equipment (less crypto equipment). Division of maintenance tasks between firing batteries and headquarters battery depends upon the extent of which maintenance is decentralized. Overflow maintenance will be performed by Headquarters Battery, Artillery Regiment.

2 Medical. In addition to treating minor illnesses and injuries, the battalion provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, medical section personnel supervise disease prevention and control measures.

3 Transportation. The Battalion has the organic transportation means to displace the command, control, communications, maintenance, and medical elements of the Headquarters Battery in a single echelon. Howitzer batteries, including one day of ammunition, can displace in a single echelon.

4 Supply. Supply is on the supply point distribution basis. The commander may consolidate motor vehicle assets to support unit distribution of Class V.

5 Messing. The battalion Food Service Section can operate a battalion mess both in garrison and the field, and can support decentralized messing, if required.

(f) Headquarters Battery

1 Mission. To provide the battalion commander with the means to direct, control and coordinate the operations and fires of the battalion as well as provide administrative and limited logistic support to subordinate elements of the battalion.

2 Concept of Organization.

a Command and Control. The battalion command section directs and coordinates the entire battalion, including attached and reinforcing units. The battery headquarters provides command and control for the battery. Communications means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary means of internal communications is wire. External communications are normally provided by radio, supplemented by wire when feasible.

b Firepower. In addition to individual weapons, the battery has medium and heavy machine guns and grenade launchers to provide limited self-protection.

c Mobility. General-purpose wheeled vehicles are provided for tactical mobility.

3 Concept of Employment. Except occasionally when personnel are assigned to independently firing batteries, Headquarters Battery operates under centralized battalion control.

4 Administrative Capability. Support is consolidated at the battalion level.

5 Logistic Capabilities

a Maintenance. The battery is capable of organizational maintenance (1st echelon) of all authorized material and organizational maintenance (2d echelon) of ordnance (less fire control optics), motor transport, and communication-electronics equipment.

b Medical. The Medical Section, Service Platoon, in addition to treating minor illnesses and injuries in the battalion, provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, Medical Section personnel supervise disease prevention and control measures.

c Transportation. A pool of general-purpose vehicles is used for transportation support. The Motor Transport Section, Headquarters Battery, for the most part, supports only headquarters activities; it is not capable of providing transportation support to the firing batteries with the exception of the transportation needed to provide limited unit distribution supply.

d Supply. Supply, as a rule, is oriented around supply point distribution. Although there is some unit distribution, the Headquarters Battery does not have the transportation assets to do extensive unit distribution. Generally, Class V supply is directed to firing batteries without passing through the battalion logistics section, although the battalion does account for Class V.

e Messing. The battalion Food Service Section can operate a battalion mess both in garrison and in the field. If necessary, the section provides personnel and equipment to firing batteries to operate a battery mess.

6 The major items of equipment are shown below.

Computer, Gun, M18	3
Launcher, Grenade, 40mm, M203	10
Meteorological Station Manual, AN/TMQ-7	1
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	6
Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	49
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	116
Radio Set, Control Group, AN/GRA-39B	12
Radiac Set AN/PDR-56G	1
Radio Set, AN/GRC-160	6
Radio Set, AN/PRC-68A	8
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	39
Radio Set, AN/PRC-75B	4
Radio Set, AN/PRC-104	8
Survey Set, Field Arty Bn	2
Switchboard, Telephone, Manual, SB-22A/PT	3
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Truck, Cargo, 1-1/4T, M561	2
Telephone Set, TA-838/TT	18
Terminal, Telephone-Telegraph, TH-85A/GCC	2
Trailer, Amphib. Cargo, 1/4T, M416	7
Trailer, Cargo, 1-1/2T, M105A2	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Wrecker, 5T, 6x6 M543A2	1
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	5
Truck, Cargo, 5T, M923	6
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Radio Set, AN/MRC-138	5
Truck, Utility, 1/4T, 4x4, M151A2	8
Truck, Utility, Cargo/Troop Carrier, M998	9

(g) 155MM Howitzer Battery

1 Mission. To provide general support and reinforcing artillery fires to units of a Marine division in the amphibious assault and subsequent operations ashore. When contingency billets (forward observer teams) are manned, the battery can also provide direct support artillery fires.

2 Concept of Organization.

a Command and Control. The headquarters section of the battery headquarters provides command

and control for the battery. The commander and the section direct, coordinate and control the entire battery including attached units. Communications means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary means of internal communications is wire. External communications are normally provided by radio, supplemented by wire when feasible.

b Firepower. Six 155mm (towed) howitzers, medium and heavy machine guns, grenade launchers and individual weapons comprise the firepower capability of the battery.

c Mobility. General-purpose wheeled vehicles are provided for tactical mobility.

3 Concept of Employment. The battery will normally operate as an integral firing element of the battalion.

4 Administrative Capability. Support is consolidated at the battalion level.

5 Logistic Capabilities

a Maintenance. The battery is capable of organizational maintenance (1st echelon) of all organic equipment and organizational maintenance (2d echelon) of communications-electronics, ordnance (less fire control optics), and motor transport equipment.

b Medical. The Medical Section, in addition to treating minor illnesses and injuries in the battery, provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, Medical Section personnel supervise disease prevention and control measures.

c Transportation. A pool of general-purpose, tactical, wheeled vehicles is used for transportation support. Certain vehicles are designated prime movers and are dedicated to providing mobility for artillery weapon systems. The remaining vehicles, used for general transportation requirements, are located throughout the battery.

d Supply. Supply, as a rule, is oriented around supply point distribution. Units within the firing battery generally use their own transportation assets for supply. The ammunition section provides the firing battery with ammunition resupply.

e Messing. The Headquarters Battery provides food service support. When provided with personnel and equipment, the firing battery is capable of operating its own mess.

6 The major items of equipment are shown below.

155MM HOWITZER BATTERY, G/S BN(T)

Collimator, Infinity Aiming, M1A1	7
Howitzer, Medium, M198	6
Launcher, Grenade, 40mm, M203	10
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	8
Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	19
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	108
Radio Set, Control Group, AN/GRA-39B	8
Radio Set, AN/GRC-160	2
Radio Set, AN/PRC-68A	14
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	8
Switchboard, Telephone, Manual, SB-22A/PT	2
Truck, Cargo, 1-1/4T, M561	1
Truck, Forklift, RT, MC-4000	2
Trailer, Amphib. Cargo, 1/4T, M416	6
Trailer, Cargo, 1-1/2T, M105A2	10
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 5T, M923	14
Truck, Utility, 1/4T, 4x4, M151A2	6
Truck, Utility, Cargo/Troop Carrier, M998	7

(10) General Support Artillery Battalion (Self-Propelled)

(a) Mission. The General Support Artillery Battalion (SP) destroys, neutralizes or suppresses targets in the amphibious assault and subsequent operations ashore, to include maneuver operations.

(b) Concept of Organization

1 Command and Control

a Command and Staff. Command and staff functions are exercised through a compact operational command group consisting of the commander and his executive staff. The staff, using the sequence of command-and-staff action, assists the commander in the decision making process.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher

headquarters. The primary method of internal communication is wire; the secondary method is radio.

c Intelligence. Because the battalion has limited target acquisition capabilities, primary sources of target information are from external agencies: infantry and landing forces' intelligence sections, target acquisition radars, air observers, forward observers, and aerial photos. The Intelligence Section, Operations Platoon, Headquarters Battery coordinates target information.

d Fire Direction. The Battalion and battery Fire Direction Centers can perform tactical and technical fire direction. Normally, the battalion performs tactical fire direction and technical fire direction is decentralized to Howitzer Battery Fire Direction Centers.

2 Firepower. The firepower capability of the battalion consists of 155mm and 8" howitzers, medium and heavy machine guns and individual weapons.

3 Mobility. Artillery weapons are self-propelled; general-purpose vehicles and materiel handling equipment provide mobility for the remainder of personnel, equipment, weapons and ammunition.

(c) Concept of Employment. Normally, the battalion will be employed as a unit, and assigned a standard artillery tactical mission. Howitzer batteries can be employed separately for short periods of time.

(d) Administrative Capability. The Battalion is capable of self-administration.

(e) Logistic Capabilities

1 Maintenance. The Battalion is capable of organizational maintenance (1st echelon) of all authorized material; and organizational maintenance (2d echelon) of ordnance, motor transport, engineer, communications-electronics (less crypto) equipment, and fire control equipment. Division of maintenance tasks between firing batteries and the battalion depends upon the extent to which maintenance is decentralized.

2 Medical. The Medical Section, in addition to treating minor illnesses and injuries in the battalion provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, Medical Section personnel supervise disease prevention and control measures.

3 Transportation. The Battalion has the organic transportation means to displace the headquarters and firing batteries in a single echelon, including the basic load.

4 Supply. Supply is on the supply point distribution basis. The commander may consolidate motor vehicle assets to support unit distribution of Class V.

5 Messing. The battalion Food Service Section can operate a battalion mess both in garrison and the field, and can support decentralized messing, if required.

(f) Headquarters Battery

1 Mission. To provide the battalion commander with the means to direct, control and coordinate the operations and fires of the battalion as well as provide logistics and administrative support to subordinate elements of the battalion.

2 Concept of Organization.

a Command and Control. The battalion command section directs and coordinates the entire battalion, including attached and reinforcing units. The battery headquarters provides command and control for the battery. Communications means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary means of internal communications is wire. External communications are normally provided by radio, supplemented by wire when feasible.

b Firepower. In addition to individual weapons, the battery has medium and heavy machine guns and grenade launchers to provide limited self-protection.

c Mobility. General-purpose vehicles are provided for tactical mobility.

3 Concept of Employment. Except occasionally when personnel are assigned to separately operating firing batteries, Headquarters Battery operates under centralized battalion control.

4 Administrative Capability. The Battery is capable of self-administration and of providing administrative support to firing batteries.

5 Logistic Capabilities

a Maintenance. The Battery is capable of organizational maintenance (1st echelon) of all authorized material; organizational maintenance (2d echelon) of ordnance, motor transport, communications and fire control equipment; and intermediate maintenance (3d echelon) of self-propelled artillery weapons. Division of maintenance tasks between firing batteries and the battalion depends upon the extent to which maintenance is decentralized.

b Medical. The Medical Section, in addition to treating minor illnesses and injuries in the battalion, provides emergency treatment and preparation for evacuation of all casualties requiring hospitalization. Also, Medical Section personnel supervise disease prevention and control measures.

c Transportation. A pool of general-purpose vehicles is used for transportation support. The Motor Transport Section, Headquarters Battery, for the most part, supports only headquarters activities; it is not capable of providing transportation support to the firing batteries, with the exception of transportation needed to provide limited unit distribution supply.

d Supply. Supply, as a rule, is oriented around supply point distribution. Although there is some unit distribution, the Headquarters Battery does not have the transportation assets to do extensive unit distribution. Generally, Class V supply is directed to firing batteries without passing through the battalion logistics section, although the battalion does account for Class V.

e Messing. The battalion Food Service Section can operate a battalion mess both in garrison and in the field. If necessary, the section provides personnel and equipment to firing batteries to operate a battery mess. In such situations, the battalion can support one battery in addition to operating a battalion mess.

6 The major items of equipment are shown below.

HEADQUARTERS BATTERY, G/S BN(SP)

Computer, Gun, M18	5
Launcher, Grenade, 40mm, M203	10
Meteorological Station Manual, AN/TMQ-7	1
Machine Gun, Cal.50, M2	9
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	6
Night Vision Sight, Crew Served Weapon, AN/TVS-5	9
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	50
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	292
Radio Set, Control Group, AN/GRA-39A	22
Radiac Set AN/PDR-56G	1
Radio Set, AN/GRC-160	2
Radio Set, AN/MRC-138	5
Radio Set, AN/PRC-68A	8
Radio Set, AN/MRC-110	4

Radio Set, AN/PRC-77	15
Radio Set, AN/PRC-75B	4
Radio Set, AN/PRC-104	8
Recovery Vehicle, FT, Light, M578	5
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	3
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Truck, Van, 2-1/2T, M109A3	2
Truck, Cargo, 1-1/4T, M561	6
Telephone Set, TA-838/TT	18
Terminal, Telephone-Telegraph, TH-85A/GCC	3
Trailer, Amphib. Cargo, 1/4T, M416	7
Trailer, Cargo, 1-1/2T, M105A2	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Wrecker, 5T, M936	2
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	5
Truck, Cargo, 5T, M923	6
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	4
Truck, Utility, 1/4T, 4x4, M151A2	9
Truck, Wrecker, 5T, 6x6, M543A2	2
Truck, Utility, Cargo/Troop Carrier, M998	16

(f) 8" Howitzer Battery (SP)

1 Mission. To provide general support and reinforcing fires to the amphibious assault and subsequent operations ashore.

2 Concept of Organization. The Battery is organized into a battery headquarters and firing battery with six 8" howitzers (SP). The battery headquarters contains the headquarters, fire direction, maintenance and communications sections. The firing battery contains the headquarters, ammunition, and six howitzer sections.

a Command and Control. Command and control are exercised at the battalion level. The battery commander is responsible for efficient planning, direction and supervision in the execution of assigned missions. Internal communications are normally accomplished by wire with voice radio as a supplemental means. External communications will be by wire if feasible, otherwise by voice radio. The battery headquarters is capable of establishing a fire direction center to provide either battery level technical fire direction or a centralized battalion level fire direction center. To accomplish the latter, firing batteries provide augmenting personnel and equipment for that purpose.

b Firepower. The Battery consists of six 8" howitzers (SP). Each howitzer has a nuclear delivery

capability. The battery has as organic equipment machine guns and individual weapons for perimeter security.

c Mobility. The howitzers are tracked vehicles capable of moving independently. The remainder of the organic battery elements are transported by organic vehicles supplemented, if necessary, by additional vehicles from battalion headquarters.

3 Concept of Employment. The Battery will normally operate as an integral firing unit of the battalion. With augmentation from battalion assets, the entire battery, or portions thereof, may be deployed in support of larger amphibious units.

4 Administrative Capability. Support is consolidated at battalion level.

5 Logistic Capabilities

a Maintenance. The Battery is capable of organizational maintenance on all organic equipment. All 2d echelon maintenance of ordnance (less fire control), communications equipment, engineer equipment and motor transport assets is performed at battalion level.

b Transportation. The Battery is capable of displacement by utilizing organic vehicular assets.

c Medical. All medical services are provided by battalion headquarters. Field service technicians are provided to firing batteries as required.

d Supply. Supply functions are performed at battalion level. Distribution of supply items to firing batteries is provided by the headquarters battery supply section.

e Messing. Food service capabilities are centralized at battalion level. All food service requirements are provided to firing batteries as required.

6 The major items of equipment are shown below.

8" HOWITZER BATTERY, G/S BN (SP)

Collimator, Infinity Aiming, M1A1	7
Howitzer, Heavy, M110A2	6
Launcher, Grenade, 40mm, M203	10
Machine Gun, Lt., Sqd. Auto. Wpn., M249	12
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	15

Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	18
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	91
Radio Set, Control Group, AN/GRA-39B	3
Radio Set, AN/GRC-160	2
Radio Set, AN/PRC-68A	16
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	8
Switchboard, Telephone, Manual, SB-22A/PT	2
Truck, Cargo, 1-1/4T, M561	3
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Cargo, 1-1/2T, M105A2	6
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 5T, M923	10
Truck, Utility, 1/4T, 4x4, M151A2	5
Truck, Utility, Cargo/Troop Carrier, M998	8

(g) 155MM Howitzer Battery (SP)

1 Mission. To provide general support and reinforcing fires to the amphibious assault and subsequent operations ashore.

2 Concept of Organization. The Battery is organized into a battery headquarters and firing battery with six 155mm howitzers (SP). The battery headquarters contains the headquarters, fire direction, communications and maintenance sections. The firing battery contains a headquarters section, six howitzer sections and an ammunition section.

a Command and Control. Command and control are exercised at the battalion level. The battery commander is responsible for efficient planning, direction and supervision in the execution of assigned missions. Internal communications are normally accomplished by wire with voice radio as a supplemental means. External communications will be by wire if feasible, otherwise by voice radio. The battery headquarters is capable of establishing a fire direction center to provide either battery level technical fire direction or a centralized battalion level fire direction center. To accomplish the latter, firing batteries provide personnel and equipment for that purpose.

b Firepower. The Battery consists of six howitzers (SP). Each howitzer has a nuclear delivery capability. The battery has as organic equipment machine guns and individual weapons for perimeter security.

c Mobility. The howitzers are tracked vehicles capable of moving independently. The remaining battery elements are transported by organic vehicles, supplemented, if necessary, by additional vehicles from battalion headquarters.

3 Concept of Employment. The Battery will normally operate as an integral firing unit of the battalion. With augmentation from battalion assets, the entire battery, or portions thereof, may be deployed in support of larger amphibious units.

4 Administrative Capability. Support is consolidated at battalion level.

5 Logistic Capabilities

a Maintenance. The Battery is capable of organizational maintenance on all organic equipment. All 2d echelon maintenance of ordnance (less fire control), communications equipment, engineer equipment and motor transport assets, is performed at battalion level.

b Transportation. The Battery is capable of displacement by utilizing organic vehicular assets.

c Medical. All medical services are provided to firing batteries as required.

d Supply. Supply functions are performed at battalion level. Distribution of supply items to firing batteries is provided by the headquarters battery supply section.

e Messing. Food service capabilities are centralized at battalion level. All food service requirements are provided to firing batteries as required.

6 The major items of equipment are shown below.

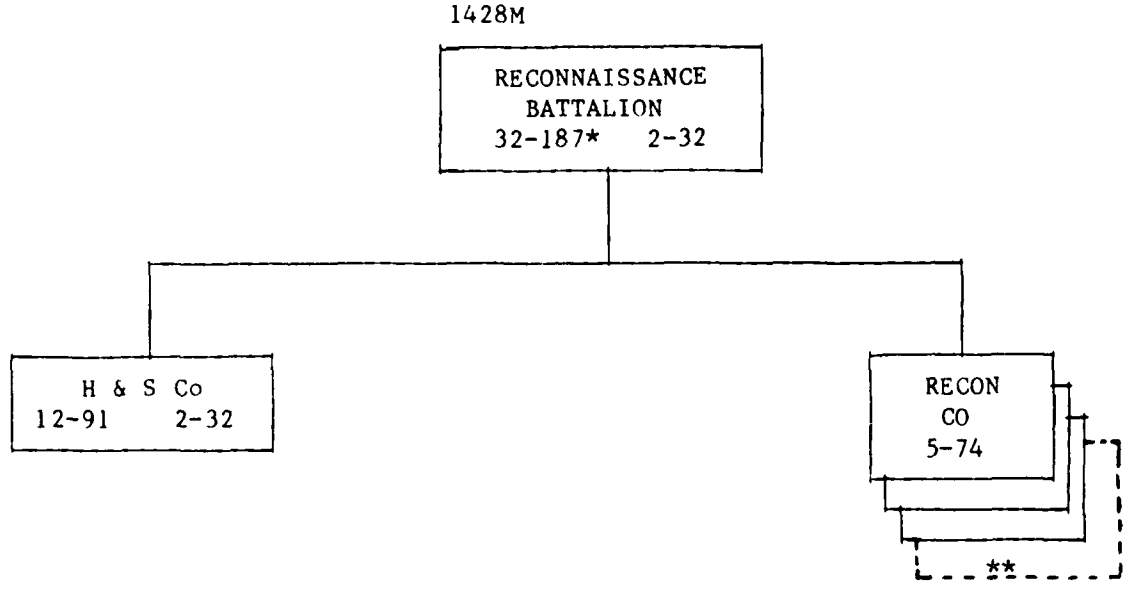
155MM HOWITZER BATTERY, G/S BN (SP)

Collimator, Infinity Aiming, M1A1	7
Howitzer, Medium, M109A3	6
Launcher, Grenade, 40mm, M203	10
Machine Gun, Cal.50, M2	8
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	15
Night Vision Sight, Crew Served Weapon, AN/TVS-5	8
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	18
Periscope, BC, M65	2
Rifle, 5.56mm, M16A2	85

Radio Set, Control Group, AN/GRA-39A	3
Radio Set, AN/GRC-160	2
Radio Set, AN/PRC-68A	4
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	8
Switchboard, Telephone, Manual, SB-22A/PT	2
Truck, Cargo, 1-1/4T, M561	3
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Cargo, 1-1/2T, M105A2	6
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 5T, M923	10
Truck, Utility, 1/4T, 4x4, M151A2	5
Truck, Utility, Cargo/Troop Carrier, M998	8

e. Reconnaissance Battalion

(1) Mission. To conduct reconnaissance in support of a Marine division and its subordinate elements. (See Figure 2-9.)



* TOTALS INCLUDE CADRED COMPANY
**CADRE

Figure 2-9 -- Reconnaissance Battalion

(2) Concept of Organization. The Reconnaissance Battalion is the sole table of organization unit specifically trained and equipped for the conduct of reconnaissance in support of a Marine division and its subordinate elements. The battalion consists of a headquarters and service company and four reconnaissance companies.

(a) Command and Control

1 Command and Staff. The staff is organized to assist the battalion commander to exert maximum command and control over the battalion and such elements as may be attached to it. The command level operates with general/specific direction from higher headquarters.

2 Communications. Capable of providing reliable communications for continuous control of subordinate units as necessary. The primary method of communications to subordinate units will be by voice radio. Communications to higher and adjacent units will be by voice or CW radio, with teletype to division when feasible. Alternate methods of communications will be messenger helicopter, vehicle, foot, wire and visual.

3 Intelligence. Intelligence requirements of the battalion are met through an intelligence section integrated within the battalion operations section. The battalion's operational activities are primarily concerned with the collection of intelligence information and subsequently intelligence considerations are intimately connected with and usualy determine operational decisions. Information affecting the immediate reconnaissance operations of the battalion is evaluated as necessary.

(b) Firepower. Weapons provided reconnaissance elements are primarily for individual protection and to facilitate withdrawal in the event of discovery, thus they are limited to automatic rifles which are relatively lightweight and have a high volume of burst fire. Machine guns are provided to the Headquarters and Service Company. The Reconnaissance Battalion is not equipped or organized for reconnaissance-in-force or routine combat assault missions.

(c) Mobility

1 The command and control and reconnaissance elements of the battalion are helicopter transportable, but are limited to foot mobility and light vehicle transport of their basic load when helilifted.

2 The foot mobility of the reconnaissance companies is supplemented by the following ground vehicles and helicopter support:

a Headquarters and Service Company is authorized nineteen one-quarter ton trucks to enable one complete reconnaissance company, or the equivalent, to be vehicular mounted for road and route reconnaissance missions. In addition, sufficient cargo trucks are available to move the personnel of one complete reconnaissance company.

b Further augmentation, when required for increased air mobility, may be provided by transport helicopters.

(d) Logistics. Logistic capability is compatible with the mobility of the battalion. The battalion is structured on the basis of unit distribution of supplies to and within the battalion, organizational level maintenance, and initial management of casualties, carried out in the following manner:

1 The Reconnaissance Company carrries a basic load, handles internal distribution of supplies and performs organizational maintenance.

2 All other organic logistics functions are provided at battalion level by elements of H&S Company.

(3) Concept of Employment

(a) The Reconnaissance Battalion or elements thereof will be employed primarily to gain intelligence information in support of the Marine division or subordinate task organizations. It is not equipped for decisive or sustained combat and must accomplish its reconnaissance mission through stealth, maneuver, and rapid reporting. It is not capable of screening or counter-reconnaissance missions. The battalion is dependent upon extensive use of helicopters to provide necessary mobility. Elements of the battalion have a limited capability to conduct small scale operations such as limited scale raids, rescues of noncombatants or hostages, and evacuations.

1 Maximum effectiveness is achieved by employing the Reconnaissance Battalion as a unit directly under division control. This method of employment provides for maximum efficiency and exploits to the fullest extent the mobility and extensive communications of the battalion. Unit employment makes maximum use of the battalion staff in the detailed planning required of reconnaissance operations and utilizes the battalion logistics and maintenance system with greatest effectiveness. When operating under division control the battalion commander will receive mission type orders from the division commander and will render his report directly to the division commander.

2 One or more of the companies of the battalion may be attached to or in support of subordinate units of the division or specifically task organized MAUs and MABs. Such employment is normally required when:

a An RLT is employed on an independent mission.

b An RLT is assigned an area of responsibility or zone of action of such size that acquisition of

enemy terrain and target information is beyond the capability of organic battalion patrol activity.

c A MAB or MAU is assigned an independent mission.

3 Specially task organized battalion landing teams, operating independently of the division, may be supported by company or smaller-size units of the Reconnaissance Battalion when the mission, or area of operations, presents a reconnaissance requirement beyond the organic capability of the infantry battalion to perform.

(b) The concept of operations of the Reconnaissance Battalion emphasizes directed reconnaissance rather than passive surveillance. Combining great tactical mobility and flexibility with reliable communications equipment, the battalion is capable of maintaining surveillance over extended areas or conducting detailed area reconnaissance missions as required. The battalion utilizes its organic foot and vehicular mobility, or helolifted patrols, or combinations thereof, to conduct route, zone, or area, close and distant reconnaissance.

(c) During amphibious operations all or part of the battalion may be introduced ashore prior to H-Hour, at H-Hour, or during the landing of non-scheduled units as the situation dictates.

1 A pre H-Hour landing is used primarily to place reconnaissance elements in the area of greatest reconnaissance necessity prior to the assault landing. This is normally accomplished by landing units of platoon size or smaller by helicopter. The battalion also possesses an organic inflatable boat capability as an alternate means for pre H-Hour landings.

2 Post H-Hour landings are made when the immediate introduction of reconnaissance elements is not required, or is not feasible due to the terrain or the situation, or both. Certain elements of the battalion may be landed in the area prior to H-Hour while the majority of the battalion lands as a non-scheduled unit.

(d) In conducting reconnaissance missions in areas of intelligence interest beyond walking distance, reconnaissance patrols will rely primarily on helicopter support. These aircraft will be used to emplace and retract early warning and observation/listening posts on critical terrain overlooking logical avenues of approach into the division positions. When elements of the division are in the approach march, helicopters will be employed to leapfrog OP's and patrols ahead of the moving division, and to emplace and retract OP's and patrols placed to either flank and to the rear, while the main body of the column remains on the move. All such elements may be changed at will, and reliefs will normally be effected by exploitation of the flexibility of the

helicopter. During periods of good visibility patrols will cover the front, flanks, and possibly the unassigned interior areas of the division, from low flying helicopter formations, landing for physical reconnoitering on foot as required. By this combination of large area coverage and pin-point reconnaissance, helicopter-borne patrols will be able to cover satisfactorily the large areas in which a Marine division must operate in landing operations conducted under threat of nuclear attack.

(e) Weather minimums, visibility factors, and helicopter unavailability will frequently necessitate conduct of patrolling operations primarily limited to foot mobility and reliance upon stealth for protection. Such operations will be characterized by severely limited flexibility, responsiveness, and scope or area of activity.

(f) Tactical one-quarter ton vehicles authorized H&S Company permit one entire reconnaissance company or one platoon of each company to be vehicular mounted. These vehicles serve to extend the range and flexibility of the battalion. Motorized patrols may be augmented with tanks, antitank weapons, AAVs, combat infantry, and close air support for road reconnaissance missions.

(g) Reconnaissance operations by the division Reconnaissance Battalion require communications among the several elements of the battalion and reconnaissance liaison teams at the headquarters of the unit being supported. Information gained by any subdivision of the battalion is transmitted directly to the liaison officer at the headquarters of the supported unit where it may be acted upon without delay. Coordination between the division air observers and helicopter-borne and landed scout teams will be effected whenever possible.

(h) Division reconnaissance elements may execute terminal guidance for initial helicopter waves. Scouts check and verify selected landing sites. The usable portions of the area are pinpointed and marked with emplaced visual, electronic, or pyrotechnic signals to provide guidance for initial helicopter waves. This pathfinder terminal guidance capability of the reconnaissance units does not include landing zone traffic control functions.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance. Performs organizational maintenance (1st echelon) of all materiel authorized the battalion, and organizational maintenance (2d echelon) of engineer, motor transport, ordnance (less fire control) and electronics materiel authorized the battalion.

(b) Medical. Capable of administering emergency treatment and preparation for evacuation of battalion casualties.

(c) Transportation. Transportation means organic to the battalion consist of light wheeled, helicopter transportable vehicles for command, communications, medical and high usage resupply and cargo trucks for logistics support.

(d) Supply. Capable of organic supply functions for the battalion. Provides limited resupply to the companies and prepares supplies for unit distribution by helicopter or organic transportation as required. Maintains one-day level of supply within the battalion.

(e) Messing. Capable of operating a battalion mess in garrison or in the field, and furnishing adequate galley facilities for the reconnaissance companies in the field when the tactical situation permits.

(6) Headquarters and Service Company

(a) Mission. To provide the Reconnaissance Battalion commander with the facilities for effective command and control.

(b) Concept of Organization. Headquarters and Service Company is organized into functional groupings to provide for a battalion headquarters which directs and coordinates the actions of the entire battalion. A communications platoon provides the necessary links in exercising control and coordination. Service support elements provide limited service support to the battalion. A company headquarters provides the necessary administrative, security, and logistic support of the company.

1 Command and Control (Company)

a Command and Staff--The company commander and his small staff direct and control all matters pertaining to the administration, logistic support and security of the company.

b Communications--Internal communications are limited to telephone and messenger service.

2 Firepower. Firepower is limited to individual weapons, grenade launchers and M-60 machine guns to provide security for command post and supply installations.

3 Mobility. The basic means of ground mobility of the company is by foot, supplemented by organic small, lightweight vehicles for the transportation of a limited number of the headquarters group and supplies and equipment necessary to sustain the company on a daily basis. All elements with the exception of logistics vehicles are helicopter transportable and

are compatible with other means of transportation (amphibian vehicle, motor transport, fixed wing aircraft and ships).

4 Logistics. Logistic support for the company is provided by the battalion level service support elements.

(c) Concept of Employment. The company headquarters is employed primarily to provide internal administration, logistics, security and working space facilities for the battalion headquarters. The physical layout, support and displacements incident to the battalion headquarters are directed toward providing the battalion commander and his staff with the most effective means of directing and controlling the battalion. The communications, medical and service units of this company function in operational roles within the entire battalion and not the company itself and are normally employed in support of the reconnaissance companies.

(d) Administrative Capability. Administrative support is consolidated at the battalion level.

(e) Logistic Capabilities

1 Maintenance

a All elements of the company are capable of providing organizational maintenance (1st echelon) on all assigned equipment.

b Organizational maintenance (2d echelon) is provided by the Service Platoon on all battalion motor transport and ordnance (less fire control instruments); communication platoon on all battalion communications equipment.

2 Medical. The battalion Medical Section provides for emergency treatment and preparation for evacuation by external means of all casualties within the battalion requiring hospitalization. The Medical Section is capable of operating a field dispensary for treatment of minor illnesses and injuries. It also exercises technical supervision of measures for the prevention and control of diseases.

3 Transportation. Transportation for the H&S Company is provided from a pool of small general purpose vehicles maintained within the Service Platoon. Vehicles are allocated within the company for the purpose of providing transportation for command, staff and liaison personnel, communications equipment, limited emergency medical evacuation, and supply distribution within the battalion headquarters and to reconnaissance companies.

4 Supply

a The Service Platoon receives supplies from division service elements and provides for distribution within the battalion.

b The company headquarters receives supplies for internal support of the company and provides for distribution.

5 Messing

a The Service Platoon operates a mess facility for the entire battalion while in garrison and in the field, as practicable.

b When required, the Service Platoon furnishes cooks and equipment to reconnaissance companies for the operation of a limited number of company dining messes.

6 The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, RECONNAISSANCE BATTALION

Decontamination Apparatus, M12A1	1
Launcher, Grenade, 40mm, M203	72
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	12
Night Vision Goggles, Individual, AN/PVS-5A	30
Night Vision Sight, Tripod Mounted, AN/TVS-4	2
Night Vision Sight, Crew Served Weapon, AN/TVS-5	5
Pistol, Automatic, Cal .45, M1911A1	59
Rifle, 5.56mm, M16A2	79
Radio Set, AN/VRC-85	2
Radio Set, Control Group, AN/GRA-39B	11
Radio Set, AN/MRC-138	4
Radio Set, AN/PRC-68A	6
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	6
Radio Set, AN/PRC-75B	28
Radio Set, AN/PRC-104	6
Receiving Set, AN/GRR-17	2
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Telephone Set, TA-838/TT	18
Teletypewriter, AN/GGC-3A	1
Terminal, Telephone-Telegraph, TH-85A/GCC	2
Trailer, Amphib. Cargo, 1/4T, M416	28
Trailer, Cargo, 1-1/2T, M105A2	5
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	2
Truck, Cargo, 5T, 6x6, M-923	8
Truck, Utility, 1/4T, 4x4, M151A2	30
Telescope, Observation, M49	4
Truck, Utility, Cargo/Troop Carrier, M998	42

(7) Reconnaissance Company

(a) Mission. To conduct ground reconnaissance.

(b) Concept of Organization. The Reconnaissance Company, Reconnaissance Battalion is a lightly armed, highly mobile, specially trained and equipped organization designed to obtain intelligence information through reconnaissance. It consists of a company headquarters and three reconnaissance platoons.

1 Command and Control

a Command. The company commander directs and assigns tasks to subordinate platoons.

b Communications. Capable of providing reliable communications for continuous control of subordinate units as necessary. The primary method of communications is by voice radio, with CW radio, visual and messenger as alternates.

c Intelligence. Though the entire organization is primarily a collector of intelligence information, there is no system of evaluation within the company. It must receive all finished intelligence from higher authority. Information obtained is normally reported via the reconnaissance battalion chain of command and to the supported/affected unit, if appropriate.

2 Firepower. Weapons provided reconnaissance elements are for individual protection and to facilitate breaking contact and withdrawal; thus they are limited to automatic rifles having relatively light weight and high volume of burst fire. Support personnel carry the basic infantry weapon.

3 Mobility. The Company is helicopter transportable but organically is limited to foot mobility. Sufficient vehicles are authorized Headquarters and Service Company to permit one complete reconnaissance company, or equivalent, to be vehicular mounted.

4 Logistics. The Reconnaissance Company logistic organization is based on unit distribution of supplies, simple supply procedures, and limited organizational maintenance. Company headquarters carries a basic load and handles the internal distribution of supplies for the company. Additional supplies, maintenance, medical support and transportation are provided by battalion or from other external sources.

(c) Concept of Employment.

1 The Company either operates as part of the Reconnaissance Battalion or in direct support of a RLT. Platoons

normally operate under company control, but are capable of task organization support of BLTs.

2 Generally, the basic element operating beyond friendly lines is the four man scout team. In some circumstances an entire platoon may be employed in enemy terrain in operations favoring use of a patrol base for several patrols. The company when mounted in vehicles provided by battalion (and task organized, if required, with tanks, antitank weapons and combat infantry) performs road and route reconnaissance.

3 Whenever possible patrols are helilifted into assigned areas and conduct foot patrols and/or man observation posts to complete the assigned mission. They report directly to higher authority or through company headquarters as the situation or equipment available may require. In addition to this ground reconnaissance function, helicopter-borne reconnaissance patrols will augment the air observation and surveillance effort of the division, landing for physical reconnoitering as appropriate.

4 The Company possesses a capability to conduct pathfinder terminal guidance missions in helicopter landing areas. This capability does not include landing zone traffic control functions.

5 The Company possesses a limited underwater swimming capability to insert reconnaissance teams covertly against a hostile shore.

(d) Administrative Capability. Administrative support is consolidated at the battalion level.

(e) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance.

2 Medical. None. (Corpsman attached from H&S Company).

3 Transportation. None. Support provided from battalion level.

4 Supply. Receives and distributes supplies from higher headquarters. Carries basic load only.

5 Messing. None. (Support provided by battalion).

(f) The major items of equipment are shown below.

Inflatable Boat, Small	9
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Outboard Motor, Silent Run, 35HP	9
Pistol, Automatic, Cal .45, M1911A1	11
Periscope, BC, M65	1
Rifle, 5.56mm, M16A2	52
Radio Set, Control Group, AN/GRA-39B	7
Radio Set, AN/GRC-160	4
Radio Set, AN/PRC-68A	19
Radio Set, AN/PRC-77	23
Radio Set, AN/PRC-104	5
Telescope, Observation, M49	6

f. Tank Battalion

(1) Mission. To provide combat support for the Marine division in the amphibious assault and subsequent operations ashore utilizing mobility, armor protected firepower and shock power to close with and destroy enemy forces, fortifications, material, and to provide antimechanized support for the Marine division. (See Figure 2-10.)

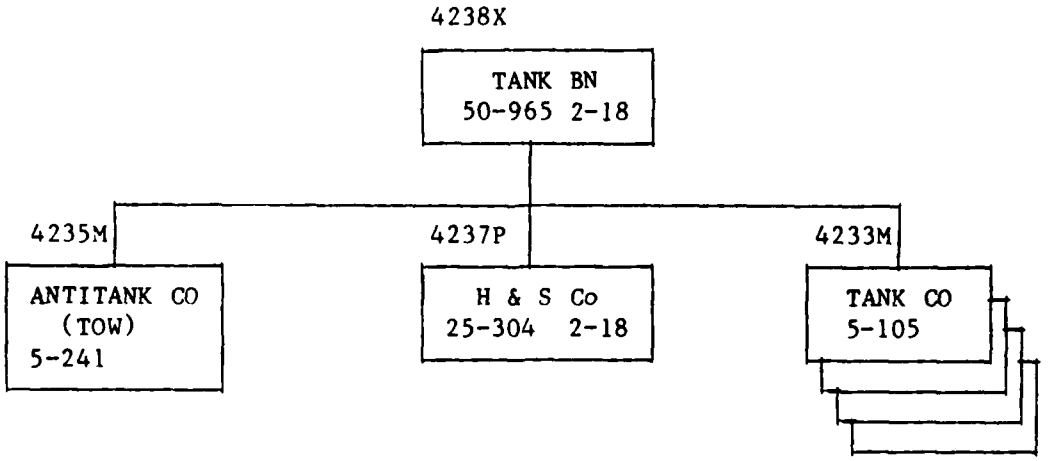


Figure 2-10 -- Tank Battalion

(2) Concept of Organization. The Tank Battalion consists of a headquarters and service company, four tank companies, and an antitank (TOW) company. Each tank company consists of three platoons of five tanks each. The antitank (TOW) company consists of three platoons of twenty-four TOW/MISSILE systems each. The tank companies and the antitank (TOW) company are the primary tactical units with which the battalion accomplishes its mission.

(a) Command and Control

1 Command and Staff. Responsibilities are discharged through a compact operational command group consisting of the command executive staff. The staff is capable of effective control of the battalion when operating as a battalion and gives required support to the company operating in a direct support or attached status. The staff is capable of supporting an alternate command post during displacement.

2 Communications. Capable of providing reliable contact links between all levels of the command for continuous control of subordinate units as necessary and to higher headquarters. The primary method of communications to subordinate units is by voice radio down to the individual tank and TOW vehicle. Communications to higher headquarters will be by radio channels, and, when furnished by higher headquarters, radio relay channels. Alternate methods of communications include manual radio-telegraphy, messages (helicopter, vehicles, foot), wire and visual.

3 Intelligence. Organized to provide surveillance, reconnaissance and target acquisition commensurate with the fire and maneuver capabilities of the battalion. Information collected by subordinate units as an integral byproduct of their normal combat and security functions, is translated rapidly and informally into intelligence in the formulation of routine command decisions. The organic intelligence section of battalion headquarters is capable of limited intelligence processing. Finished intelligence is disseminated, and information collected is forwarded to higher echelons and to adjacent units.

(b) Firepower. Organic battalion firepower consists of 70 gun tanks and 72 TOW/MISSILE systems. Light infantry weapons are organic to the battalion for security of the battalion headquarters and the tank/antitank company headquarters.

(c) Mobility. The basic means of ground mobility is provided by the tank and the M151A2 one-quarter ton truck. The Motor Transport Platoon, H&S Company provides additional transportation support to the companies to augment the mobility provided by the tanks and small general purpose vehicles.

(d) Logistics. Logistic capability is compatible with the mobility and combat power of the battalion. The battalion is structured for supply point distribution to the battalion and unit distribution within the battalion. The tank and antitank companies carry a basic allowance, handle internal distribution of supplies, perform organizational maintenance, and provide organic dining. All other organic logistics functions are provided at battalion level by elements of H&S Company.

(3) Concept of Employment.

(a) Battalion Organization for Combat. The battalion will be assigned to, under the operational control of, attached to, or in support of the MAF. Under normal circumstances subordinate elements of the battalion will be placed in support of subordinate units of the MAF. This method of organization provides for the maximum use of the battalion staff, facilities, and supporting capabilities.

(b) Tank Company Organization for Combat. The Tank Company is a compact organization capable of deployment, removed from the battalion, for limited periods of time. Usually the company will be attached to, or placed in support of, a MAU or a MAB. The prime consideration in selecting the method of organization is the ability of the parent unit (i.e., tank battalion) to provide logistic support. The service and support rendered, other than the logistic support required by the company, will be the same in either case, whether the company is attached or placed in support of the MAU or MAB.

(c) Tank Platoon Organization for Combat. The Tank Platoon is the basic unit of the battalion and provides the immediate combat support capability during the amphibious assault and operations ashore.

(d) Antitank Company Organization for Combat. The company is employed as part of the division antimechanized defense system closely coordinated with other fire support means such as air, artillery, and tanks. As required by the situation and scheme of maneuver, antitank elements may be placed in support of or attached to infantry regiments or battalions. Additionally, the company may be employed as an entity in the division antimechanized defense system or, in smaller or dispersed operations, in a supporting role with an infantry unit. When engaged in antimechanized missions, TOW is employed in the greatest possible mass and echeloned in depth consistent with the situation.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance. Capable of organizational maintenance (1st and 2d echelon) on all equipment organic to the battalion and intermediate maintenance (3d echelon) on tanks, tank mounted weapons, TOW missile systems, and very high frequency (VHF) equipment and its associated cabling and auxiliary radio and wire equipment organic to the battalion.

(b) Medical. Provides emergency treatment and prepares for evacuation by external means all casualties within the battalion requiring hospitalization. Provides a field dispensary for treatment of minor illnesses and exercises technical supervision of measures for the prevention and control of disease.

(c) Transportation. Transportation means organic to the battalion consist of a sufficient number of trucks and small general purpose vehicles for command, communications, medical and high usage re-supply.

(d) Supply. Capable of organic supply functions for the battalion. Maintains a limited level of supply for the companies within the battalion supply platoon.

(e) Messing. Capable of operating company messes in garrison or in the field, as practicable; and of consolidating company messing to provide a battalion mess in garrison or in the field, as practicable. A battalion mess is normal in garrison.

(6) Headquarters and Service Company

(a) Mission. To provide the battalion commander with the facilities for effective command and control. To provide service support for subordinate elements of the battalion.

(b) Concept of Organization. The Company is organized into functional groupings to provide for a battalion headquarters with headquarters, communications, medical, and gun tank sections; motor transport, maintenance, and supply platoons; and a company headquarters.

1 Command and Control (Company)

a Command and Staff. The company commander and his small staff direct and control all matters pertaining to the administration, logistics and security of the company.

b Communications. Internal communications are limited to telephone and messenger service.

2 Firepower

a Battalion level firepower consists of tank companies.

b Firepower available to the company commander is represented by security elements, armed with light infantry weapons, capable of defending the battalion headquarters against infiltration by small groups of the enemy.

3 Mobility. The basic means of mobility of the company is provided by trucks, lightweight vehicles and command and control vehicles organic to the motor transport platoon of the company.

4 Logistics. Logistic support (except mess) for the company is provided by battalion level service support elements.

(c) Concept of Employment. The company headquarters is employed primarily to provide internal administration, logistics, security and working space facilities for the company. The physical layout, support and displacements incident to the battalion headquarters are directed toward providing the battalion commander and his staff with the most effective means for directing and controlling the battalion. The communications, firepower, medical and service units of this company function in operational roles within the entire battalion and not the company itself and are normally employed in support of the tactically disposed tank companies.

(d) Administrative Capability. None. Consolidated at battalion level.

(e) Logistic Capabilities

1 Maintenance. All elements of the company are capable of providing organizational maintenance (1st echelon) on all assigned equipment. Organizational maintenance (2d echelon) is provided by the Maintenance Platoon on all Battalion motor transport, engineer, tank and ordnance equipment and by the Communications Section on all battalion communications equipment.

2 Medical. The battalion Medical Section provides for emergency treatment and preparation for evacuation by external means of all casualties within the battalion requiring hospitalization. The Medical Section is capable of operating a field dispensary for treatment of minor illnesses and injuries. The section also exercises technical supervision of measures for prevention and control of disease.

3 Transportation. Transportation for H&S Company is provided by the Motor Transport Platoon. Vehicles are allocated within the company for the purpose of providing transportation for command, staff and liaison personnel, communications equipment, limited emergency medical evacuation, and supply distribution within the battalion headquarters and to the tank companies. When required, a light helicopter is provided the battalion commander on a daily basis, for command, liaison and observation purposes.

4 Supply. The battalion Supply Platoon receives supplies from division service elements and provides for distribution within the battalion. The company headquarters receives supplies for internal support of the H&S Company and provides for distribution.

5 Messing. The company headquarters operates a company mess, and when augmented by cooks from the tank companies, operates a battalion mess either in garrison or in the field as practicable.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, TANK BATTALION

Chassis, Trailer, GP, 3-1/2T, M353	2
Decontamination Apparatus, M12A1	5
Launcher, Grenade, 40mm, M203	10
Machine Gun, Cal.50, M2	15
Machine Gun, 7.62mm, M60	6
Machine Gun, 7.62mm, F/Tanks, M60E2	2
Machine Gun, Cal.50, M85	2
Night Vision Goggles, Individual, AN/PVS-5A	6
Night Vision Sight, Crew Served Weapon, AN/TVS-5	6
Night Vision Sight, Individual Served Weapon, AN/PVS-4	5
Pistol, Automatic, Cal .45, M1911A1	86
Rifle, 5.56mm, M16A2	237
Radio Set, AN/VRC-12	1
Radio Set, AN/VRC-85	1
Radio Set, Control Group, AN/GRA-39B	12
Radio Set, AN/GRC-160	3
Radio Set, AN/MRC-138	3
Radio Set, AN/MRC-110	3
Radio Set, AN/PRC-77	9
Radio Set, AN/PRC-75B	4
Radio Set, AN/PRC-104	1
Receiving Set, AN/GRR-17	1
Recovery Vehicle, M88A1	1
Searchlight Set, AN/VSS-3A	1
Switchboard, Telephone, Manual, SB-22A/PT	1
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Tank, Combat, FT, M60A1 (RISE/PA)	2
Truck, Forklift, MC-6000RTL	1
Telephone Set, TA-838/TT	10
Teletypewriter, AN/GGC-3A	1
Terminal, Telephone-Telegraph, TH-85A/GCC	3
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Flatbed, 3/4T, M762	3
Trailer, Cargo, 1-1/2T, M105A2	21
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	8
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 5T, M923	38
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	7
Truck, Utility, 1/4T, 4x4, M151A2	9
Truck, Wrecker, 5T, 6x6, M543A2	2
Telescope, Observation, M49	2
Truck, Utility, Cargo/Troop Carrier, M998	9
Truck, Wrecker, 5T, 6x6, M936	2

(7) Medium Tank Company

(a) Mission. To provide combat support for Marine infantry units, utilizing mobility, firepower and shock power to close with and destroy enemy forces, fortifications and material.

(b) Concept of Organization. The Company consists of a company headquarters and three platoons of five tanks each.

1 Command and Control (Company)

a Command and Staff. The company commander with his small company headquarters, performs command and staff functions necessary for efficient planning, direction and supervision in the execution of assigned missions, either as part of the battalion or as a company attached to or in direct support of an infantry unit.

b Communications. The Company is capable of effecting rapid and reliable communications between the company headquarters and subordinate, supported, and higher headquarters. The primary method of communications is voice radio with alternate means by messenger, wire, and visual devices. The company voice radio net links with the tank platoon headquarters. The tank platoon has an organic tactical voice radio net linking the platoon commander with each tank and supported units.

c Intelligence. Combat intelligence at the company level is inseparably linked to combat operations. Processing is limited to expediting the transmission of information to the battalion command post. The Tank Company collects information by direct observation, patrolling, and uncovering enemy personnel and material. There is a limited organic specialized reconnaissance and surveillance capability within the company.

2 Firepower. The main firepower for the company is provided by the weapons of the 17 organic tanks. Each tank has a 105mm gun, a 7.62mm machine gun coaxially mounted with the 105mm gun, and a caliber .50 machine gun. The company headquarters contains light infantry weapons to provide for its local security.

3 Mobility. The tank platoons are mobile. Some elements of company headquarters require wheeled vehicle augmentation from battalion.

4 Logistics. The Tank Company logistic organization is based on unit distribution of supplies, simple supply procedures and limited organizational maintenance. When augmented with additional transportation it carries a basic allowance of ammo and handles the internal distribution of supplies for the company. Additional supplies, maintenance, medium support and transportation are provided by battalion.

(c) Concept of Employment. The company is employed to provide shock power, assault and antitank firepower to the

infantry. The normal employment of the company is in support of an infantry regiment. The company may be employed as part of the Tank Battalion or with other tank companies in both the offense and defense.

(d) Administrative Capability. None. Consolidated at battalion level.

(e) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance of all material authorized the company and 2d echelon maintenance of all electronics material and tanks.

2 Medical. Provided by battalion.

3 Transportation. Organic vehicles provide limited means for transporting rations, other essential items and for command and messenger service. Transportation for ammunition and fuel re-supply is provided by battalion.

4 Supply. Receives and distributes supplies. Does not possess a supply stocking capability.

5 Messing. Capable of providing a company mess in garrison and in the field as practicable.

(f) The major items of equipment are shown below.

MEDIUM TANK COMPANY, TANK BATTALION

Machine Gun, Cal.50, M2	1
Machine Gun, 7.62mm, M60	4
Machine Gun, 7.62mm, F/Tanks, M60E2	17
Machine Gun, Cal.50, M85	17
Night Vision Goggles, Individual, AN/PVS-5A	36
Pistol, Automatic, Cal .45, M1911A1	85
Rifle, 5.56mm, M16A2	43
Radio Set, AN/VRC-12	3
Radio Set, Control Group, AN/GRA-39B	7
Radio Set, AN/GRC-160	40
Radio Set, AN/MRC-110	1
Radio Set, AN/PRC-77	2
Recovery Vehicle, M88A1	1
Searchlight Set, AN/VSS-3A	7
Tank, Combat, FT, M60A1 (RISE/PA)	16
Tank, Combat, FT, w/M9 Bulldozer Kit, M60A1	1
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Flatbed, 3/4T, M762	1
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Utility, Cargo/Troop Carrier, M998	4

(7) Antitank Company

(a) Mission. The mission of the Antitank Company, Tank Battalion is to provide antimechanized support for the Marine division. This mission will be accomplished by using the TOW to engage and destroy enemy armored vehicles, particularly tanks. When not performing its mission of destroying armored vehicles, the antitank company may assume a secondary mission of engaging other point targets such as nonarmored vehicles, crew-served weapons, and bunkers.

(b) Concept of Organization. The Antitank Company consists of a company headquarters and three antitank platoons.

1 Command and Control

a Command and Staff. The company commander with his company headquarters performs command and staff functions necessary for planning, direction and supervision in the execution of assigned missions. When elements of the company are employed separately in a supporting role, the unit commander, platoon leader/section leader, acts as the antimechanized advisor to the commander of the supported unit.

b Communications. Radio is the primary method of communication within the antitank company. Messenger, visual, sound, and wire communications are supplementary means. The Company establishes and operates the antitank company command net and such liaison communications as required when in a supporting role.

c Intelligence. Antimechanized intelligence is directly linked to antimechanized operations. Processing is limited to rapid transmission of information to the Tank Battalion and the supported unit.

2 Firepower.

a Primary firepower of the Antitank Company is derived from the organic M220 (TOW) weapon. The TOW weapon system is a crew-served, man-portable, heavy antitank assault weapon that delivers an optically tracked, wire-command link guided missile to ranges of 3000 meters.

b Each of the three antitank platoons in the company contains twenty-four M220 for a total of seventy-two in the company.

3 Mobility. The speed, range, and cross country trafficability of the TOW is limited to the mobility of its M151A2 prime mover.

4 Logistics. Supply support of the company is by unit distribution with transportation, dining and medical support provided by the battalion.

(c) Concept of Employment.

1 The Company is employed as part of the division antimechanized defense system closely coordinated with other fire support means such as air, artillery, and tanks. As required by the situation and scheme of maneuver, antitank elements may be placed in support of or attached to infantry regiments or battalions. Additionally, the company may be employed as an entity in the division antimechanized defense system or, in smaller or dispersed operations, in a supporting role with an infantry unit.

2 When engaged in antimechanized missions, TOW is employed in the greatest possible mass and echeloned in depth consistent with the situation.

(d) Administrative Capability. Not capable of self-administration. Administrative support provided at the battalion level.

(e) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance of all material authorized the company, 2d echelon maintenance capability for small arms equipment, organic motor transport and communication equipment, and 3d echelon maintenance capability for the TOW Weapon System. In support of MAGTF deployments can provide 2d echelon motor transport maintenance for up to four MAUs (AT Section/MAU) or two MABs (AT Platoon/MAB).

2 Medical. Provided by battalion.

3 Transportation. Organic vehicles provide limited means for transporting rations, other essential items and for command and messenger service. Transportation for ammunition and fuel re-supply is provided by battalion.

4 Supply. Receives and distributes supplies. Does not possess a supply stocking capability.

5 Messing. Normally subsisted in battalion mess. When elements of company are employed in direct support of infantry regiments they will utilize supporting tank company mess when available.

(f) The major items of equipment are shown below.

ANTITANK COMPANY (TOW), TANK BATTALION

Launcher, TOW, M220E4	72
Machine Gun, 7.62mm, M60	4
Night Vision Goggles, Individual, AN/PVS-5A	40
Night Vision Sight, Individual Served Weapon, AN/PVS-4	10
Pistol, Automatic, Cal .45, M1911A1	93

Rifle, 5.56mm, M16A2	153
Radio Set, Control Group, AN/GRA-39B	17
Radio Set, AN/GRC-160	126
Radio Set, AN/MRC-110	4
Radio Set, AN/PRC-77	4
Truck, 1/4T, GM Equip., M151A2	72
Truck, 1/4T, 4x4, GM Carrier, M151A2	36
Trailer, Amphib. Cargo, 1/4T, M416	45
Trailer, Flatbed, 3/4T, M762	4
Truck, Utility, 1/4T, 4x4, M151A2	9
Truck, Utility, Cargo/Troop Carrier, M998	9

g. Assault Amphibian Battalion

(1) Mission. To land the surface assault elements of the landing force and their equipment in a single lift from assault shipping during amphibious operations to inland objectives; to conduct mechanized operations and related combat support in subsequent operations ashore. (See Figure 2-11.)

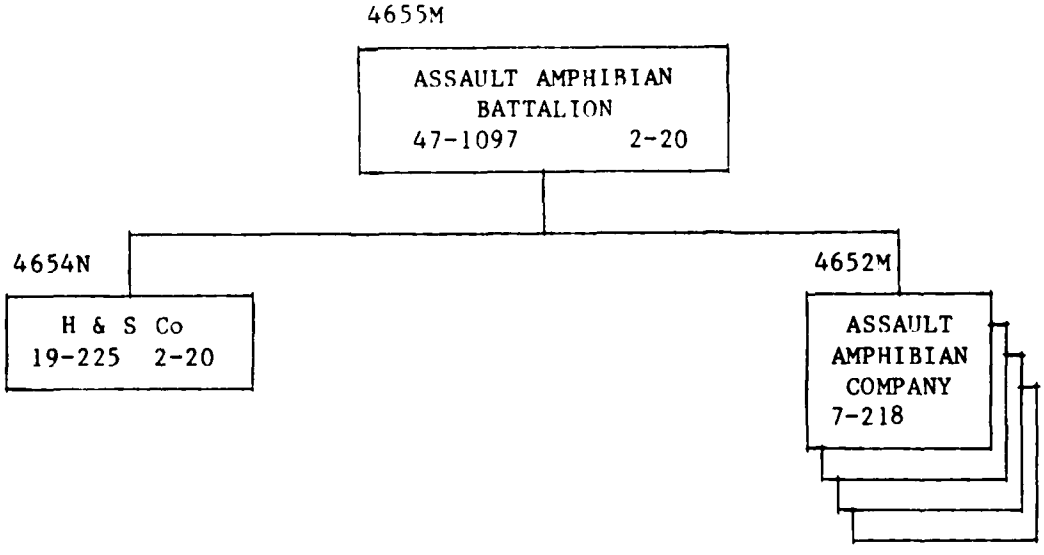


Figure 2-11 -- Assault Amphibian Battalion

(2) Tasks

(a) Transport assault elements of the landing force during the ship-to-shore movement.

(b) Transport selected equipment and supplies of the landing force during the ship-to-shore movement.

(c) Transport other supplies and equipment, as required by the assault units during the ship-to-shore movement.

(d) Provide lift for assault elements, selected equipment and supplies in mechanized or other combat support operations, during subsequent operations ashore.

(e) Provide lift for logistic requirements during subsequent operations ashore; forward of the Forward Edge of the Battle Area (FEBA).

(f) Participate in the planning and coordination of mechanized operations, link-up operations and landing operations.

(3) Concept of Organization

(a) The battalion consists of a headquarters and service company and four assault amphibian companies. The organization of the assault amphibian company permits independent deployment for limited operations.

(b) Certain elements of the battalion, such as cooks and motor transport personnel, may be centralized under battalion control for more effective utilization, training, and control, when the situation permits.

(c) Battalion communications include:

1 The primary method of communication is by radio. Alternate radios are provided to establish effective communications with supported commanders at each echelon, supporting arms, and subordinate units, to include individual vehicles. The latter capability can provide commanders of supported units with an emergency method of communication with subordinate commanders.

2 When an infantry unit commander is being transported in a command vehicle, he can employ the radios contained therein to enter the nets normal to his operation.

3 Alternate means of communications are by wire, messenger, and visual devices.

(4) Concept of Employment

(a) Battalion Organization for Combat. The Battalion, a Marine division unit, will be assigned to, under the operational control of, attached to, or in support of the MAF. Under normal circumstances subordinate elements of the battalion will be placed in support of subordinate units of the MAF. This method of organization provides for the maximum use of the battalion staff, facilities, and supporting capabilities.

(b) Company Organization for Combat. The Assault Amphibian Company is a compact organization capable of deployment, removed from the battalion, for limited periods of time. Usually the company will be attached to, or placed in support of, a MAU or a MAB. The primary consideration in selecting the method of organization is the ability of the parent organization to provide logistic support. The service and support rendered, other than the logistic support required by the company, will be the same in either case, whether the company is attached or placed in support of the MAU or MAB.

(c) Platoon Organization for Combat. The Assault Amphibian Platoon, the basic unit of the battalion, provides the lift capability during the amphibious assault and operations ashore. Each company is organized with four platoons of 10 vehicles each. Each vehicle has a rated capacity of 25 boat spaces. A special task organization, the boat team, is organized around the infantry squad or sections and is embarked in each vehicle.

(d) Command Vehicles. Each company, including the H&S Company, is equipped with three command vehicles. The command vehicle, with an increased radio communication capability, provides an excellent means of controlling supporting arms, infantry units, and elements of the battalions during the amphibious assault and subsequent operations ashore.

(e) Command Relationship. Commanders of supported units should consider the senior AAV commander to be a special staff officer, as an additional duty. Regardless of echelon, the AAV Commander will be prepared to execute this additional duty assignment.

(f) Liaison. Commanders of units to be supported will include commanders of AAV units in initial planning conferences.

(g) Planning. The battalion staff is capable of preparing and executing plans relating to mechanized task forces.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance. Capable of organizational maintenance (1st and 2d echelon) on all equipment organic to the battalion and intermediate maintenance (3d echelon) on assault amphibians and mounted weapons and very high frequency (VHF) equipment and its associated cabling and auxiliary radio and equipment organic to the battalion.

(b) Supply. Maintains operation/training repair parts and supplies, as directed; and a 30-day supply of mount-out repair parts, within maintenance capability.

(c) Transportation. Under normal circumstances the motor transport is adequate for the needs of the battalion and subordinate units.

(d) Messing. Capable of operating company messes in garrison or in the field, as practicable; and of consolidating company messes to provide a battalion mess in garrison or in the field.

(7) Headquarters and Service Company

(a) Mission. To provide the battalion commander with facilities to command, control and support the Assault Amphibian Companies.

(b) Concept of Organization. The Company consists of a Company Headquarters, a Maintenance Platoon, and a Headquarters Assault Amphibian Platoon. The battalion headquarters contains the headquarters communications, medical, motor transport and supply sections. The company headquarters possesses the capability to administratively operate the company and support the battalion. The Maintenance Platoon possesses the capability of first through third echelon maintenance for the H&s Company's amphibians and provides full 2d echelon capability for the amphibians of the letter companies. The Headquarters Assault Amphibian Platoon contains three AAV sections with each consisting of five amphibians, and a command section consisting of three command type amphibians.

(c) Concept of Employment. The company to be employed as directed to accomplish the primary mission.

(d) Administrative Capability. None. Consolidated at battalion level.

(e) Logistic Capabilities

1 Maintenance. The company is capable of providing full third echelon maintenance on amphibians and organizational maintenance (1st and 2d echelon) on all other equipment organic to the battalion.

2 Medical. The battalion Medical Section provides for emergency treatment and preparation for evacuation by external means of all casualties within the battalion requiring hospitalization. The Medical Section is capable of operating a field dispensary for treatment of minor illnesses and injuries. The section also exercises technical supervision of measures for prevention and control of disease.

3 Transportation. Transportation for H&S Company is provided by the Motor Transport Section and the Assault Amphibian Platoon. Vehicles are allocated within the company for the purpose of providing transportation for command, staff and liaison personnel, limited emergency medical evacuation, and supply distribution within the battalion headquarters and to assault amphibian companies.

4 Assault Amphibian Platoon. The platoon is organized into a command section and three AAVP-7 sections. The Command Section possesses three AAVC-7s and each of the other three sections possesses five AAVP-7s. The Assault Amphibian Platoon provides logistic support and transportation for the AAV battalion and additional vehicles to supported units as required by the situation. Two of the three AAVC-7s in the command section of the platoon may be assigned to the supported unit to be employed as mobile command posts.

5 Supply. The Supply Section receives supplies for external service elements and provides for distribution within the battalion. The company headquarters receives supplies for internal support of the H&S Company and provides for distribution.

6 Messing. The company headquarters operates a company mess, or when augmented by cooks from the other companies, operates a battalion mess either in garrison or in the field, as practicable.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, ASSAULT AMPHIBIAN BATTALION

Chassis, Trailer, GP, 3-1/2T, M353	3
Decontamination Apparatus, M12A1	5
Launcher, Grenade, 40mm, M203	6
Landing Vehicle, Tracked, Command/Comm AAVC7A1	3
Landing Vehicle, Tracked, Personnel, AAVP7A1	15
Landing Vehicle, Tracked, Recovery, AAVR7A1	2
Machine Gun, 7.62mm, M60D	5
Machine Gun, 7.62mm, M60	10
Machine Gun, Cal.50, M85	15
Night Vision Goggles, Individual, AN/PVS-5A	70
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	71
Radio Set, AN/VRC-12	1
Radio Set, Control Group, AN/GRA-39B	3
Radio Set, AN/GRC-160	2
Radio Set, AN/MRC-138	2
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	5
Radio Set, AN/PRC-104	2
Radio Set, AN/VRC-47	1

Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	1
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Truck, Tank, Water, 2-1/2T, 1000 Gal, M50A2	2
Telephone Set, TA-838/TT	10
Trailer, Amphib. Cargo, 1/4T, M416	5
Trailer, Flatbed, 3/4T, M762	7
Trailer, Cargo, 1-1/2T, M105A2	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, M1008	4
Truck, Cargo, 5T, M923	5
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	5
Truck, Wrecker, 5T, 6x6, M543A2	1
Truck, Wrecker, 5T, 6x6, M936	1
Truck, Utility, Cargo/Troop Carrier, M998	5

(7) Assault Amphibian Company

(a) Mission. To land the surface assault elements of the landing force and their equipment in a single lift from assault shipping during amphibious operations to inland objectives; to conduct mechanized operations and related combat support in subsequent operations ashore.

(b) Tasks

1 Transport assault elements of the landing force during the ship-to-shore movement.

2 Transport selected equipment and supplies of the landing force during the ship-to-shore movement.

3 Provide lift for assault elements, selected equipment and supplies in mechanized or other combat support operations, during subsequent operations ashore.

4 Transport other supplies and equipment, as required by the assault units during the ship-to-shore movement.

5 Transport assault elements, equipment and supplies, during mechanized, or other combat support operations, during subsequent operations ashore.

6 Provide lift for logistic requirements during subsequent operations ashore; forward of the Forward Edge of the Battle Area (FEBA).

(c) Concept of Organization. The Company consists of a Company Headquarters and four Assault Amphibian Platoons. The company headquarters contains the headquarters, communications, maintenance and assault amphibian sections. Each assault amphibian platoon contains a platoon headquarters and two assault amphibian sections, each section consisting of five assault amphibians.

1 Command and Control

a Command and Staff. Command functions are exercised through a command group in company headquarters and the four platoon commanders. The command group performs the command and staff functions necessary for planning, direction and supervision in the execution of assigned missions. The command and staff is such as to permit the company to function as part of the battalion or as a company in support of, or attached to, an infantry unit.

b Intelligence. There is no organic specialized reconnaissance or surveillance capability within the company. The company collects information by direct observation and uncovering enemy personnel and materiel. Processing is limited to expediting the transmission of information to higher headquarters.

2 Firepower. The main firepower of the company is provided by weapons mounted on each assault amphibian. In addition, individual weapons and other light infantry weapons are provided for security and local position defense.

3 Mobility. The basic means of mobility is provided by the assault amphibian which provides mobility on land and water. Land mobility is augmented by organic wheeled vehicles.

4 Logistics. The company logistic organization is based on unit distribution of supplies, normal supply procedures and limited organizational maintenance. The company is organized to handle the internal distribution of supplies and carry a basic load. Additional supplies, maintenance, medical support and transportation are provided by battalion.

5 Communications

a The primary method of communication is by radio. Adequate radios are provided to establish effective communications with supported commanders at each echelon, supporting arms, and subordinate units, to include individual vehicles. The latter capability can provide commanders of supported units with an emergency method of communication with subordinate commanders.

b When an infantry unit commander is being transported in a command vehicle, he can employ the radios contained therein to enter the nets normal to his operations.

c Alternate means of communications are by wire, messenger, and visual devices.

(d) Concept of Employment. The company is employed to transport troops, supplies and equipment of the supported unit. A company will normally be placed in direct support of the unit being supported; however, after due consideration of the tactical and logistic implications, the company may be attached. The company is capable of independent deployment for a limited period of time. Two of the three AAVC7, command type, vehicles, in the company headquarters may be assigned to the supported unit, to be employed as a mobile command post. The Assault Amphibian Vehicle Platoon is not capable of operating independently. Reinforced platoons are capable of being employed independent of the company for short periods of time when assigned or attached to a unit where administrative and logistic support can be provided.

(e) Administrative Capability. None. Consolidated at battalion level.

(f) Logistic Capabilities

1 Maintenance. The company is capable of organizational maintenance (1st and 2d echelon) on amphibians and all other organic equipment.

2 Medical. Provided by battalion.

3 Transportation. Organic assault amphibians and motor transport vehicles provide limited means for supporting the four platoons.

4 Supply. The Company maintains operating/training repair parts, as directed, and a 30 day stock of mount-out repair parts.

5 Messing. Capable of providing a company mess in garrison and in the field.

(g) The major items of equipment are shown below.

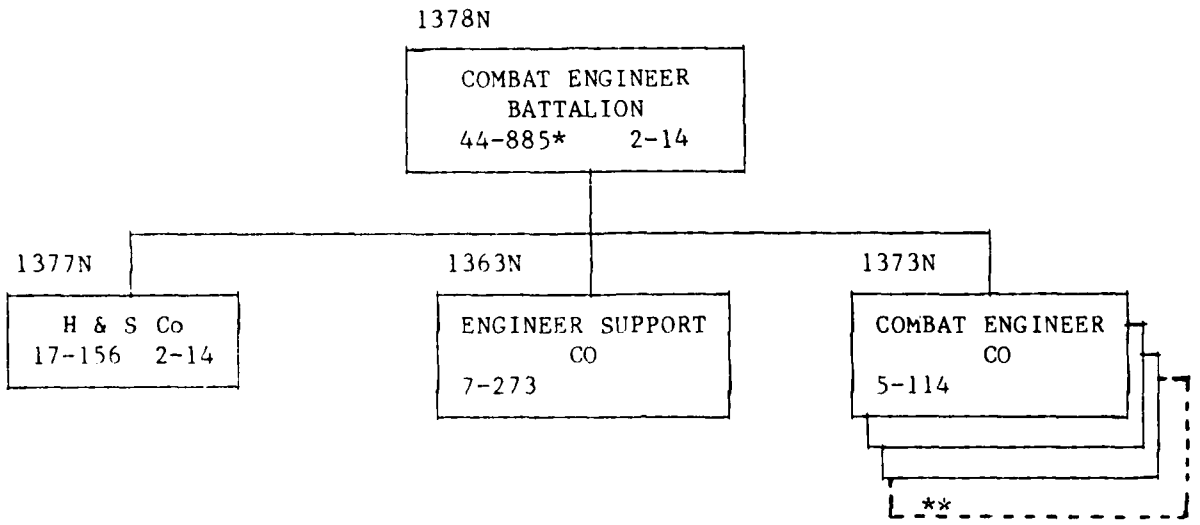
ASSAULT AMPHIBIAN COMPANY, ASSAULT AMPHIBIAN BATTALION

Launcher, Grenade, 40mm, M203	10
Landing Vehicle, Tracked, Command/Comm AAVC7A1	3
Landing Vehicle, Tracked, Personnel, AAVP7A1	43
Landing Vehicle, Tracked, Recovery, AAVR7A1	1
Machine Gun, 7.62mm, M60D	4
Machine Gun, 7.62mm, M60	4
Machine Gun, Cal.50, M85	43
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	27

Rifle, 5.56mm, M16A2	197
Radio Set, AN/VRC-12	3
Radio Set, Control Group, AN/GRA-39B	12
Radio Set, AN/GRC-160	1
Radio Set, AN/MRC-110	1
Radio Set, AN/PRC-77	4
Radio Set, AN/VRC-47	1
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Cargo, 1-1/4T, M561	1
Trailer, Amphib. Cargo, 1/4T, M416	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 5T, M923	3
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Truck, Utility, 1/4T, 4x4, M151A2	2
Truck, Utility, Cargo/Troop Carrier, M998	3

h. Combat Engineer Battalion

(1) Mission. To render close combat engineer support to a Marine division. (See Figure 2-12.)



*TOTALS INCLUDE CADRED COMPANY
**CADRE

Figure 2-12 -- Combat Engineer Battalion

(2) Tasks

(a) Provide essential vertical and horizontal construction support, which is temporary in nature, designed to minimum standards necessary to meet combat requirements.

(b) Provide utilities support to include water supply, electrical power generation and distribution, and bath services for the Marine division. When Level II mobile electric power assets are provided, generator operators are provided by the supported unit. When electrical distribution systems are installed, the general illumination light sets will be provided by the supported units.

(c) Provide engineering reconnaissance within the division zone of action or sector of defense. In areas not under division control, appropriate infantry support will be required.

(d) When augmented, erect standard prefabricated fixed and floating bridges.

(e) Construct nonstandard timber bridges up to short span Class 60 from local materials when available.

(f) Assist in the construction and operation of rafts using standard prefabricated floating bridge components.

(g) Reinforce, repair, and maintain bridges other than prefabricated types.

(h) Construct and position obstacles requiring special engineer equipment or technical skills.

(i) Supervise and participate in the placement of extensive minefields and booby traps.

(j) Furnish technical and mechanical assistance for the construction of cut and cover type temporary field fortifications.

(k) Perform specialized demolition missions beyond the capability of infantry elements.

(l) Perform specialized assistance in breaching obstacles, including mines, from the high water mark inland.

(m) Supervise and participate in the clearance of minefields and booby traps.

(n) Supervise specialized camouflage operations, primarily concealment and deception measures of major significance to the division as a whole.

(o) Provide and operate water points as required for the division.

(p) Construct, improve and maintain necessary expedient runways and pads for light liaison and observation type aircraft and helicopters to meet minimum divisional requirements.

(q) Construct and maintain forward sites for AV-8 type aircraft.

(r) Provide temporary repair of existing roads and limited new construction of pioneer roads, including essential maintenance of such installations for moderate logistic traffic. Except under unusual conditions, this activity will be generally limited to the division area of operations.

(3) Concept of Organization. The Combat Engineer Battalion consists of a Headquarters and Service Company, Engineer Support Company, and four combat engineer companies. The Headquarters and Service Company consists of elements to provide the battalion commander with facilities for command and control functions, and communications support for subordinate elements of the battalion. The Engineer Support Company consists of a Company Headquarters, Engineer Equipment Platoon, Utilities Platoon and a Motor Transport Platoon. Four combat engineer companies are included in the battalion organization to provide support of the infantry regiments and other division units as required. Each of the combat engineer companies consists of a company headquarters and three combat engineer platoons.

(a) Command and Control. The battalion commanding officer exercises command and control of the battalion through the battalion staff and the company commanders.

(b) Firepower. Limited light infantry weapons.

(c) Mobility. Not self-mobile. Requires external motor transport support to move the battalion as a unit.

(4) Concept of Employment. The Combat Engineer Battalion will provide both tactical and logistic engineer functional support for the division. It is organized to provide one combat engineer company for each infantry regiment and its associated tasked elements, one combat engineer company to support other division elements, and still maintain the flexibility to provide required augmentation to the combat engineer companies in the forward areas. Operations of those companies supporting forward elements will generally be decentralized. Engineer support requirements to the rear of forward elements will be performed under centralized Combat Engineer Battalion control. The Engineer Support Company provides augmentation in the form of personnel and specialized engineer equipment to the combat engineer companies.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance.

1 Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on organic communications equipment and infantry weapons. Organizational (2d echelon) maintenance on motor transport and engineer utility equipment is provided by the battalion. Intermediate (3d and 4th echelon) maintenance is provided by Maintenance Battalion, FSSG.

2 Support. None.

(b) Supply. Capable of providing organic supply support to the battalion.

(c) Medical. Capable of providing medical service support to the battalion.

(d) Transportation. The battalion has organic transportation support required to accomplish its stated mission.

(e) Messing. Capable of providing messing support to the battalion.

(7) Headquarters and Service Company

(a) Mission. To provide command and administrative elements to supervise the operations of the battalion, including the provision of supply, food services, communications, chaplain services, administrative and medical support.

(b) Concept of Organization. The H&S Company consists of the Battalion Headquarters which contains a Headquarters Section, an S-1/Adjutant Section, an S-2 Section, an S-3 Section and an S-4 Section; a Supply Platoon containing a Dining Section; a Communications Platoon; a Medical Section; a Chaplain Section and a Company Headquarters.

1 Command and Control. The Company provides the battalion commander with facilities for command and control. The company commander executes the normal command and staff functions.

2 Firepower. Limited to light infantry weapons.

3 Communications. Capable of providing communications support for the battalion.

4 Mobility. Not self-mobile. Requires motor transport support from external sources to move the company as a unit.

(c) Concept of Employment. The Company decentralizes suport functions, in the areas of supply, dining, communications, medical and chaplain services, to the extent

necessary to meet battalion operational requirements. It provides internal supply, communications, medical and dining support to subordinate elements of the battalion.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on assigned communications equipment and infantry weapons. Organizational (2d echelon) maintenance on motor transport and engineer equipment is provided by the Engineer Support Company, Combat Engineer Battalion. Intermediate (3d and 4th echelon) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. Capable of providing organic supply support to the battalion.

3 Medical. Capable of providing medical services support to the battalion.

4 Transportation. Non-organic. Support is provided by Engineer Support Company, Combat Engineer Battalion.

5 Messing. Capable of providing messing support to the battalion.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, COMBAT ENGINEER BATTALION

Machine Gun, 7.62mm, M60	10
Night Vision Goggles, Individual, AN/PVS-5A	6
Pistol, Automatic, Cal.45, M1911A1	51
Rifle, 5.56mm, M16A2	137
Radio Set, Control Group, AN/GRA-39B	15
Radio Set, AN/GRC-160	7
Radio Set, AN/MRC-138	6
Radio Set, AN/PRC-68A	27
Radio Set, AN/MRC-110	5
Radio Set, AN/PRC-77	43
Radio Set, AN/PRC-104	4
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	3
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Telephone Set, TA-838/TT	18
Teletypewriter, AN/GGC-3A	1

Terminal, Telephone-Telegraph, TH-85A/GCC	2
Truck, Ambulance, 1/4T, 4x4, M718A1	1

(8) Combat Engineer Company

(a) Mission. To provide close combat support of an engineer nature as necessary to meet the essential requirements of an infantry regiment and other division elements in combat operations.

(b) Tasks

1 Provide engineer reconnaissance as required.

2 Provide assistance for the cross-country movement of tracked and light wheeled vehicles.

3 Erect temporary engineer type structures to assist in the movement of light vehicles and personnel across dry and wet gaps, subject to the availability of local material.

4 Construct and operate light rafts, subject to the availability of materials.

5 Reinforce and repair existing bridges with local materials for the passage of light vehicles.

6 Improve existing terrain for use as helicopter terminal points.

7 Furnish technical assistance in the fabrication and positioning of light obstacles.

8 Supervise the placement of minefields and booby traps.

9 Furnish technical and mechanical assistance in the installation of temporary cut-and-cover type field fortifications.

10 Perform specialized demolition missions beyond the capability of the infantryman.

11 Provide specialized assistance in breaching obstacles including mines from the high water mark inland.

12 Supervise extensive or sensitive minefield clearance.

13 When augmented by necessary elements of the Engineer Support Company, perform any task for which the Combat Engineer Battalion is responsible.

(c) Concept of Organization. The Combat Engineer Company consists of a company headquarters and three combat engineer platoons. The Company provides direct combat engineer support to infantry task groupments for operations. It can provide one combat engineer platoon for close support of each infantry battalion and associated task elements.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Limited to light infantry weapons.

3 Communications. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

4 Mobility. The company possesses a limited amount of helicopter transportable equipment. Requires heavy motor transport support to displace its various platoons and/or squads.

(d) Concept of Employment. A combat engineer company will generally be in direct support of an infantry regiment for operations. Although the company may operate under the centralized control of the company commander it may more frequently operate under control of the platoon leaders in widely dispersed areas, with the company commander acting as advisor to the infantry regimental commander. One combat engineer company is provided for support of division elements to the rear of forward areas and to augment the engineer companies in forward areas as required. The combat engineer company has limited construction equipment, some of which is helicopter transportable. Equipment augmentation with operators is furnished as necessary from the Engineer Support Company. In all such cases, control of agumenting elements will generally be passed to the combat engineer company requiring such assistance.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic--Capable of providing organizational (1st echelon) maintenance on all organic equipment. Organizational (2d echelon) maintenance and motor transport and engineer equipment is provided by Engineer Support Company, Combat

Engineer Battalion. Intermediate (3d and 4th echelon) maintenance is provided by Maintenance Battalion, FSSG.

b Support--None.

2 Supply. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

3 Medical. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

4 Transportation. None organic. Support is provided by Engineer Support Company, Combat Engineer Battalion.

5 Messing. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

(g) The major items of equipment are shown below.

COMBAT ENGINEER COMPANY, COMBAT ENGINEER BATTALION

Demolition Equipment	9
Detecting Set, Mine, Portable, Non-metallic, PRS-8	9
Detecting Set, Mine, Portable, Metallic, PSS-12	9
Launcher, Assault, 83mm, SMAW, MK-153, Mod 0	9
Machine Gun, 7.62mm, M60	8
Night Vision Sight, Individual Served Weapon, AN/PVS-4	5
Pistol, Automatic, Cal.45, M1911A1	10
Rifle, 5.56mm, M16A2	327
Truck, Platform, Utility, 1/2T, M274A5	9
Truck, Cargo, 1-1/4T, M561	3
Trailer, Amphib. Cargo, 1/4T, M416	1
Truck, Cargo, 1-1/4T, M1008	1
Truck, Utility, 1/4T, 4x4, M151A2	1
Truck, Utility, Cargo/Troop Carrier, M998	4

(9) Engineer Support Company

(a) Mission. To provide personnel, equipment, and appropriate task units to other elements of the battalion in support of operational requirements. To provide potable water for the Marine division and electrical power for designated elements of the Marine division.

(b) Tasks

1 Augment the Combat Engineer Company with engineer motor transport, utilities equipment, and personnel required in the performance of all those tasks for which the Combat Engineer Battalion is responsible.

2 Provide vertical and horizontal construction support, which is temporary in nature, necessary to support the Marine division.

3 Provide utilities support to include water supply, electrical power generation and distribution, and bath services for the Marine division. When Level II mobile electric power assets are provided, generator operators are provided by the supported unit. When electrical distribution systems are installed, the general illumination light sets will be provided by the supported unit.

(c) Concept of Organization. The Engineer Support Company consists of a company headquarters, Equipment Platoon, Motor Transport Platoon, and a Utilities Platoon. The functional support requirements of the company are provided by the three platoons which are structured to permit task organizing of equipment and personnel as required.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Limited to light infantry weapons.

3 Communications. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

4 Mobility. Requires external motor transport support to lift the company as a unit.

(d) Concept of Employment. The Engineer Support Company provides assistance in the accomplishment of essential engineer support functions in the forward areas. It is capable of supporting all functions for which the combat engineer battalion is responsible. The company will employ specialist personnel, as individuals, or tasked units tailored for a specific mission, in support of the combat engineer companies. In all such cases, control of augmenting elements will generally be passed to the combat engineer company requiring assistance. The company will habitually be employed under the centralized control of the Combat Engineer Battalion commander.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of providing organizational (1st echelon) maintenance on all organic equipment. Capable of organizational (2d echelon) maintenance on battalion

motor transport, engineer, and utilities equipment. Intermediate (3d and 4th echelon) maintenance is provided by Maintenance Battalion, FSSG.

b Support--None.

2 Supply. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

3 Medical. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

4 Transportation. The Company has the organic transportation capability necessary to provide support to the Combat Engineer Battalion and fulfill the primary mission of the company.

5 Messing. None organic. Support is provided by H&S Company, Combat Engineer Battalion.

(g) The major items of equipment are shown below.

ENGINEER SUPPORT COMPANY, COMBAT ENGINEER BATTALION

Crane, Rough Terrain, 30T, DROH-2500	4
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	3
Dolly, Trailer, M354	1
Decontamination Apparatus, M12A1	2
Demolition Equipment	4
Grader, Road, 5R4040	6
Launcher, Grenade, 40mm, M79	6
Machine Gun, 7.62mm, M60	10
Night Vision Goggles, Individual, AN/PVS-5A	8
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	21
Rifle, 5.56mm, M16A2	259
Roller, Compactor, 420-C, RAYGO	2
Scraper, Earthmoving, Towed, MC80	4
Semi-trailer, Lowbed, 40T, M870	3
Truck, Dump, 5T, M51A2	24
Truck, Dump, 5T, M929	15
Truck, Tractor, 5T, M931	3
Truck, Tractor, 10T, 6x6, M123A1C	3
Tractor, Full-tracked, Small, MC-450	5
Tractor, FT w/Multi-purpose Bucket Case, MC-1150	10
Tractor, RT, Wheeled, Industrial, MC580B	5
Tractor, Wheeled, Industrial, MRS-100, M-69	7
Truck, Forklift, MC-6000RTL	2
Tractor, Medium, FT-D7G Caterpillar	5
Tractor, RT, Articulated Steer, 72-31MP	5
Truck, Forklift, RT, MC-4000	5
Trailer, Amphib. Cargo, 1/4T, M416	6
Trailer, Flatbed, 3/4T, M762	50

Trailer, Cargo, 1-1/2T, M105A2	14
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	6
Truck, Cargo, 1-1/4T, M1008	7
Truck, Cargo, 5T, M923	10
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	10
Truck, Wrecker, 5T, 6x6, M543A2	2
Water Distribution Equipment	14
Water Purification Unit, Frame Mounted, U22446	14
Truck, Utility, Cargo/Troop Carrier, M998	10
Truck, Wrecker, 5T, 6x6, M936	2

i. Light Armored Vehicle Battalion

(1) Mission. To locate, close with, and destroy enemy forces by fire and maneuver, exploiting high mobility, agility and firepower, and to conduct reconnaissance, security and economy-of-force missions as may be required. (See Figure 2-13.)

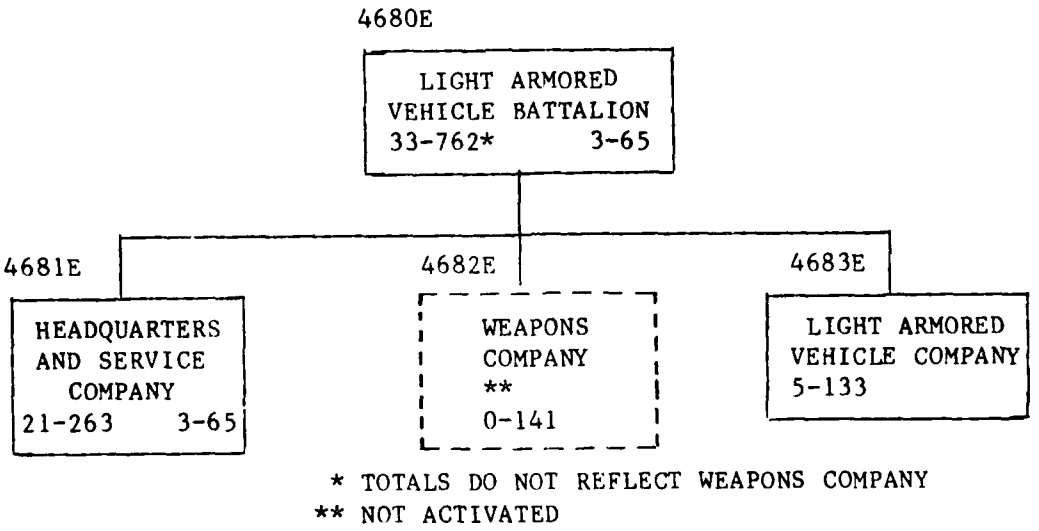


Figure 2-13 -- Light Armored Vehicle Battalion

(2) Concept of Organization

(a) Command and Control

1 Command and Staff. Command and staff functions are exercised through a compact operational command group consisting of the commander and his executive staff. The staff, utilizing the sequence of command and staff action, assists the

commander in the decision making process. When divided into two groups, the staff is capable of establishing an alternate command post.

2 Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to subordinate units is by single-channel radio; the primary means of communication to higher headquarters is by multichannel radio. Alternate means are wire, messenger and visual.

3 Intelligence. Intelligence efforts are organized to provide surveillance, reconnaissance, and target acquisition commensurate with the fire-and-maneuver capabilities of the battalion and responsive to the reaction time available to the commander. Information, collected by subordinate units as an integral part of their normal combat activities, is translated quickly into intelligence for use by the commander and his staff. Capable of limited intelligence processing only, the battalion forwards collected intelligence data to higher headquarters for further processing and use.

(b) Firepower. In addition to individual weapons, organic firepower of the LAV Battalion consists of antitank weapons, air-defense weapons, small and medium caliber cannons, medium mortars, light and medium machine guns, and shoulder-launched multipurposed assault weapons.

(c) Mobility. The light armored vehicle (LAV) is the primary means of mobility for battalion troops, equipment, weapons, and limited amounts of ammunition and supplies. All variants of the LAV are transportable by helicopter, amphibious means and tactical and strategic air transportation.

(3) Concept of Employment. A balanced, flexible, agile and mobile, primarily offensively oriented fire-and-maneuver team, the LAV Battalion and its subordinate companies are capable of being employed separately or as a part of a larger ground combat element. Speed and firepower, combined with maneuver, are used to exploit the offense in all types of combat operations.

(4) Administrative Capability. The LAV Battalion is capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance. Capable of organizational (1st and 2d echelon) maintenance on all equipment organic to the battalion and intermediate maintenance (3d echelon) on the LAV, TOW, air defense weapons system and very high frequency (VHF) equipment and its associated cabling and auxiliary audio equipment.

(b) Medical. The battalion Medical Platoon provides preventive medicine, treatment for minor illnesses and injuries, and emergency life saving for battle and non-battle casualties. Injured and sick persons requiring hospitalization are readied and evacuated to the rear. Two battalion aid stations can be formed, permitting mobile and flexible medical support.

(c) Transportation.

1 Variants of the light armored vehicle provide tactical mobility for the battalion.

2 When required, a light helicopter is provided to the battalion commander for command, liaison and observation purposes.

3 Organic motor transport assets, augmented by the LAV, provide transportation for administrative and logistic functions.

(d) Supply. A combination of supply-point and unit-distribution methods of supply is used to support the LAV Battalion and its subordinate units. The battalion is capable of organic supply support.

(e) Messing. The LAV Battalion is capable of operating a battalion mess in garrison or in the field. When required, the battalion has a limited capability to establish company messes.

(6) Headquarters and Service Company

(a) Mission. To provide the battalion with the means for command and control, and service support.

(b) Concept of Organization

1 Command and Control

a Battalion Command and Control. The battalion headquarters directs and coordinates the entire battalion, including attached and reinforcing units.

b Company Command and Staff. With the assistance of a small company headquarters, the company commander analyzes the mission, develops and considers courses of action, makes decisions, issues orders, and directs and supervises the operations of the company.

c Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to subordinate units is by single-channel radio; the primary means of

communication to higher headquarters is by multichannel radio. Alternate means are wire, messenger and visual.

d Intelligence. Information gathered during combat operations is expedited to higher headquarters for processing. Intelligence is passed back to the company by higher headquarters on a regular basis.

2 Firepower. In addition to the individual weapons, the organic firepower of the H&S Company consists of small caliber cannons, and medium machine guns.

3 Mobility. The light armored vehicle (LAV) is the primary means of mobility for troops, equipment, weapons, and limited amounts of ammunition and supplies. All variants of the LAV are transportable by helicopter, amphibious means, and tactical and strategic air transportation.

(c) Concept of Employment. The company headquarters is primarily employed to assist in coordinating combat service support, security and facilities for the company and the battalion headquarters. The motor transport, maintenance, communications, medical, and service platoons are used in support of the entire battalion.

(d) Administrative Capability. The H&S company provides administrative support for the entire battalion.

(e) Logistic Capabilities

1 Maintenance. The H&S Company is capable of organizational maintenance (1st and 2d echelon) on all equipment organic to the battalion and intermediate maintenance (3d echelon) on the LAV, the TOW, and air-defense weapons system. The Company also has limited (3d echelon) maintenance capability on communications equipment.

2 Medical. The Medical Platoon provides preventive medicine, treatment for minor illnesses and injuries, and emergency life saving for battle and non-battle casualties. Injured and sick persons requiring hospitalization are readied and evacuated to the rear. Two battalion aid stations can be formed, permitting mobile and flexible medical support.

3 Transportation. Organic motor transportation assets and the LAV provide transportation for troops, equipment, weapons, and administrative and logistic functions.

4 Supply. A combination of supply-point and unit-distribution methods of supply is used to support the LAV Battalion and its subordinate units. The battalion is capable of organic supply support.

5 Messing. The H&S Company is capable of operating a battalion mess in garrison or the field. When required, the battalion has a limited capability to establish company messes.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, LIGHT ARMORED VEHICLE BATTALION

Chassis, Trailer, GP, 3-1/2T, M353	9
Decontamination Apparatus, M12A1	6
LAV Light Assault Vehicle	4
Machine Gun, Lt., Sqd. Auto. Wpn., M249	8
Machine Gun, Cal.50, M2	20
Machine Gun, 7.62mm, M60	6
Night Vision Goggles, Individual, AN/PVS-5A	23
Pistol, Cal .45, M1911A1	65
Rifle, (Improved), 5.56mm, M16A2	320
Radio Set, AN/VRC-12	1
Radiac Set AN/PDR-56G	1
Radio Set, Control Group, AN/GRA-39B	20
Radio Set, AN/GRC-160	8
Radio Set, AN/MRC-138	3
Radio Set, AN/PRC-68A	35
Radio Set, AN/MRC-110	3
Radio Set, AN/PRC-77	7
Radio Set, AN/PRC-75B	10
Radio Set, AN/PRC-104	10
Switchboard, Telephone, Manual, SB-22A/PT	2
Truck, Tank, Water, 2-1/2T, 1000 Gal, M50A2	2
Truck, Wrecker, 5T, M936	2
Trailer, Cargo, 1-1/2T, M105A2	10
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	8
Truck, Cargo, 1-1/4T, M1008	2
Truck, Cargo, 5T, M923	13
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	8
Tractor, Rubber-tired, 72-31MP-2	1
Truck, Utility, Cargo/Troop Carrier, M998	20

(7) Light Armored Vehicle Company

(a) Mission. To locate, close with, and destroy enemy forces by fire and maneuver, exploiting high mobility, agility and firepower, and to conduct reconnaissance, security and economy-of-force missions as may be required.

(b) Concept of Organization

1 Command and Control

a Command and Staff. With the assistance of a small company headquarters, the company commander analyzes the mission, develops and considers courses of action,

makes decisions, issues orders, and directs and supervises the operations of the company.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to subordinate units is by single-channel radio; the primary means of communication to higher headquarters is by multichannel radio. Alternate means are wire, messenger and visual.

c Intelligence. Information gathered during combat operations is expedited to higher headquarters for processing. Processed intelligence is passed back to the company on a regular basis.

2 Firepower. In addition to individual weapons, organic firepower of the Light Armored Vehicle Company consists of small and medium caliber cannons, and light and medium machine guns, and shoulder-launched multipurposed weapons.

3 Mobility. The light armored vehicle (LAV) is the primary means of mobility for troops, equipment, weapons, and limited amounts of ammunition and supplies. All variants of the LAV are transportable by helicopter, amphibious means and tactical and strategic air transportation.

(c) Concept of Employment. The Light Armored Vehicle Company is a flexible, agile and mobile, primarily offensively oriented fire-and-maneuver unit. Speed and maneuver, combined with firepower, are used to exploit the offense in all types of combat operations.

(d) Administrative Capability. Administrative support is provided by the Light Armored Vehicle Battalion.

(e) Logistic Capabilities

1 Maintenance. Capable of organizational maintenance (1st and 2nd echelon) on all equipment organic to the company.

2 Medical. Medical support is provided by the Light Armored Vehicle Battalion. Except when medical personnel are consolidated for efficiency, as often occurs in garrison, a medical team is assigned to each light armored assault company to provide first aid.

3 Transportation. The LAV provides transportation for troops, weapons, equipment, and logistic and administrative functions.

4 Supply. The company does not stock, but it does receive and distribute supplies, generally using the unit-distribution method of supply.

5 Messing. Food service support is provided by the Light Armored Vehicle Battalion.

(f) The major items of equipment are shown below.

LIGHT ARMORED VEHICLE COMPANY, LIGHT ARMORED VEHICLE BATTALION

Launcher, Grenade, 40mm, M203	18
LAV Light Assault Vehicle	14
Machine Gun, Lt., Sqd. Auto. Wpn., M249	18
Night Vision Goggles, Individual, AN/PVS-5A	27
Night Vision Sight, Individual Served Weapon, AN/PVS-4	9
Pistol, Automatic, Cal .45, M1911A1	11
Rifle, 5.56mm, M16A2	109
Radio Set, Control Group, AN/GRA-39B	15
Radio Set, AN/GRC-160	3
Radio Set, AN/PRC-68A	30
Radio Set, AN/PRC-77	3
Radio Set, AN/PRC-75B	2
Radio Set, AN/PRC-104	2

(8) Weapons Company

(a) Mission. To provide medium mortar, antimechanized, and air-defense support for the Light Armored Vehicle Battalion and its subordinate elements.

(b) Concept of Organization

1 Command and Control

a Command and Staff. With the assistance of a small company headquarters, the company commander analyzes the mission, develops and considers courses of action, makes decisions, issues orders, and directs and supervises the operations of the company.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate units, attached units and higher headquarters. The primary method of communication to higher headquarters and subordinate units is by multichannel radio. Alternate methods of communication are messenger, visual and wire.

c Intelligence. Information gathered during combat operations is expedited to higher headquarters for processing. Processed intelligence is passed back to the company by higher headquarters.

2 Firepower. In addition to individual weapons, organic firepower of the Light Armored Vehicle Company consists of small mortar, antitank weapons, air-defense weapons, and medium machine guns.

3 Mobility. The light armored vehicle (LAV) is the primary means of mobility for troops, equipment, weapons, and limited amounts of ammunition and supplies. All variants of the LAV are transportable by helicopter, amphibious means and tactical and strategic air transportation.

(c) Concept of Employment. When the battalion is employed as a unit, preferably the company's mortar platoon, TOW platoon and air-defense platoon are employed by the battalion. However, sections may be attached out for independent company operations.

(d) Administrative Capability. Administrative support is provided by the Light Armored Vehicle Battalion.

(e) Logistic Capabilities

1 Maintenance. The Weapons Company is capable of organizational maintenance (1st and 2nd echelon) on all equipment organic to the company and intermediate maintenance (3d echelon) on the TOW and air-defense weapons system.

2 Medical. Medical support is provided by the Light Armored Vehicle Battalion. Except when medical personnel are consolidated for efficiency, as often occurs in garrison, a medical team is assigned to the company to provide first aid.

3 Transportation. The LAV provides transportation for troops, weapons, equipment, and logistic and administrative functions.

4 Supply. The Company does not stock, but it does receive and distribute supplies, generally using the unit-distribution method of supply.

5 Messing. Food service support is provided by the Light Armored Vehicle Battalion.

(f) The major items of equipment are shown below.

WEAPONS COMPANY, LIGHT ARMORED VEHICLE BATTALION

Circle, Aiming, M2	2
Launcher, Grenade, 40mm, M203	4
LAV Light Assault Vehicle	10
Machine Gun, Lt., Sqd. Auto. Wpn., M249	4
Mortar, Inf. 81mm, M29A1	8
Night Vision Goggles, Individual, AN/PVS-5A	23
Pistol, Automatic, Cal .45, M1911A1	16

WEAPONS COMPANY, LIGHT ARMORED VEHICLE BATTALION (Cont'd)

Rifle, 5.56mm, M16A2	125
Radio Set, Control Group, AN/GRA-39B	15
Radio Set, AN/GRC-160	3
Radio Set, AN/PRC-68A	45
Radio Set, AN/PRC-77	3
Radio Set, AN/PRC-75B	2
Radio Set, AN/PRC-104	2

SECTION 2B
MARINE DIVISION
NEW EQUIPMENT DEVELOPMENTS (1986-1995)

204. GENERAL

Major developments for the Marine division during the stated time period fall generally into the following areas; C3, mobility, infantry, armor, antiarmor and artillery weapons, mine countermeasures, and combat engineer support. Other developments include battlefield surveillance, individual clothing and equipment, shelters, NBC, and robotics. As discussed in Section 1B, the Ground Force Structure Enhancement Program will ensure maximum continuity and stability through systematic integration of organizational structure initiatives and hardware fielding over the next several years. The most significant planned organizational changes include modifications within the infantry battalion (1986-1988), as well as the establishment of an antitank battalion (1988-1990) and a general support rocket system battalion (1990-1992). The fleshing out of the new LAV battalions will be affected in part by the development and procurement schedule for each of the LAV variant vehicles.The planned procurement of the M1A1 main battle tank will result in a reorganization of the tank platoons. Several new items of equipment will be found in the Combat Engineer Battalion to coincide with a realignment of its functions to more effectively provide combat support to the division.

a. Command, Control, and Communications (C3). The C3 equipment/systems having significant impact on the division have been explained in the FMF section. Those items considered of special interest to the division and subordinate units during the stated periods will be summarized below.

(1) The introduction of PLRS, NAVSTAR GPS, MIFASS, and TCO will materially enhance the C3 capabilities of all combat and combat support users.

(2) The changeover from analog to digital communications will begin to take on greater momentum with the fielding of the digital communications terminal.

(3) The current aging family of VHF/FM manpack and mobile tactical radios will be replaced by the SINCGARS family of equipment.

(4) Current tactical field telephones will be replaced by secure, digital equipment.

(5) The abovementioned items plus the remainder of all communications equipment to be introduced to the division during this period are shown in Figure 2-14.

		MAR DIV	HQ BN	INF REGT	INF BN	ARTY REGT	ARTY BN	CBT ENGR BN	RECON BN	TANK BN	ASLT AMPH BN	LAV BN	[illegible]
SWITCHING EQUIPMENT	AN/TTC-42 (AUTOMATIC TELEPHONE CENTER (ULCS))		◆	◆		◆							4
	SB-3865 (AUTOMATIC SWITCHBOARD (ULCS))		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	9
	AN/GYC-7 (DIMS)			◆	◆	◆	◆						5
MULTICHANNEL TRANSMISSION EQUIPMENT	AN/TSC-60 (COMMUNICATIONS CENTRAL)		◆										84
	AN/MRC-139(XN-1) (UHF DIGITAL WIDEBAND TRANS SYSTEM)		◆	◆		◆	◆						41
	AN/TRC-170 (SHF MULTIPLEX RADIO EQUIPMENT)		◆										91
	OE-334/TRC (AUX. GROUND TRANS. RADIO SHELTER)												87
	TD-1234 (MULTIPLEXER)		◆	◆	◆	◆	◆						8[illegible]
	JTIDS-UTMA		◆	◆	◆	◆	◆						41
SINGLE CHANNEL TRANS EQUIPT.	AN/VRC-83 (VEHICULAR MOUNT VHF RADIO)		◆	◆	◆	◆	◆		◆	◆	◆	◆	8[illegible]
	AN/PRC-113 (HANDHELD VHF/UHF RADIO)		◆	◆	◆		◆		◆			◆	87
	AN/GRC-( ) (SINCGARS RADIO FAMILY)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	9
TERMINAL DEVICES	AN/PSC-2 (DIGITAL COMMUNICATIONS TERMINAL)		◆	◆	◆	◆	◆		◆				8[illegible]
	AN/UXC-7 (FACSIMILE)		◆	◆	◆	◆	◆					◆	8[illegible]
	AN/UGC-74A (TACTICAL REPRO/DIST. FACILITY)		◆	◆		◆							87
	AN/MSC-63 A/B (COMMUNICATIONS CENTRAL/SSCC)		◆										89
	TA-954 (TELEPHONE (DNVT))		◆	◆	◆	◆	◆	◆	◆	◆	◆		8[illegible]
	FIBER OPTIC CABLE SYSTEM		◆	◆	◆	◆	◆	◆	◆	◆	◆		8[illegible]
	AUPE-CM- (COMM MESSAGE PROCESSOR)		◆										8[illegible]
SATCOM EQUIPMENT	AN/PSC-5 (MANPACK SATCOM RADIO)		◆	◆	◆								8[illegible]
	AN/TSC-93A (SHELTER MOUNTED SATCOM RADIO)		◆										8[illegible]
	SCOTT (EHF SINGLE CHANNEL TACTICAL TERMINAL)		◆										91
COMSEC DEVICES	TSEC/KYV-5 (COMSEC FOR CV-5941 (WNVT))		◆										8[illegible]
	TSEC/KY-99 (COMSEC FOR ANDVT)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	89
	TSEC/KG-84A (DLED)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	87
	TSEC/KG-[illegible] (TRUNK ENCRYPTION DEVICE)												8[illegible]
	TSEC/KY-[illegible] (DNVT)		◆	◆		◆	◆		◆	◆			0
	TSEC/KY-[illegible] (SINCGARS)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	[illegible]

[illegible] COMMUNICATIONS EQUIPMENT, MARINE DIVISION [illegible]

b. Common Equipment. This subparagraph discusses new items of equipment systems that will be commonly employed throughout the division, and, in many cases also within the wing, Force Service Support Group (FSSG), or FMF specialized units.

(1) Personal Defense Weapon. Beginning in FY 86, the aging Colt .45 pistol, as well as the deficient .38 caliber revolver, will be replaced on a one-for-one basis by the 9mm Beretta 92SB-F pistol. The new pistol fires a 9mm parabellum round from a 15-round staggered magazine. It uses a short recoil operating system instead of the blowback principle usually encountered with weapons firing less powerful rounds. Other features include a double-action trigger, easy target sighting, and a colored indicator to show if a round is chambered.

(2) Cold Weather Clothing and Equipment. The following new equipment items will be utilized by combat units in the division as well as by other MAGTF components for cold weather operations. These items will initially be maintained by the FSSG (special training allowance pool) for issue to units as required.

(a) Extreme Cold Weather Clothing System. This lightweight, multilayered clothing system will replace the current cold/dry and cold/wet systems with a 30 percent reduction in bulk and a 28 percent reduction in weight using state-of-the-art fabrics. This clothing is designed for use in the -25 degree to 40 degree Farenheit range. The IOC is FY 87.

(b) Lightweight Shelter System. A vapor-permeable, water, and flame-resistant shelter to be used as a supplement to the 5- and 10-man arctic tents will be available in FY 89 and issued to each member of a squad or unit.

(c) Extended Cold Weather Sleeping Bag. This item will be an all-temperature-range sleeping bag that is compatible with the food carrying system and will weigh less than the current arctic sleeping bag. The IOC for this item is FY 88.

(d) Load Carrying System. Beginning in FY 87, the combat Marine operating in cold climates will employ a load carrying system comprised of a load bearing vest, an assault pack, and a transport pack. The packs feature an internal frame, adjustable volume, internal field radio pouch, and quick-release mechanisms. It can be used in temperate climates but is not intended to be a replacement for the ALICE pack.

(3) Individual Shelter System. A lightweight, portable, one-man shelter will be available in FY 89 to protect the individual Marine and his equipment from the effects of the environment in temperate zones. It will be issued as a one-for-one replacement for the shelter-half system.

(4) Multipurpose Helmet. The introduction of this item in FY 89 will provide Marines involved in operating combat vehicles

(e.g., tank, AAV, LAV), artillery, and communication equipment with protection against environmental, occupational, and enemy ballistic threats; NBC; laser radiation; and impulse noises.

(5) NBC Equipment. A concerted effort is underway to improve the Marine Corps' ability to operate in an NBC environment. The numbers of specially trained personnel have been increased by 75 percent. Several U.S. Army developments are being monitored with a view towards the procurement of new decontamination equipment, chemical detectors, and protective equipment. FMF units will remain at risk, however, until improved chemical munitions are available to provide a credible retaliatory capability. The following priority equipment items have been identified for procurement:

(a) Chemical Agent Monitor (CAM). Chemical vapors present a significant threat to combat units because the capability to detect these vapors before casualties occur does not exist. The CAM will be man-portable and capable of operating in a fixed- or vehicle-mounted configuration, battery operated, and will be unaffected by nonchemical battlefield contaminants. This device will be employed down to the company/squadron level. The IOC for CAM is FY 88.

(b) NBC Protective Mask. A replacement for the current protective mask will reach the FMF by FY 88. It will provide the same level of protection against chemical and biological agents and radioactive fallout particles, but has the capacity for rapid replacement of the filter(s) without removing the mask from the face. It will allow the wearer to drink water and permit prolonged wearing. It will replace the protective mask currently used in aircraft and mechanized vehicles.

(c) Lightweight Decontamination System. The current M12A1 decontamination equipment used throughout the FMF lacks transportability, air-drop capability, and hot water capability to deal effectively with the density of agents that potential enemies can deliver on any part of the battlefield. The lightweight decontamination system, which is in full-scale development, will be an air-droppable, self-contained system that can be set up and operated by two men in less than 30 minutes. The system will be employed down to the battalion/squadron level. The IOC for LDS is FY 89.

(d) Portable Decontamination Apparatus, M13. The M13 will replace the current ABC-M11 portable decontamination apparatus to be mounted generally on all types of ground vehicles (e.g., TVF, AAV, LAV, tank). The system basically consists of a jerry can-sized container, manual pump, hose and detachable brush. DS-2 decontamination solution will be used. The M13 has an IOC of FY 87.

(6) Battlefield Surveillance Devices

(a) Lightweight Battlefield Surveillance Radar (LBSR). The current AN/PPS-15 ground surveillance radar will reach the end of its service life during the late 1980s. Technological advancements will provide a replacement that will weigh no more than 10 lbs, with a maximum detection range capability of 10,000 meters for moving vehicles. The LBSR will reach IOC by FY 90 and will be found in the infantry battalion and regimental headquarters, the division and force reconnaissance units, the division Headquarters Battalion, as well as in most of the support-type squadrons of the MAW.

(b) Forward Pass/Tactical Remote Sensor System.

1 The Forward Pass System (Interrogator Transponder Set, AN/VSQ-80), used in conjunction with live sensor fields, provides the capability of obtaining sensor intelligence without continuous monitoring. It consists of storage, interrogation, and display units. The storage unit is emplaced by hand or high-speed aircraft along with the unattended ground sensors. It collects and stores data from sensors and can be commanded to operate in various modes from real time relay to burst transmissions. The interrogation unit is pod-mounted on high-speed aircraft (F/A-18, AV8B) with a control box in the cockpit. A readout command is sent from the aircraft to a particular storage unit. Upon command, the unit either transmits its stored data to the interrogation unit, where it is recorded, or data linked to a ground site. Other cockpit-generated commands include relay (go to realtime relay mode), store, reset (erase data, go to new storage sequence), or a combination of these.

2 The Tactical Remote Sensor System (TRSS) will be a complete unattended sensor network which will incorporate air- and hand-emplaced sensors that utilize a variety of different detection techniques (i.e., imagery, sound, hydrographic, etc.). TRSS will provide the sensor for the Forward Pass System and be a smaller, more cost-efficient replacement for the Phase III sensor equipment currently in the Marine Corps inventory.

3 Forward Pass and TRSS are expected to reach IOC during FY 89. Training courses must be developed and the mental qualifications for Sensor Control and Management Platoon (SCAMP) personnel may have to be increased. An additional MOS 59xx technician may have to be added to permit 1st through 4th echelon repair at the unit level.

4 An air-droppable soil penetrometer will be developed as part of the Forward Pass program to provide a capability for determining soil trafficability prior to an amphibious operation without employing reconnaissance teams for that purpose in the objective area. The IOC for this item is FY 90.

(7) Family of Soft Shelters. Military tentage has not reflected current technology since the early 1950s. By FY 90, the FMF will receive a family of soft shelters that will be lighter; impervious to rot; mildew, and corrosive salt water; and be easily erected with no center poles to reduce useable space. Basic configurations include:

(a) Command Post. Approximate dimensions are 10' (long) x 20' (long) x 8' (high) and weighs no more than 200 lbs.

(b) General Purpose/Intermediate Maintenance Shelter. Approximate dimensions are 20' (wide) x 30' (long) x 10' (high) and weighs no more than 500 lbs.

(c) Large Maintenance Shelters. Approximate dimensions are 20' (wide) x 30' (long) x 10' (high) and has door openings large enough to permit entry of an M-60 tank.

(d) Complexing shelters for joining similar or dissimilar shelters.

(e) A connecting corridor for joining the AAVC-7 and AAVR-7 with a 10' x 20' shelter.

(8) Robotics. Exploratory development programs which have demonstrated the practical application of available modern technologies in the area of robotics, are transitioning to the advanced development of equipment with uses within the FMF beginning in the early 1990s. Tactical reconnaissance as a component of complete surveillance of the battlefield has been traditionally accomplished by manned patrols. To reduce personnel risks, reconnaissance or surveillance missions can be performed by fully autonomous robots equipped with short-range acoustic sensors and an improved artificial intelligence interpretation capability. By utilizing a remote mobile platform, advanced teleoperators could project human sensing capabilities. An airborne remotely operated device has been demonstrated using fiber-optic and televideo techniques that will provide a 360-degree observation capability out to a range of 2 km. Robotics can be applied in many other areas as well, including crash firefighting by aviation units. The Remotely Piloted Vehicle is the first related development that will have a large impact on the combat capabilities for the division and will be discussed later in this section.

205. ORGANIZATIONS

a. Headquarters Battalion

(1) The introduction of MIFASS will have a significant impact on the operational procedures of the fire support coordination center of the division. Changes to the tables of organization cannot be predicted until completion of the engineering development model and operational testing.

(2) The staff agencies within the division headquarters will also profit by the introduction of TCO, which will be an incremental, evolutionary development following in trace of MIFASS and ideally sharing equipment commonality with it.

(3) The SCAMP will be fully involved with the lightweight battlefield surveillance radars and the FORWARD PASS system as described above.

(4) Remotely Piloted Vehicle (RPV)

(a) To survive and win in the modern battlefield, the combat commander needs both immediate combat information and intelligence. Combat information is raw perishable data that passes directly to combat and combat support units allowing the frontline commander to seize combat opportunities before they disappear. Mobile fluid combat is highly time competitive, and it is this condition that dictates the requirement for realtime combat information for tactical units. RPVs have demonstrated their value in performing a wide variety of missions with distinct advantages over manned aircraft assets from the standpoint of greater survivability, maneuverability, as well as low operating, maintenance, and training costs.

(b) The Marine Corps is participating in a program with the Navy to satisfy joint requirements which have recently transitioned into advance development to evaluate several available systems. Modular sensor packages and subsystems will permit the accomplishment of the following priority missions:

1 Target acquisition and designation by video as a means of safely adjusting conventional artillery fires or laser designation for precision-guided munitions.

2 Long-range reconnaissance prior to and subsequent to amphibious landings.

3 Battlefield surveillance.

4 Electronic warfare and deception.

5 Suppression of enemy fire defense.

(c) The development of the full range of missions and capabilities for RPVs will be evolutionary. The RPV will reach IOC by FY 89 and require the establishment of a platoon of 6 officers and 34 enlisted under the cognizance of the division G2. Maintenance, training, and manpower requirements are being refined.

(5) Military Motorcycle. A motorcycle will provide an alternate means for secure message courier, logistics, and escort services on the battlefield. An interim commercial motorcycle will be procured and introduced during FY 86 until a more rugged motorcycle that will meet military specifications is developed.

b. Infantry Regiment. The regiment will receive the first of the new command and control systems by FY 86 with the arrival of PLRS. The PLRS has many capabilities and applications with MIFASS and TCO. Communications advancements, discussed in Section 1B, will assist the regimental commander and his staff both in their ability to respond to the need of subordinate organizations and to rapidly reply to the information requirements of the higher-level commander. The most significant of these will be the digital communications terminal.

c. Infantry Battalion. The reorganization of infantry battalions into more firepower-intensive units began in 1983, resulting in a 25 percent increase in organic firepower. This increase is the result of the recent acquisition of the improved M16A2 rifle, a new squad automatic weapon, an improved M60 machine gun, the M2 50-caliber machine gun, the shoulder-launched multipurpose assault weapon, and a new 60mm company mortar. Other planned acquisitions are as follows:

(1) MK-19 40MM Machine Gun. To assist the infantry battalion in countering growing numbers of threats, infantry fighting vehicles will be materially enhanced with this crew-served, automatic grenade launcher capable of engaging LAVs and infantry from between 6.5 meters to 2,200 meters. The MK-19 weighs 75.6 lbs. and fires high-velocity 40mm grenades which will be capable of penetrating at least 2 inches of armor plate at 0 degrees obliquity at maximum range, and inflicting personnel casualties within 12-15 meters of the impact. It will be supported by a dedicated vehicle but can also be dismounted and fired from a ground mount. Additional enhancements under development include reduced time of flight and improved armor capability rounds, a training practice round, improved day/night sighting system with laser range finder, a lightweight wheeled mount, and an optimized 40 round ammunition container with smaller dimensions and less weight. The MK-19 will reach IOC during FY 86.

(2) Improved 81MM Mortar. The M29A1 81mm mortar is reaching the end of its service life and must be replaced. The lightweight, improved mortar systems will extend the maximum range from 4,500 to 5,650 meters with greater stability, provide increased weapon lethality with noise attenuation, and can be fired from the LAV. The weapon system incorporates features that improves its durability, increases tube life, and reduces maintenance time. The IOC for the improved system is FY 87.

(3) 84MM AT-4 Light Antitank Weapon (LAW). The infantry requires an improved self-contained, man-portable weapon with more capabilities than the M72A2 LAW to destroy tanks that penetrate long-range antitank defenses. The AT-4 is a disposable launcher system loaded with one high-explosive antitank round which has an effective range of more than 500 meters and will fire a round whose warhead is capable of penetrating 500mm of frontal armor on all

present main battle tanks. The IOC is FY 87, pending the results of retesting and a final procurement decision.

(4) SMAW High Explosive Antiarmor (HEAA) Round. The current bunker-busting capabilities of the 83mm SMAW will be enhanced by FY 89 with the addition of a high explosive antiarmor round. A copper liner version is under development which has a 500 meter range and can penetrate up to 600mm of armor. A heavy metal line version has an 800mm penetration capability at 600 meters. The IOC is FY 89.

(5) Improved Dragon Warhead. In FY 87, the Dragon medium antiarmor system will be enhanced with a warhead that will increase armor penetration capability by 90 percent. This effort is part of an improvement program designed to overcome other system deficiencies in missile time of flight, range, tracker stability, and tracker countermeasure resistence. It is an interim measure prior to the development of a new medium antitank weapon by the U.S. Army. A thermal night sight will also be under development.

(6) 60MM Mortar Munitions. The M224 lightweight company mortar system will be provided with two additional rounds of ammunition in FY 87. The XM819 smoke round will provide illumination out to the maximum range of the M720 (HE) cartridge. The XM835 will provide improved smoke screening and an incendiary effect.

(7) M16A2 XM-4 Carbine. Beginning in FY 87, infantry platoon commanders and platoon sergeants will be armed with a smaller, more compact version of the M16A2 carbine vice the service pistol. The XM-4 has a sliding buttstock to allow for carrying or storage without compromising the ruggedness or shooting quality of the weapon. The overall length with stock extended is 33.0 inches, and 29.8 inches with the stock retracted. This weapon will fire semi- or full automatic fire out to a maximum effective range of 656 yards. All of the moving parts and magazines are interchangeable with those used in the M16A2 rifle, thereby simplifying supply and maintenance.

(8) Saboted Light Armor Penetrator (SLAP). In order to maximize the effectiveness of medium and heavy machine guns against anticipated light armored vehicles and armored attack helicopters, a SLAP round has been developed. It consists of a tungsten carbide penetrator encased in a plastic sabot which is inserted into a standard brass casing, resulting in a very high muzzle velocity. Efforts are primarily with the 50 caliber, but SLAP will also have useful application with 7.62mm ammunition. SLAP has an IOC of FY 88.

d. Artillery Regiment

(1) As with the infantry, the artillery regimental headquarters will also receive the PLRS during FY 86. In its basic

use, PLRS will assist in providing accurate locations of friendly units, thereby enhancing safety, fire support accuracy, and fire support coordination. The arrival of MIFASS will provide regimental and artillery battalion COCs with an automated capability for fire planning and target management. It will utilize a realtime digital display and information-processing equipment capable of displaying friendly unit and target locations and processing requests for supporting arms.

(2) Modular Universal Laser Equipment (MULE). The MULE (AN/PAQ-2) is a man-packed, battery powered, functionally modular device designed to provide a forward observer with the capability to accurately determine location and range to targets and to provide laser designation for all surface and air-delivered laser-guided munitions. The MULE consists of three basic modules: a Laser Designator Rangefinder Module (LDRM), a Stabilized Tracking Tripod Module (STTM) and a North Finding Module. The total system can be carried by two men with loads of approximately 20 lbs. each. Targets can be located in range to an accuracy of plus or minus 10 meters and in azimuth to an accuracy of plus or minus 3 miles. The laser will be compatible with all laser-guided ordnance and trackers. The LDRM can be handheld or mounted on the STTM in order to track and attack moving targets with guided munitions. The target acquisition battery and artillery battalions will receive the MULE beginning in FY 86.

(3) Radar AN/TPQ-36. The artillery target acquisition capability will be enhanced by the initial fielding of the AN/TPQ-36 counterfire radar during FY 86 as a replacement for the AN/MPQ-4A. The TPQ-36 is designed to locate multiple enemy artillery, mortars, and rocket positions which may be firing simultaneously. Design features include the following:

- Fixed-sector search of 1600 mils and an extended originator search of up to 6,400 mils.
- Operator-selectable priority and sensor zones.
- Impact-predict modes for aid in assigning priorities to acquired targets.
- Interface with the Battery Computer System (BCS).
- Sufficient accuracy for attack of targets by medium artillery.

The radar requires fifth order surveying for optimum accuracy. Training for operators and maintenance personnel will be conducted at Ft. Sill, Oklahoma.

(4) Position and Azimuth Determining System (PADS). The PADS is a vehicular-mounted inertial navigation system, using AN/USQ-70 hardware designed to extend survey control during a 6-hour mission from a known position to station/positions

throughout an artillery battalion area. When initialized, PADS will determine horizontal position to an accuracy of 10-20 meters circular error probable, vertical position to an accuracy of 5-10 meters probable error, and grid azimuth to an accuracy of .3-1 mils standard deviation. It is interoperable with BCS and AN/TPS-36. PADS will reach IOC during FY 86.

(5) Meteorological Data System (MDS). MDS is a highly mobile automatic meteorological data acquisition and processing system that will automatically reduce and transmit data to BCS and other users via radio and wire. The MDS IOC is FY 87.

e. Artillery Battalion

(1) The modernization of Marine Corps artillery is ongoing with the conversion to the M198 howitzer and additional 155mm (self-propelled) guns to three batteries during FY 86 and five batteries by FY 89. During the period 1990 to 1992, it is planned that the current General Support Artillery Battalion will be replaced in the table of organization by the General Support Rocket System Battalion.

(2) General Support Rocket System (GSRS)

(a) FMF artillery must improve its capability to deliver surprise massed fires on enemy targets. The capability of direct support artillery has been improved by the fielding of the 155mm howitzer, M198, and the force structure changes that have increased battery firepower and survivability. New target acquisition assets, including the MULE, and the TPQ-36 Radar (counter-mortar radar), will provide for fast and accurate target location. They combine with the M198 to provide excellent close support of infantry units through the regimental level, and counterfire against mortars and direct support artillery. MAGTF general support artillery consists of additional 155mm and 8-inch howitzers. General support cannon weapons are not available in adequate numbers to simultaneously counter threat general support artillery and counterfire and suppress enemy air defenses, or provide the commander with a means to influence the action by attack of large or critical targets. The alternative of adding additional cannon to meet the general support requirement appears to have manpower and amphibious lift impacts that exceed those of a rocket system, and does not provide an effective compliment to the cannon weapon.

(b) The current inability to neutralize or suppress enemy indirect fire support and air defense units, and the limited capability to effectively attack enemy mechanized forces in depth, supports the requirement for a high rate of fire area saturation rocket system. The GSRS will be able to deliver large volumes of fire on targets in a 60-second period and out to at least 30 km, and fire new munitions (terminal-guided, chemical, and scatterable mine) that may be developed. The GSRS Battalion will include a headquarters battery and three rocket batteries. A single GSRS

launcher or platoon will have an effect on targets which otherwise could be achieved only by massing the fires of several batteries or battalions of cannon artillery.

(c) A GSRS battery with six launchers and support vehicles would require less amphibious lift than a six-gun battery of 8-inch howitzers and fewer personnel. System design will ensure the total cube and weight of the system is comparable to or less than the current M110-A2. A specific manpower savings is attendant upon the organizational structure realized for the GSRS. A new MOS filled by lateral moves within Occupational Field 08 (Field Artillery) will be required. The rocket launcher will require maintenance by Marines in MOS 2131 (Field Artillery Mechanic), MOS 2141 (Tracked Vehicle Mechanic) and MOS 2885 (BCS Technician). Training will be conducted at the U.S. Army Field Artillery School. Training for initial fielding will be provided by contractor training and new equipment training.

(d) The weapon in the U.S. Army's Multiple Launch Rocket System is being considered to fulfill the Marine Corps' requirement by 1991.

(3) Battery Computer System (BCS)

(a) The current method of computing technical and tactical firing data is primarily a manual system. It is augmented by a field artillery digital automatic computer that was fielded in the mid-1960s. Both systems are slow and do not provide the degree of accuracy required. The Marine Corps will procure the AN/GYK-29 BCS developed by the U.S. Army to perform the technical firing computation and target planning at the battery level. The BCS will be capable of rapidly computing the necessary ballistic solutions for current and planned weapons as well as munitions and rocket/guided missiles systems, and will digitally transmit the fire commands directly to the individual gun positions by wire or radio. BCS will be utilized to perform technical fire direction at the artillery battery level. The BCS will interoperate with MIFASS and comprise the battery level extension of it.

(b) Each artillery battery will have a BCS that will enable them to compute technical fire direction data and transmit this data automatically to each gun. The use of two computer units per system allows the battery to be split into two platoons while retaining full BCS capability. The BCS will compute data for the 105mm, 155mm, and 8-inch howitzers. The system includes two computer units, a section chief's display, and two gun displays for each howitzer. The BCS will communicate in the digital mode with other BCS systems and gun display units by both wire and radio. The BCS is planned to communicate with the forward observer and with elements of the MIFASS system using standard field radios/digital communications terminals. The BCS will also be interoperable with AN/TPQ-36 and PADS.

(c) The artillery battalions will start to receive the BCS during FY 87.

(4) M712 Copperhead, 155mm Cannon-launched Guided Projectile. The M712 is a laser-guided-indirect-fired cannon-launched guided projectile which enables the artillery unit to engage both stationary and moving hard point targets with a high degree of first-round kill probability. Designed to be fired from the M109 self-propelled and the M198 towed howitzers, Copperhead can also be fired from many other 155mm weapons, including NATO howitzers. It uses standard propellent charges and can be loaded and fired interchangeably with conventional rounds. Copperhead will be fielded in FY 86.

f. Combat Engineer Battalion. The functions and organizational structure of the Combat Engineer Battalion will be impacted to a significant extent from 1986-1995. There is a requirement for providing increased combat support capabilities in the area of mine warfare, as well as supporting more mobile infantry and mechanized units over a more widely dispersed battlefield with gap crossing, obstacle clearing, and preparation of hasty defensive positions. This trend is reflected in the introduction of the items of equipment and systems identified below.

(1) Portable Mine Neutralization System (POMINS). A need exists for combat engineers and infantry to counter antipersonnel mines and obstacles during the assault. POMINS is a two-man portable explosive linear demolition charge intended to breach antipersonnel mine fields and wire obstacles to provide a safe path approximately 2 feet wide and 100 feet long. The two sections are mounted on a backpack that serves as legs for proper elevation. The explosive line, which is towed across the obstacle by a small rocket motor, has grenades spaced evenly along its length, enhancing the explosive overpressure and providing shrapnel to increase the probability that tripwires and wire obstacles will be severed and mines damaged (if not exploded) sufficiently to render them inoperable. POMINS is a non-T/E item that will reach IOC in FY 90.

(2) Cleared Lane Marking System (CLAMS). CLAMS is a system capable of marking the centerline of a lane breached through barriers and obstacles by plows, rollers, explosive line charges, and other neutralization devices. It can be mounted on tanks as well as AAVs and LAVs with adaptive hardware. The system dispenses a chemiluminescent marker at intervals of 6, 12, 18, or 36 meters. The marker is visible in daylight, darkness, and under battlefield obscurants and acts as a guide through the breached lane for follow-on vehicles. The IOC for CLAMS is FY 88.

(3) Conventional Mine Laying System (CMLS). The current method of emplacing standard conventional antitank mines is entirely by hand. The CMLS basically consists of a wheeled chute, which trails behind an assault amphibian vehicle or 5-ton truck,

and mine racks installed on the vehicle from which the mines are individually fed. The IOC for CMLS is FY 88 and will also be located in the Engineer Support Battalion.

(4) The Combat Engineer Battalion will receive the Catapult Launched Fuel-Air Explosive System Assault Amphibian which will be described under the Assault Amphibian Battalion, and the Vehicle Magnetic Signature Duplicator which is described under the Tank Battalion.

(5) Towed Assault Bridge (TAB), Military Load Class (MLC) 70. The 12M TAB, produced in Israel, is a highly survivable, air transportable bridge specifically designed for the assault breach of Soviet-style antitank ditches and escarpments. It can be towed by a combat excavator, M88 tank retriever, AAV, 5-ton truck, and by the Mark 48/14 LVS. It is emplaced by the M60/M1 tank without exposure of personnel. This is a unilateral Marine Corps project; however, the basic TAB bridge structure is a nondevelopmental item. The IOC for TAB is FY 89.

(6) Trailer Launched Bridge (TLB) MLC, 70. The 24M TLB is being developed as an air transportable, trailer mounted, general-purpose bridge which can be employed by both the trailer launcher mechanism as well as the tank chassis of the U.S. Army's proposed heavy assault bridge . The TLB can be emplaced by combat excavator, LVS, or battle tank/retriever. The TLB launcher will be capable of employing the TLB and Armored Vehicle Launched Bridge (see Tank Battalion). The TLB IOC is FY 92. This is a unilateral Marine Corps project.

(7) Combat Excavator. The Marine Corps currently possesses no capability to rapidly place mechanized and nonmechanized elements of a MAGTF in protective positions, or nonexplosively create obstacles as part of a counter mobility plan in the forward area of the tactical zone. The U.S. Army has developed and typeclassified a lightly armored earthmover which can rapidly prepare protections and fighting positions for combat and tactical vehicles and personnel and command posts, as well as excavate antitank ditches. Called the M9 Armored Combat Earthmover (ACE), this vehicle appears to be the most likely candidate to fulfill Marine Corps combat support earthmoving requirements. It is anticipated that a reduction in other engineer equipment items and operators could be possible because of the versatility of the M9 ACE. The IOC, pending the results of operational testing and a procurement decision, would be FY 90. The AAVE-7A1 Mobility Enhancement Vehicle is a related project to develop an amphibious vehicle to breach or remove nonexplosive obstacles in the beach or surf area. It would not provide a sufficient earthmoving capability to fulfill the requirements of a combat earthmover because of the performance limitations posed by modifying an amphibious vehicle-designed hull with engineering equipment.

(8) Small Emplacement Excavator (SEE) Tractor. The SEE tractor is a high speed, all-wheel drive tractor capable of

speeds over 40 mph. It will replace the MC 580 Tractor. The SEE tractor will mount a standard front-end loader bucket and backhoe bucket. It will feature a hydraulic take-off position for the powering of an assortment of state-of-the-art hydraulic construction and hand tools. This is a joint Marine Corps/Army development program. The IOC for the SEE is FY 87.

g. Tank Battalion

(1) M1A1 Main Battle Tank (MBT)

(a) The M60A1, our current MBT, will reach its 15th year of service in the early 1990s. It will be replaced by the M1A1, which will represent the most advanced/survivable MBT available. Combat capabilities include increased armor protection, improved fire control, greater speed and agility, and increased firepower. The M1A1 MBT will be an improved version of the Army's M1, which is currently being fielded. The M1A1 will weigh 63 tons but will exert a 13.4 psi in ground pressure, and, like the M1, will be powered by a 1500 HP air-cooled regenerative turbine engine. Improvements over the M1 include the 120mm stabilized cannon, improved armor, and NBC protection. The Marine Corps version will include a water fording kit, side tie downs, and an external infantry phone.

(b) The M1A1 will begin to replace the current M60A1 inventory around FY 90 with a total buy of 560 tanks. The number of tanks in the tank platoons of each tank battalion will be reduced from 5 to 4 tanks with the M1A1. An overall net manpower savings of 140 Marines is envisioned due to the reduction in crew members and overall combat capabilities of the M1A1 over the M60A1. There will be an increase in maintenance personnel requirements due to the higher degree of sophistication of the M1A1 and the need to maintain a higher level of repair parts at the organizational level. Initial training for maintenance of the sophisticated fire control systems will be facilitated through contractor material fielding teams. Formal instructional training will be conducted at Fort Knox.

(2) Armored Vehicle Launched Bridge (AVLB). The AVLB gives the Marine Corps the ability to rapidly span both wet and dry gaps of up to 60 feet. It is carried and launched from the chassis of a tank, and the crew can emplace the bridge within 5 minutes and retrieve the bridge in 10 minutes while "buttoned up" inside the launch vehicle. The span is capable of supporting vehicles and is operational in temperature ranges between -25 degrees and 125 degrees Farenheit. The IOC for the AVLB is FY 89.

(3) M60 Track Width Mine Plow. The Track Width Mine Plow can be rapidly attached to a tank and clear land mines and other explosive devices from the path of the vehicle by plowing the devices to the sides. The plow can extract or remove any device which is laying on the surface or buried under up to 4 inches of soil. The system can neutralize 90 percent of all mines

encountered regardless of the fuzing actions and can be operated from inside the vehicle in all tank-trafficable terrain and climatic conditions. The IOC is FY 87.

(4) Vehicle Magnetic Signature Duplicator (VEMASID). VEMASID projects an electromagnetic signal ahead of the host vehicle to activate magnetic influence-fuzed landmines harmlessly in front of the vehicle. The system consists of a wave-forming generator, an electromagnetic coil and its protective armor, and the interconnecting harness for obtaining electric power from the parent vehicle. This hardware system can be adapted to all military vehicles that have adequate electric power. The IOC for VEMASID is FY 90.

h. Assault Amphibian Battalion

(1) AAV-7A1 Product Improvement Program (PIP). The AAV-7A1 PIP will increase the survivability, supportability, and combat capabilities for the family of assault/amphibian vehicles (personnel carrier, recovery, command). The program will evaluate the areas of firepower, armor, waterborne mobility, fire suppression, communications, obstacle clearing, and NBC protection to identify deficiencies and seek improvements. By incorporating an up-gunned .50 caliber 40mm machine gun weapons station and adding crew-installed applique armor, a bow-flap, and an improved NBC collective protection system, the combat capabilities and battlefield survivability of the AAV-7A1 will be greatly enhanced. The individual IOCs for these improvements vary but most will occur during the FY 87-88 period. A feasibility study has been initiated for the development of an AAV-7E1 Mobility Enhancement Vehicle designed to remove or breach nonexplosive obstacles in the beach area.

The program to develop an experimental tracked landing vehicle to be called the LVT(X) as a follow-on to the current one was cancelled by the Secretary of the Navy. The LVT(X) program overlapped to an unacceptable degree with the Service Life Extension Program (SLEP) and the PIP for the AAV-7A1. The SLEP/PIP effort will permit the use of the AAV-7A1 family of vehicles until the year 2000. Accordingly, development of the follow-on vehicle, an advanced assault amphibian vehicle, will begin around FY 91.

(2) Stratified Charge Rotary Engine (SCRE). This is a diesel engine with advantages that include increased power density; reduced mission fuel burn; wider fuel tolerance; improved power/response; environmental tolerance, reliability, availability, maintainability, and durability; and reduced life-cycle costs. The engine will satisfy multiservice needs such as shipboard generator sets, amphibious/land tracked vehicles, and fighting/tactical vehicles. The IOC for the SCRE system is dependent upon the host vehicle and has yet to be determined.

(3) Catapult Launched Fuel Air Explosive (CATFAE) Mine Countermeasures System. The CATFAE Mine Countermeasures System

will provide Marine landing forces with an on-the-move rapid response and mine countermeasures capability to breach enemy minefields from the surf zone to inland areas, in direct support of amphibious assault and subsequent operations ashore. The basic CATFAE system will be modular and consist of launcher, fire control, and rounded subsystems. No major permanent modifications to the AAV-7A1 will be made. The fuze in the round will have an extendable probe to sense impact and provide optimum cloud dispersion height above land and water surfaces. The fuze will be capable of operating on all surfaces. The IOC for the CATFAE system is FY 91.

(4) Tactical Fuel Subsystem. In order to extend the range of AAVs and LAVs operating as maneuver elements of the mechanized Combined Arms Task Force, two improved 500 gallon collapsible fabric-type petroleum drums with electric pump, hose, couplings, and meter will be assembled as fuel kits for the AAV-7A1. A one drum kit will be assembled for use with the LAV logistics variant. The IOC for this system is FY 89.

i. Light Armored Vehicle Battalion. The full operational capabilities of LAV Battalion will be realized by 1991 with the phase in of mission role variants of the LAV-25. The LAV variants are the LAV Logistics, the LAV Antitank, the LAV Mortar, the LAV Maintenance/Recovery, the LAV Command and Control, the LAV Air Defense, and the LAV Assault Gun. These mission-role vehicles will provide a fully integrated combined arms unit possessing significant firepower and tactical mobility for the commander. The assault gun variant is particularly important since the Marine Corps has terminated participation in the mobile protected gun system program. Candidates for the assault gun system are the Aries 75mm automatic cannon, a hypervelocity missile system, and an improved version of the TOW missile that incorporates a SMAW-type warhead. A preprototype air defense variant consisting of a GAU-12 25mm Gatling gun, a pod of four Stinger missiles, and a forward-looking infrared acquisition device coordinated by a ballistic computer has been tested. There are as many as 8 - 10 air defense weapons systems being considered at this time. Missile systems being reviewed include Stinger, improved Chaparrel, Saber (a missile pod with 3 to 6 hypervelocity missiles and four Stingers), Reaper, Roland, air defense antitank system and a surface-launched medium range antiair missiles. Gun candidates include the GAU-12 25mm Gatling gun, the GAU-13 30mm Gatling gun, the 20mm Phalanx gun, and the 20mm Vulcan gun. The IOCs of the variants are:

- LAV Maintenance/Recovery - FY 86
- LAV Antitank - FY 86
- LAV Mortar - FY 86
- LAV Command and Control - FY 87
- LAV Air Defense - FY 91
- LAV Assault Gun - FY 91

j. Reconnaissance Battalion. The organizational structure and mission of the Reconnaissance Battalion will essentially remain

the same during the period 1986-1995, but its mission capability will be materially enhanced with addition of the following equipment.

(1) Military Free Fall/High Altitude Low Opening (HALO) Parachute. The HALO system consists of a 21' by 12' ram-air, high-glide-ratio canopy parachute and equipment. It provides a reconnaissance team with offset insertion capability. The IOC for the parachute is FY 86, and a 1-week maintenance school or attendance at the U.S. Army's Free Fall School will be required of all users.

(2) Inflatable Boat System (IBS). The IBS is a seven - man capacity inflatable boat that will enable Marine reconnaissance personnel to effectively perform their missions when they are launched/recovered at distances of up to 20 miles from the landing area. A dual automatic/manual inflation system and compartmentalized flotation tubes will minimize the effects of battle damage. A silenced propulsion outboard motor has already been developed to complement the IBS. The IOC for the IBS is FY 88.

(3) Small Unit Navigation System (SUNS). SUNS is a system like PLRS, but without the master station. The system will allow for accurate reconnaissance team navigation and positional location and will also be used in the force reconnaissance companies. The IOC for the unit is FY 89, and, although the maintenance concept is unclear at this time, SUNS will not require additional personnel once it is introduced.

(4) Acoustic Detection System (ADS). ADS is an individual system that uses passive receivers that cannot be jammed. This will provide Marines on patrol or in observation/listening posts with the capability to detect and identify enemy sounds. The sounds can be heard at significantly increased distances over that of unaided hearing through the sonic, ultrasonic, and infrasonic frequency ranges. The system will also go to force reconnaissance companies. The maintenance concept is unclear at this time, but no new operator military occupational specialties will be required. The Marines in the reconnaissance units will learn the system through on-the-job training. This system also has application to engineer units. ADS will be introduced in FY 89.

k. Summary. Figures 2-15 and 2-16 each represent a matrix showing the developments entering the Marine division during the 1986-1995 period along with their IOCs. Some of the equipment items shown in these figures are more properly described elsewhere within LFOSS.

	MAR DIV	HQ BN	INF REGT	INF BN	ARTY REGT	ARTY BN	CBT ENGR BN	RECON BN	TANK BN	ASLT AMPH BN	LAV BN	IOC
PLRS		●	●	●	●	●	●	●	●	●	●	87
MIFASS	●		●	●	●	●						91
TACTICAL COMBAT OPERATIONS SYSTEM	●		●	●	●	●	●	●	●	●		93
NAVSTAR GPS												89
PERSONAL DEFENSE WEAPON		●	●	●	●	●	●	●	●	●	●	8[illegible]
INDIVIDUAL SHELTER SYSTEM		●	●	●	●	●	●	●	●	●	●	89
MULTIPURPOSE HELMET		●				●			●	●	●	89
CHEMICAL AGENT MONITOR		●	●	●	●	●	●	●	●	●	●	8[illegible]
NBC PROTECTIVE MASK		●	●	●	●	●	●	●	●	●	●	88
LTWT DECON SYSTEM							●					89
PORT. DECON. APPARATUS M13		●	●	●	●	●	●	●	●	●	●	87
LBSK AN/PPS-15		●										90
FORWARD PASS/IRSS		●										89
FAMILY OF SOFT SHELTERS		●	●	●	●	●	●	●	●	●	●	90
REMOTELY PILOTED VEHICLE	●											89
MOTORCYCLE		●	●		●			●			●	8[illegible]
MK-19 40MM MG				●								8[illegible]
IMP. 81MM MORTAR				●								87
84MM AT-4 LAW				●								87
SMAW HEAA RD.				●								89
IMP. DRAGON WARHEAD				●								87
60MM MORTAR MUNITIONS				●								87
M16A2 XM-4 CARBINE				●								87
SLAP (50/7.62 CAL)				●		●						88
MULE				●	●	●		●			●	86
RADAR AN/TPQ-36					●							86
PADS					●	●						86
MDS AN/TMQ-51					●							87
TOPOGRAPHIC SURVEY SET												88
GSRS						●						91
BATTERY COMPUTER SYSTEM						●						87
M712 COPPERHEAD						●						86

Figure 2-15 -- Weapons and Equipment, Marine Division (1986-1995)

	MAR DIV	HQ BN	INF REGT	INF BN	ARTY REGT	ARTY BN	CBT ENGR BN	RECON BN	TANK BN	ASLT AMPH BN	LAV BN	IOC
POMINS				●			●					90
CLAMS							●		●	●	●	88
CMLS							●			●		88
CATFAE							●			●		91
TOWED ASSAULT BRIDGE							●					89
TRAILER LAUNCHED BRIDGE							●					92
COMBAT EXCAVATOR							●					9[illegible]
TRAM							●					89
EBFL							●					90
SEE TRACTOR							●					87
M1A1 MAIN BATTLE TANK									●			90
AVLB									●			89
M60 MINE PLOW									●			87
VEMASID						●			●	●	●	90
AAV-7A1 PRODUCT IMPROVEMENTS										●		87-88
SCKE										●	●	TBD
TACTICAL FUEL SUBSYSTEM										●	●	89
1200 GPH ROWPU							●					90
LAV VARIANTS											●	86-91
HALO PARACHUTE								●				88
INFLATABLE BOAT, SMALL								●				86
SUNS								●				89
ACOUSTIC DETECTION SYSTEM		●						●				89
ELECTRONIC MAINTENANCE COMPLEX		●			●						●	87
MCESS		●			●				●	●		87
QUADCON/PALCON		●	●	●	●	●	●	●	●	●		86
SIXCON (WATER)		●			●	●	●	●	●	●		86
SIXCON (FUEL)		●			●	●	●		●	●		87

Figure 2-16 -- Weapons and Equipment, Marine Division (1986-1995)

SECTION 3A
MARINE AIRCRAFT WING
1986 BASELINE

301. PRIMARY MISSION

The primary mission of Marine Corps Aviation is to participate as the supporting air component of the FMF in the seizure and defense of advanced naval bases and to conduct such land operations as may be essential for the prosecution of a naval campaign. A collateral mission is participation as an integral component of naval aviation in the execution of such other Navy functions as the Fleet Commanders so direct.

302. CONCEPT OF EMPLOYMENT

The air support of an amphibious operation includes all air operations conducted to fulfill the air requirements of the forces assigned to the Amphibious Task Force (ATF). The tasks assigned to landing force aviation are designed to support the overall mission of the ATF. Operational control of tactical aviation units can shift from the Fleet Commander during support operations, to the Advanced Force Commander during preassault operations, to the Commander Amphibious Task Force (CATF) during assault operations and Commander Landing Force (CLF) when he assumes command and control ashore. The concept calls for control of air to be passed to the CLF as soon as practicable so that the Marine aviation element can continue its role as a part of the Marine air-ground team.

303. FUNCTIONS

The Marine aviation mission is comprised of a wide range of operational tasks categorized under six functional areas.

a. Offensive Air Support. Air operations that actually deliver firepower against enemy ground forces for the destruction or neutralization of installations, equipment, and personnel. Offensive air support missions are classified according to the degree of coordination required with ground elements. The two mission categories are close air support and deep air support.

(1) Close Air Support. Air attacks against hostile targets that are in close proximity to friendly forces and require detailed integration of each mission with the fire and maneuver of these units.

(2) Deep Air Support. Air action against enemy targets at such distances from friendly forces that detailed integration of each mission with the fire and movement of friendly forces is not required. Deep air support missions are normally flown beyond the fire support coordination line (FSCL), but by definition the lack of a requirement for close coordination with the fire and maneuver

of friendly forces is the qualifying factor. Air interdiction and armed reconnaissance are deep air support tasks.

Air strikes against hostile targets that are at such distances from friendly units as to require no coordination with the fire and movement of those units; deep air support connotes delivery of firepower beyond the fire support coordination line to destroy, neutralize, or delay enemy ground forces before they can be brought to bear effectively against friendly forces.

b. Antiair Warfare. Actions required to destroy or reduce to an acceptable level the enemy air and missile threat. Antiair warfare includes the use of interceptors, bombers, antiaircraft guns, surface-to-air missiles and air-to-air missiles, electronic countermeasures, and destruction of the air or missile threat both before and after it is launched. Other measures taken to minimize the effects of hostile air action are: cover, concealment, dispersion, and deception (including electronic and mobility). The primary purpose of antiair warfare is to gain and maintain air superiority. Marine Corps antiair warfare (AAW) operations are classified as air defense and offensive antiair warfare.

(1) Air Defense. All defensive measures, active and passive, designed to destroy attacking enemy aircraft or missiles or to nullify or reduce the effectiveness of such attacks. Active air defense involves the use of aircraft missiles, air defense artillery, non-air defense weapons, and electronic counter- and counter-countermeasures. Passive air defense is a responsibility of every Marine unit and consists of concealment, deception, and protective construction.

(2) Offensive Antiair Warfare. Combat operations conducted against the enemy air/missile threat or air defense system before it can be launched or assume an attacking role. Offensive antiair warfare operations in or near the objective area consist mainly of air attacks to destroy or neutralize hostile aircraft, airfields, radars, missile sites, mobile surface-to-air missiles, air defense systems, and supporting areas.

c. Assault Support. Actions required for the airlift of personnel, supplies, and equipment into or within the battle area by helicopters or fixed-wing aircraft. Assault support includes fixed-wing transport, inflight refueling, and helicopterborne operations. These operations may be tactical, administrative, or logistical in nature. The four categories of assault support are vertical assault aircraft, air delivery, inflight refueling, and air evacuation.

(1) Vertical Assault Airlift. The use of assault aircraft to provide tactical mobility and logistical support for the ground combat elements.

(2) Air Delivery. The use of fixed-wing tactical transports to move high-priority cargo and personnel within the immediate area of operations.

(3) Inflight Refueling. The use of aerial tanker-configured aircraft to provide refueling service to fixed-wing or helicopter aircraft in flight.

(4) Air Evacuation. Casualty and medical evacuation of personnel and cargo by fixed-wing and helicopter aircraft.

d. Air Reconnaissance. The acquisition of intelligence information employing visual observation and/or sensors in air vehicles. Marine air reconnaissance includes the employment of photographic, electronic, and visual reconnaissance/surveillance to fulfill the specific and immediate requirement of the landing forces.

(1) Multisensor Imagery Reconnaissance. The obtaining of information by air photography either by using handheld cameras from observation aircraft or jet multisensor imaging aircraft equipment with photographic, side-looking airborne radar and infrared imagery means.

(2) Electronic Reconnaissance. The detection, identification, evaluation, and location of foreign electromagnetic radiations (emanating from other than nuclear detonations or radioactive sources), thereby providing up-to-date electronic order of battle information.

(3) Visual Reconnaissance. A mission undertaken to obtain, by visual observation, information about the activities and resources of an enemy or potential enemy; a task performed by all pilots and aircrew personnel. Included in the visual category is the use of aircraft for tactical air observers, artillery and naval gunfire spotters, and ground unit personnel conducting battlefield surveillance.

e. Control of Aircraft and Missiles. The capability of Marine aviation to exercise authority over, and maintain direction of, air support elements during the conduct of operations.

(1) Personnel of the Marine Air Command and Control System (MACCS) use organic radars, radios, and tactical data systems to coordinate and control the aviation combat element of the Marine air-ground team.

(2) All friendly aircraft within the amphibious objective area are controlled and coordinated in the performance of their tasks. Surface-to-air missiles are closely integrated into the air defense system.

(3) Airspace surveillance for detection of hostile aircraft and missiles and airspace control services for altitude separation of friendly aircraft are provided.

f. Electronic Warfare. The military action involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum and action which relates friendly use of this spectrum. There are three categories of electronic warfare.

(1) Electronic Warfare Support Measures. Actions taken to search for, intercept, locate, and immediately identify radiated electromagnetic energy for the purpose of immediate threat recognition and/or reaction.

(2) Electronic Countermeasures. Actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum.

(3) Electronic Counter-Countermeasures. Actions taken to retain effective, friendly use of the electromagnetic spectrum despite the enemy's use of electronic countermeasures.

304. LOGISTIC CAPABILITIES

Marine aviation is capable of operating air facilities; maintaining, servicing, and arming assigned aircraft; and storing and handling supplies at the airfields. Construction and repair of operating facilities and distribution of aviation fuel and ordnance from ships to the airbases are logistic operations beyond the capabilities of Marine aviation and require external support.

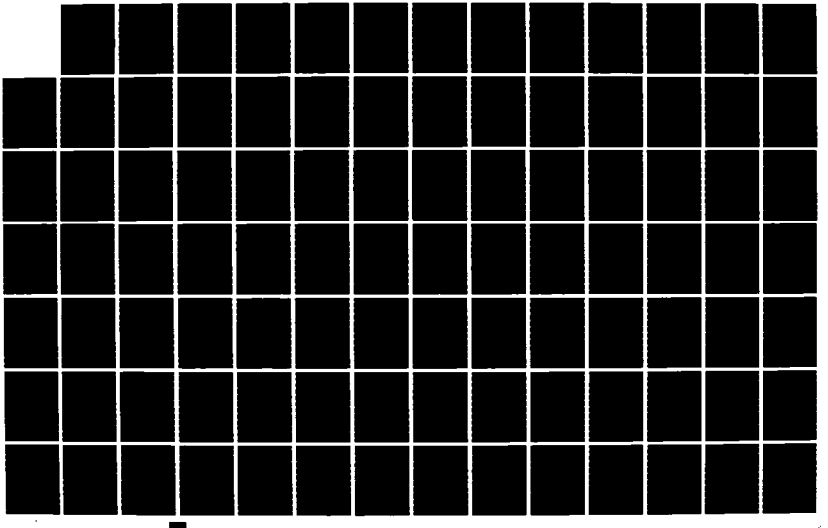
305. WING ORGANIZATION

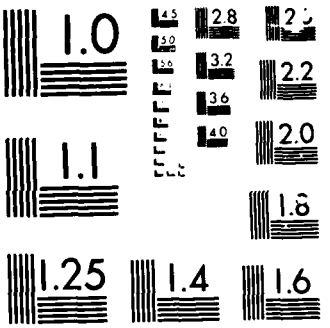
a. Task Organized Wing. FMF aviation works operationally with the Marine divisions and the FSSG with one MAW for each of the divisions and FSSGs. The subordinate units of the MAWs are Marine Aircraft Groups (MAGs), squadrons, Light Antiaircraft Missile (LAAM) Battalions, and Forward Area Air Defense (FAAD) Batteries. The wings and groups are not organized according to standard tables of organization with established types and quantities of aircraft. The missions assigned to the MAWs and MAGs determine the task organized mix of aircraft and squadrons. Regardless, each MAW is capable of performing all the six functions of Marine aviation. The individual squadrons, the LAAM battalions, and the FAAD batteries do have tables of organization.

b. Marine Aircraft Wing. The MAW is task organized to provide a flexible and balanced air combat organization capable of providing the full range of combat air operations in a variety of areas without the requirement of prepositioned support, control, and logistic facilities. The MAW is the smallest unit with the inherent capability to perform the six functions of Marine aviation. To provide this capability, the MAW is composed of the

AD-A165 268 US MARINE CORPS LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)(U) CACI INC-FEDERAL ARLINGTON VA D R LEISTEN DEC 85 M00027-84-D-0037 3/5

UNCLASSIFIED F/G 15/7 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.8
3.2
3.6
4.0

subordinate units depicted in Figure 3-1. Aviation units smaller than a MAW can be provided with capabilities to accomplish any or all of the aviation functions by task organization. The aviation element of a MAB, which is normally a MAG, is an example of tailoring an organization to accomplish the mission.

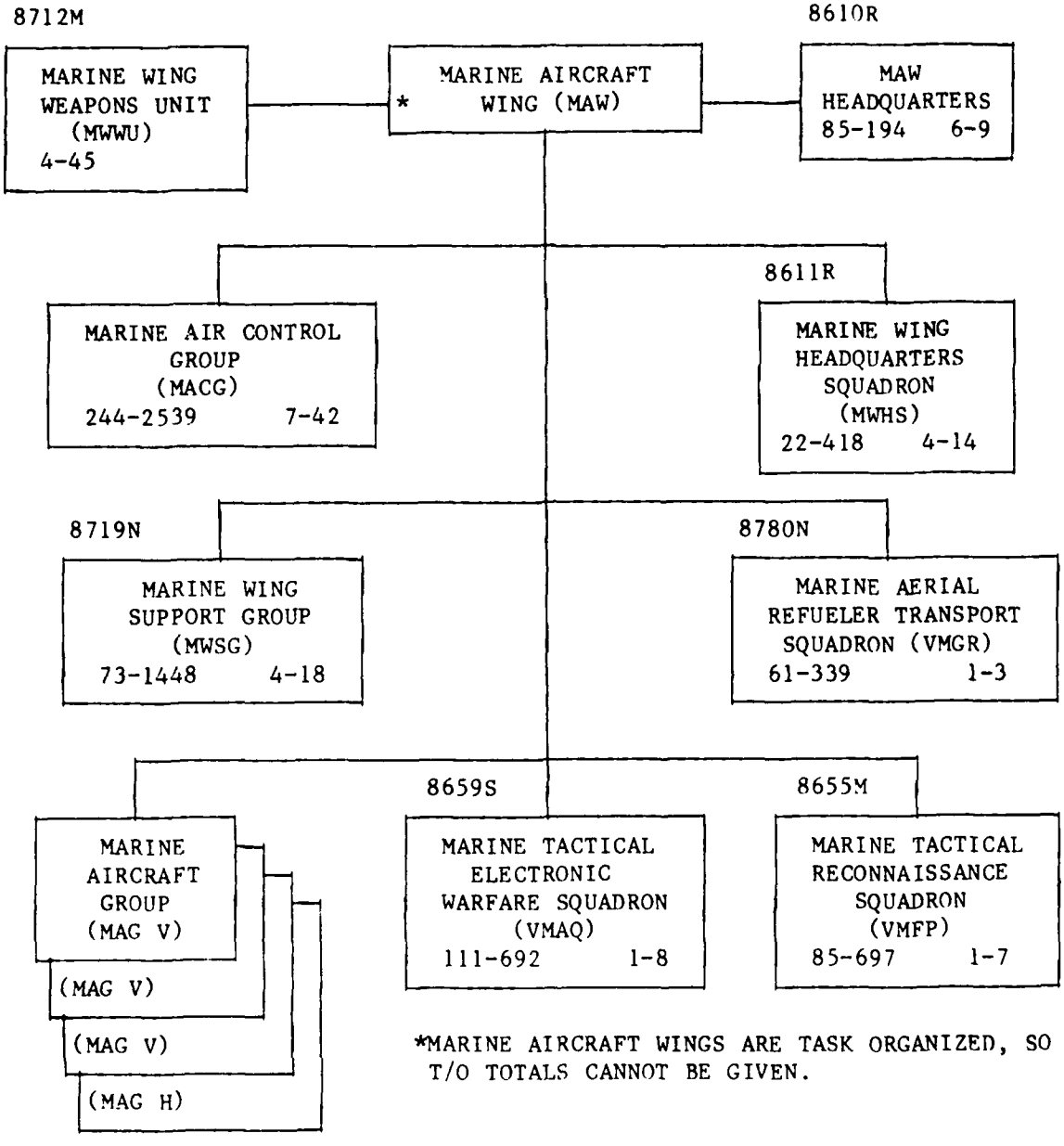


Figure 3-1 -- Marine Aircraft Wing

(1) Marine Aircraft Wing Headquarters

(a) Mission. To direct and coordinate the operations of the MAW.

(b) Administrative Capability. Not capable of self-administration.

(c) Logistic Capabilities. Not capable of logistic support.

(2) Marine Wing Weapons Unit (MWWU)

(a) Mission. To provide support for the MAW in accordance with the missions and tasks promulgated in MCO 5440.2F.

(b) Administrative Capability. Not capable of self-administration.

(c) Logistic Capabilities. Capable of organizational maintenance (1st echelon) on all assigned equipment. All other logistic support will be provided by the command to which attached or its supporting agencies.

(d) The major items of equipment are shown below.

MARINE WING WEAPONS UNIT

Pistol, Automatic, Cal .45, M1911A1	10
Rifle, 5.56mm, M16A2	39
Shotgun, 12 Gauge, M870/MK1	6

(3) Marine Wing Headquarters Squadron (MWHS)

(a) Mission. To provide command, administrative, and supply support for a Marine Wing Headquarters and certain elements of the Marine Air Control Group (MACG).

(b) Tasks

1 Provide camp facilities and services, including food service, for all elements of the MWHS and for the Headquarters and Headquarters Squadron (H&HS) and Marine Wing Communication Squadron (MWCS) of the MACG.

2 Maintain the capability of deploying as an integral unit when augmented with maintenance support personnel.

3 Provide detachments for supported units as required.

4 Provide for internal security of the MAW headquarters.

(c) Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of the MAW in support of the units mentioned above.

(d) Concept of Employment. Provides support for Wing Headquarters and certain elements of the MACG.

(e) Administrative Capability. Capable of self-administration.

(f) Logistic Capabilities

1 Maintenance. Organizational maintenance (2d echelon) support on motor transport and engineer equipment is provided by Headquarters Squadron, MWSG. Intermediate maintenance is provided by elements of the FSSG. Communications support is provided by the Marine Wing Communications Squadron (MWCS).

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on organic infantry weapons. Capable of performing organizational maintenance on assigned aircraft.

b Support. None.

2 Supply. Capable of supply and fiscal functions required for squadron operations.

3 Medical. Capable of providing routine and emergency medical support for all elements of the Wing headquarters.

4 Transportation. Possesses sufficient motor transport equipment for routine squadron operations.

5 Messing. Provides food service support for all elements of the Wing headquarters and H&HS and MWCS of the MACG.

(g) The major items of equipment are shown below.

MARINE WING HEADQUARTERS SQUADRON

Machine Gun, 7.62mm, M60	12
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	81
Revolver, Cal.38, 4-inch Barrel	12
Revolver, Cal.38, 2-inch Barrel, M10	3
Rifle, 5.56mm, M16A2	288
Radiac Set, AN/PDR-56G	2
Shotgun, 12 Gauge, M870/MK1	25
Truck, Ambulance, 1-1/4T, M1010	1
Truck, Cargo, 5T, M923	1

(4) Marine Air Control Group (MACG). The mission of the MACG is to provide, operate, and maintain the MACCS. The MACG

consists of subordinate units which provide the major facilities of the MACCS. The MACG normally consists of an H&HS, a Marine Air Support Squadron, one or two Marine Air Control Squadrons, a Marine Air Traffic Control Squadron, a FAAD battery, and a LAAM battalion. (See Figure 3-2.)

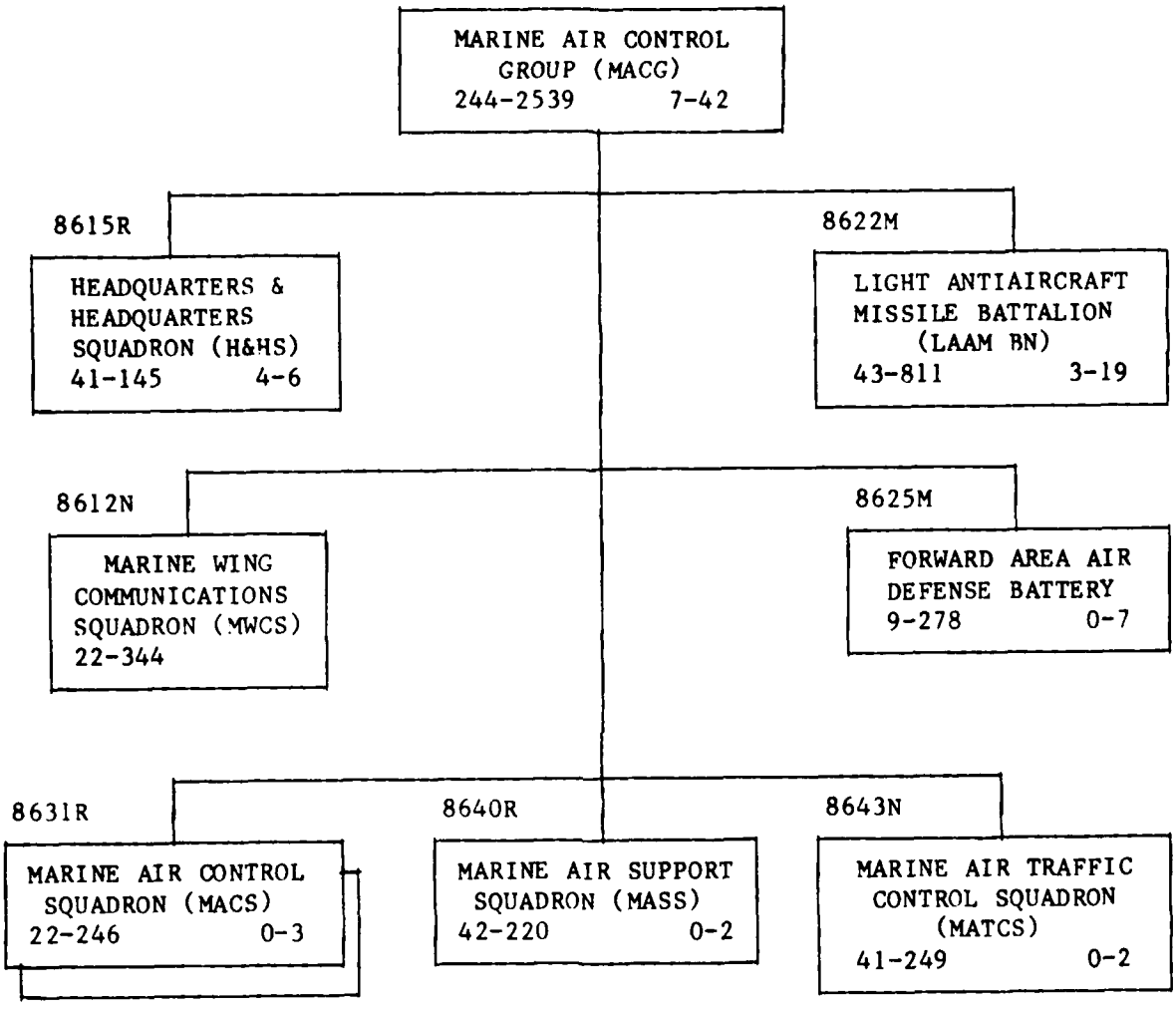


Figure 3-2 -- Marine Air Control Group

(a) Headquarters and Headquarters Squadron (H&HS)

1 Mission. Headquarters, MACG will coordinate air command and control of the MAW. H&HS will provide equipment, maintenance, and operations for the Tactical Air Control Center (TACC) and administrative support for the Headquarters, MACG.

2 Tasks

a Headquarters, MACG

(1) Plan and coordinate the operations of the MACCS.

(2) Advise the Tactical Air Commander on applicable matters pertaining to the employment of MACCS agencies.

(3) Maintain the capability for deploying independent units.

b TACC Division

(1) Provide equipment and maintenance to support the TACC.

(2) Provide personnel to perform air control and coordination functions.

c Headquarters Squadron. Provide for administrative, logistics, and maintenance support of the H&HS.

3 Concept of Organization. The H&HS is organized to provide varying levels of capability depending upon the task organization of the MAGTF employed. The H&HS will function as a subordinate unit of the MAW while the TACC will function in the command, control, and coordination of the aviation command element in support of the MAGTF.

4 Concept of Employment

a The H&HS contains the headquarters of the MACG, which may deploy as a separate organization when assigned as the aviation combat element headquarters nucleus or in a MAF or larger MAGTF. In a MAB or smaller MAGTF, the MACG will normally augment the assigned aviation combat element headquarters.

b The TACC Division is organized to provide for the TACC real time air operations and provide equipment and support for the entire physical TACC complex. The TACC requires augmentation from the MWHS to provide the planning and support personnel (G-2, G-3, G-4, and CEO) for TACC operations.

c The Headquarters Squadron provides the indicated support functions as task organized for combat operations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on organic infantry weapons. Capable of organizational (2d echelon) maintenance of assigned motor transport, engineering, and communications equipment. Capable of intermediate (3d echelon) maintenance on mobile electric power generators and refrigeration/air conditioning equipment organic to the squadron. Capable of intermediate (3d echelon) maintenance on all aviation peculiar communication and electronics equipment assigned to the squadron. Capable of intermediate (4th echelon) maintenance of components of the TACC.

(2) Support. None.

b Supply. Capable of performing supply and fiscal functions required for squadron operations. Capable of managing a secondary repairable float for Wing aviation peculiar ground electronic equipment and TACC equipment assigned to the squadron.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. Possesses sufficient motor transport equipment for routine squadron operations.

e Messing. None. Food service support is provided by the MWHS.

7 The major items of equipment are shown below.

HEADQUARTERS AND HEADQUARTERS SQUADRON, MACG

Chassis, Trailer, GP, 3-1/2T, M353	9
Pistol, Automatic, Cal .45, M1911A1	82
Radio Set, AN/GRC-135A	4
Rifle, 5.56mm, M16A2	104
Revolver, Cal.38	5
Shop, Electronic, AN/GRM-98B	12
Shelter, Electronics Maint. Spt., AN/GRM-86X	4
Shotgun, 12 Gauge, M870/MK1	9
Truck, Ambulance, 1-1/4T, M1010	1
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	4
Truck, Cargo, 1-1/2T, M1008	4
Truck, Cargo, 5T, 6x6, M923	6
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	8
Truck, Utility, Cargo/Troop Carrier, M998	8

(b) Marine Air Support Squadron (MASS)

1 Mission. Provide facilities for the control of aircraft operating in close or direct support of FMF operations.

2 Tasks

a Establish and operate a Direct Air Support Center (DASC) to receive and coordinate requests for air support.

b Provide three Air Support Radar Teams to operate and maintain facilities for electronic control of close and direct air support operations.

c Provide facilities for operation of the Helicopter Direction Center.

d Maintain the capability to accomplish mission in a situation requiring displacement in echelon.

e Provide 4th echelon maintenance of Marine Corps-furnished radar equipment and aviation peculiar communication and electronics material items and perform 3d echelon maintenance of other communication and electronics items and generators, less single sideband.

f Provide 2d echelon maintenance for organic motor transport equipment.

3 Concept of Organization. Typically under the command and control of the Wing commander or an officer designated by him.

4 Concept of Employment. Support the FMF units by electronic control of aircraft in close and/or direct support of amphibious operations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on organic motor transport equipment and infantry weapons. Capable of intermediate (3d echelon) maintenance on organic mobile electric power generators and refrigeration/air conditioning equipment and on ground common communications and electronic items, less single sideband equipment. Capable of performing intermediate (4th

echelon) maintenance on Marine Corps-furnished radar and aviation peculiar communications and electronics equipment.

(2) Support. None.

b Supply. Capable of providing organic supply support.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. Possesses sufficient motor transport equipment to provide for routine transportation requirements of the squadron.

e Messing. Capable of providing organic food service support.

7 The major items of equipment are shown below.

MARINE AIR SUPPORT SQUADRON, MACG

Airborne Mobile Direct Air Support Control, AN/UYQ-3A(V)2	2
Chassis, Trailer, GP, 3-1/2T, M353	20
Machine Gun, Cal.50, M2	3
Machine Gun, 7.62mm, M60	6
Pistol, Automatic, Cal .45, M1911A1	91
Radio Set, AN/GRC-193	6
Radio Terminal, AN/GRC-171A(V)	6
Radio Set, AN/GRC-135A	7
Rifle, 5.56mm, M16A2	171
Radio Set, AN/VRC-85	3
Radar Set (LBSR), AN/PPS-15(V)2	3
Radiac Set AN/PDR-56G	1
Radio Set, Control Group, AN/GRA-39B	29
Radio Set, AN/GRC-160	6
Radio Set, AN/MRC-138	3
Radio Set, AN/MRC-110	1
Radio Set, AN/PRC-77	8
Radio Set, AN/PRC-75B	4
Radio Set, AN/PRC-104	8
Radio Set, AN/VRC-47	2
Shop, Electronic, AN/GRM-98B	1
Survey Set, Field Arty Bn	1
Shop, Electronic, AN/GRM-94	2
Shelter, Electronics Maint. Spt., AN/GRM-86X	2
Switchboard, Telephone, Manual, SB-22A/PT	1
Shotgun, 12 Gauge, M870/MK1	7
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Truck, Ambulance, 1-1/4T, M886	1
Truck, Ambulance, 1-1/4T, M1010	1
Telephone Set, TA-838/TT	10

Terminal, Telephone-Telegraph, TH-85A/GCC	2
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Flatbed, 3/4T, M762	4
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	5
Truck, Cargo, 1-1/4T, 4x4T, M880	2
Truck, Cargo, 1-1/4T, M1008	2
Truck, Cargo, 5T, 6x6, M923	16
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Wrecker, 5T, 6x6, M936	1
Truck, Utility, Cargo/Troop Carrier, M998	10

(c) Marine Air Control Squadron (MACS)

1 Mission. Provide air surveillance and control of aircraft and surface-to-air missiles for antiair warfare in support of the FMF.

2 Tasks

a Install and operate a Tactical Air Operations Center (TAOC) with the necessary electronics and communication equipment required for the detection, identification, and control of aircraft and surface-to-air missiles.

b Perform air intercepts by directing fighter aircraft. Maintain a capability to coordinate and pass information laterally and to higher echelons.

c Provide enroute air traffic control for friendly aircraft.

d Maintain the capability to deploy and operate as an integral unit.

e Be prepared to operate as an alternate Tactical Air Control Center as directed.

3 Concept of Organization. The organization will normally function as an integral unit. It is structured to operate as a subordinate unit of the MAW in support of the units mentioned above.

4 Concept of Employment. Coordinates the electronic and communication effort required for detection, identification, and control of aircraft and surface-to-air missiles. Perform air intercepts by directing fighter aircraft. Provides enroute air traffic control in support of units of the MACG.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st and 2d echelons) maintenance on all organic equipment. Capable of performing intermediate (3d echelon) maintenance on assigned mobile electric power generator sets, refrigeration/air conditioning equipment, and communication and electronics equipment. Capable of performing intermediate (4th echelon) maintenance on assigned aviation peculiar communication and electronics equipment.

(2) Support. None.

b Supply. Capable of providing organic supply support.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. Possesses sufficient organic motor transport equipment to satisfy the routine transportation requirements of the squadron.

e Messing. Capable of providing organic food service support.

7 The major items of equipment are shown below.

MARINE AIR CONTROL SQUADRON, MACG

Communication Central, UHF, AN/TYA-11	2
Communication Group-TADC, AN/TYA-12	1
Central Computer Group, AN/TYA-5 TA0C	1
Control, Communications Central Group, C-8019/TYA-11	1
Chassis, Trailer, GP, 3-1/2T, M353	27
Decoder Group, AN/UPA-60(V)Z	15
Decontamination Apparatus, M12A1	1
Interrogator Set, AN/UPX-27	5
Maintenance Transport Group, AN/TYA-24	1
Maintenance Group, AN/TYA-27	1
Machine Gun, 7.62mm, M60	6
Operations Group, AN/TYA-9A	4
Pistol, Automatic, Cal .45, M1911A1	71
Radar Set, AN/TPS-22D	1
Radar Set, AN/TPS-32	1
Radar Set, LT.Wt. ATC, AN/TPS-63	2

MARINE AIR CONTROL SQUADRON, MACG (Cont'd)

Radio Set, AN/GRC-193	7
Radar Processor Group, (3-D), AN/TYA-18	2
Radio Set, AN/GRC-135A	4
Rifle, 5.56mm, M16A2	196
Radio Terminal, AN/TRC-166	4
Radar Set (LBSR), AN/PPS-15(V)2	2
Radiac Set AN/PDR-56G	1
Radio Set, Control Group, AN/GRA-39B	28
Radio Set, AN/PRC-77	8
Radio Set, AN/PRC-104	8
Radio Terminal, AN/MRC-135	2
Receiving Set, AN/GRR-17	2
Revolver, Cal.38	1
Switchboard, Telephone, Manual SB-3082(V)2/GT	1
Supervisory, Oper Grp Altnt Tac Cmd Cntrl, AN/TYA-9B	1
Shop, Electronic, AN/GRM-98B	1
Shop, Electronic, AN/GRM-94	2
Shelter, Electronics Maint. Spt., AN/GRM-86X	7
Shotgun, 12 Gauge, M870/MK1	4
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Truck, Ambulance, 1-1/4T, M886	1
Truck, Ambulance, 1-1/4T, M1010	1
Telephone Set, TA-838/TT	10
Teletypewriter, AN/GGC-3A	1
Terminal, Telephone-Telegraph, TH-85A/GCC	9
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Flatbed, 3/4T, M762	5
Trailer, Cargo, 1-1/2T, M105A2	1
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Cargo, 1-1/4T, 4x4T, M880	5
Truck, Cargo, 1-1/4T, M1008	7
Truck, Cargo, 5T, 6x6, M923	6
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Utility, Cargo/Troop Carrier, M998	2

(d) Marine Wing Communications Squadron (MWCS)

1 Mission. Provide ground communications for the Wing headquarters and for the Wing Air Command and Control System.

2 Tasks

a Plan and provide for the required command communications for a Marine Wing headquarters during all phases of an amphibious operation and such other operations as may be directed.

b Provide communication (and related electrical power) support for the MWHS, MACG units, and other Wing units as directed.

c Provide required communications support and coordination for the MACCS components employed by the Tactical Air Commander.

d Be prepared to deploy relay and terminal teams in support of FMF operations.

e Provide communications center services for the MWHS and MAW headquarters to include processing, transmission, receipt, reproduction, and distribution of narrative, data, and magnetic tape messages.

f Augment subordinate group communication centers and establish and operate communication centers for MACG as required.

g Provide 2d and 3d echelon maintenance support for ground communication and electronics equipment to Wing units not capable of 2d or 3d echelon maintenance.

h Provide 3d echelon maintenance of single sideband equipment for the Wing, less MACS, and be capable of performing 4th echelon maintenance of ground critical low density end items, less MACCS peculiar equipment.

i Provide supply and fiscal functions required for management of maintenance float for critical low density ground equipment.

j Provide calibration and repair of Marine Corps electrical and electronic test and measuring equipment organic to Wing units.

3 Concept of Employment. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of the MAW in support of the units mentioned above.

4 Provide tactical communications for the Wing headquarters and Wing Air Command and Control System.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all organic equipment. Capable

of organizational (2d echelon) maintenance on assigned infantry weapons, motor transport, and engineer equipment. Capable of intermediate (3d echelon) maintenance on assigned communication and electronics equipment, mobile electric power equipment electrical systems, and air conditioning/refrigeration equipment. Capable of intermediate (4th echelon) maintenance on all critical low density ground communication and electronics equipment. Capable of calibration and repair of assigned electrical equipment.

(2) Support. Provides organizational (2d echelon) maintenance and intermediate (3d echelon) maintenance support on ground communication and electronics equipment for Wing units not capable of organizational (2d echelon) or intermediate (3d echelon) maintenance. Provides calibration support of Marine Corps-furnished electrical and electronic test and measuring equipment for all Wing units.

b Supply. Capable of performing supply and fiscal functions required for squadron operations and management of the secondary repairable float for critical low density ground communication and electronics equipment.

c Medical. None. Medical support is provided by H&HS, MACG.

d Transportation. Possesses sufficient motor transport for routine transportation requirements.

e Messing. None. Food service support is provided by MWHS.

7 The major items of equipment are shown below.

MARINE WING COMMUNICATIONS SQUADRON, MACG

Control Center, AN/TSQ-84	1
Chassis, Trailer, GP, 3-1/2T, M353	13
Pistol, Automatic, Cal .45, M1911A1	84
Radio Set, 12 Channel, AN/TRC-97C	14
Radio Set, AN/GRC-193	10
Rifle, 5.56mm, M16A2	280
Radio Set, AN/VRC-85	2
Radio Terminal, AN/TRC-166	8
Radar Set (LBSR), AN/PPS-15(V)2	2
Radiac Set AN/PDR-56G	3
Radio Set, Control Group, AN/GRA-39B	41
Radio Set, AN/GRC-160	6
Radio Set, AN/MRC-138	2
Radio Set, AN/MRC-110	5
Radio Set, AN/PRC-77	26
Radio Set, AN/PRC-104	8
Radio Set, AN/VRC-47	2
Radio Terminal, AN/MRC-135	10

Receiving Set, AN/GRR-17	4
Semi-Trailer, Van, 6T, M313	1
Switchboard, Telephone, Manual SB-3082(V)2/GT	5
Shelter, Electronics Maint. Spt., AN/GRM-86X	4
Switchboard, Telephone, Manual, SB-22A/PT	2
Shotgun, 12 Gauge, M870/MK1	8
Switchboard, Telephone, Automatic, SB-3614(V)TT	2
Truck, Shelter Carrier, M1028	28
Truck, Cargo, 1-1/4T, M561	14
Telephone Set, TA-838/TT	120
Teletypewriter, AN/GGC-3A	6
Terminal, Telephone-Telegraph, TH-85A/GCC	17
Trailer, Flatbed, 3/4T, M762	25
Truck, Cargo, 1-1/4T, 4x4T, M880	2
Truck, Cargo, 1-1/4T, M1008	4
Truck, Amphib. Cargo, 1/4T, M416	10
Truck, Utility, Cargo/Troop Carrier, M998	10

(e) Marine Air Traffic Control Squadron (MATCS)

1 Mission. Provide continuous, all-weather air traffic control(ATC) services for expeditionary airfields and remote area landing sites as part of the MACCS in support of the FMF.

2 Tasks

a Provide radar approach, departure, and enroute traffic control services within an objective area.

b Provide airfield navigational aid.

c Provide precision radar approach services for airfield all-weather landings.

d Function as an integral element of the MACCS.

3 Concept of Organization. This organization will normally function as an integral unit of the MACG. Command of the MATCS will be the responsibility of the MACG commander as exercised through the Commanding Officer, MATCS.

4 Concept of Employment. The MATCS is organized and equipped to provide continuous Instrument Flight Rule/Instrument Meteorological Condition (IFR/IMC) services simultaneously to three independent and geographically separated expeditionary airfields and seven remote area landing sites. The MATCS is organized to operationally deploy as an integral unit, part of a larger force, or as separate detachments as part of larger forces. The MATCS is organized and equipped to deploy as a

task organized integral unit or as task organized detachments capable of providing the full range of ATC services from short duration, Visual Flight Rule/Visual Meteorological Condition (VFR/VMC) service of a single installation to extended IFR/IMC operations of a single airfield or multiple installations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational and intermediate maintenance, 1st through 4th echelons, on all assigned Navy-furnished equipment.

(2) Capable of organizational maintenance, 1st and 2d echelons, on all Marine Corps-furnished equipment except motor transport, which is limited to 1st echelon.

b Supply

(1) Capable of performing Marine Corps supply and fiscal functions required for squadron operations.

(2) Capable of performing Navy supply and fiscal functions required for squadron operations. Requires MAG support in Shipboard Uniform Automated Data Processing-End Use (SUADP-EU) Navy supply functions.

c Transportation. Possesses sufficient motor transport for routine squadron operations.

d Medical. Capable of providing routine and emergency medical support.

e Messing. None. Messing support is provided by MABS at the air facility in which the MATCS is operating.

7 The major items of equipment are shown below.

MARINE AIR TRAFFIC CONTROL SQUADRON, MACG

Pistol, Automatic, Cal .45, M1911A1	73
Rifle, 5.56mm, M16A2	187
Trailer, Amphib. Cargo, 1/4T, M416	4
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	4
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Utility, Cargo/Troop Carrier, M998	5

(f) Forward Area Air Defense (FAAD) Battery

1 Mission. The FAAD Battery will employ the STINGER guided missile system to provide close-in air defense protection for elements of a MAF in forward combat areas, in defense of vital areas, and for units engaged in independent operations; will destroy hostile aircraft and drones, particularly in areas not defendable by other elements of the antiair warfare system.

2 Tasks

a Provide for battery operation as the forward area air defense component of the antiwar warfare system of the MAW, to include the capability of rapid deployment ashore in an amphibious operation with command and logistic support of the subordinate STINGER Platoons.

b Provide for the temporary separate deployment of STINGER platoons to meet special tactical situations, with such personnel and logistic support as required.

c Plan and coordinate requirements for liaison and communications with appropriate commands to ensure the integration of STINGER missile operations with other air, ground, and antiair warfare operations of the amphibious force.

d Conduct, supervise, and coordinate individual and unit training as required to qualify subordinate elements for tactical combat operations.

e Perform 1st echelon maintenance on ordnance equipment. Perform 2d echelon maintenance on all organic motor transport, engineer, and communications equipment.

3 Concept of Organization. The FAAD Battery consists of a Battery Headquarters, a Service Platoon, and five STINGER Platoons. The Battery is task organized to provide forward area air defense as an integral part of the Marine Corps antiair warfare system. The battery commander and a small headquarters staff provide command and administrative support of subordinate elements. The Service Platoon provides logistic support for the Battery Headquarters and STINGER Platoons. Individual elements of

the Battery will be activated only upon direction of the Commandant of the Marine Corps.

4 Concept of Employment. Organized and equipped for employment in an integrated air defense system supporting a MAF. May be employed in this manner as a self-contained unit, as separate firing components attached to division and wing elements in support of independent operations, or in base defense missions.

5 Administrative Capability. Capable of self-administration. When STINGER Platoons are deployed separately, administrative support will be provided by the unit to which attached.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on ordnance equipment. Capable of organizational (2d echelon) maintenance on assigned motor transport, engineer, and communications equipment. STINGER weapons and trainers requiring 2d echelon or higher maintenance will be evacuated through supply channels to the appropriate maintenance source.

(2) Support. None.

b Supply. Capable of performing supply functions required for battery operations.

c Transportation. Possesses sufficient motor transport for routine battery operations.

d Medical. Capable of providing routine and emergency medical support.

e Messing. Capable of providing organic food service support.

7 Miscellaneous. When STINGER Platoons are deployed separately, logistic support will be provided by the unit to which attached.

8 The major items of equipment are shown below.

FORWARD AREA AIR DEFENSE BATTERY, MACG

Guided Missile, Training, REDEYE, M46A2	150
Harness, GM Equipment, M-4	75
Interrogator Set, Programmer (STINGER), AN/GSX-1	15

FORWARD AREA AIR DEFENSE BATTERY, MACG (Cont'd)

Interrogator Set, IFF (STINGER), AN/PPX-3B	150
Launcher, STINGER	3000
Pistol, Automatic, Cal .45, M1911A1	174
Radio Set, AN/MRC-123	1
Rifle, 5.56mm, M16A2	104
Radio Set, Control Group, AN/GRA-39B	15
Radio Set, AN/MRC-138	1
Radio Set, AN/PRC-77	90
Radio Set, AN/PRC-104	23
Switchboard, Telephone, Manual, SB-22A/PT	1
Trailer, Amphib. Cargo, 1/4T, M416	56
Trailer, Flatbed, 3/4T, M762	1
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Utility, 1/4T, 4x4, M151A2	46
Truck, Utility, Cargo/Troop Carrier, M998	85

(g) Light Antiaircraft Missile (LAAM) Battalion

1 Mission. Provide surface-to-air missile fires, in defense of assigned areas of operation and vital areas therein, against hostile low- and medium-altitude air attacks. Provide the command, control, and logistic support required to employ the battalion in either an integrated air defense system, or in an independent battalion mode of operation. (See Figure 3-3.)

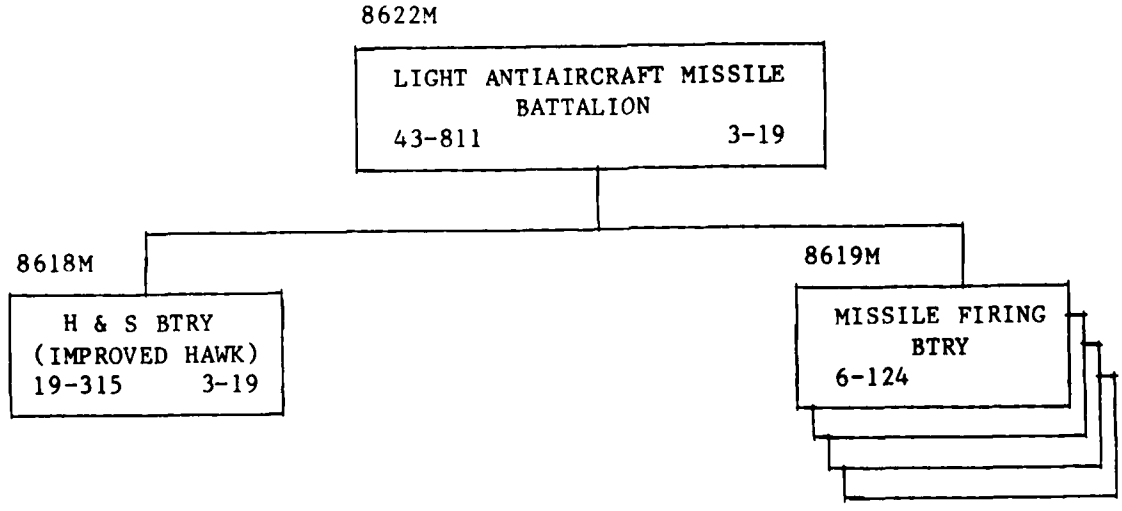


Figure 3-3 -- Light Antiaircraft Missile Battalion

2 Tasks

a Provide for battalion operation as the mobile surface-to-air missile component of the antiair warfare

system of the MAW, to include the capability of rapid deployment ashore in an amphibious operation with integral command, control, and logistic support of subordinate missile batteries.

b Plan and coordinate requirements for liaison and communications with appropriate commands to ensure the integration of surface-to-air missile operations with other air, ground, and antiair warfare operations of the Marine Corps and Navy.

c Provide for the temporary separate deployment of subordinate missile batteries to meet special tactical situations, with such personnel augmentation and logistic support as required.

d Plan for the helicopter transport of essential equipment of the missile batteries and supporting elements.

e Plan for the fixed-wing transport of all or any portion of the subordinate missile batteries and supporting elements.

f Plan and coordinate requirements with appropriate commands for the local security of all deployed missile batteries and supporting elements.

g Conduct, supervise, and coordinate such individual and unit training as is required to qualify missile batteries and supporting elements for tactical deployment and combat operations.

3 Concept of Organization. The Battalion is composed of a headquarters, service battery, and four firing batteries. The Battalion is organized to provide surface-to-air missile defense in an amphibious operation, under the command and control of the MACG.

4 Concept of Employment. Organized and equipped for employment in an integrated air defense system supporting a MAGTF. Additionally, the battalion may be employed in an independent mode of operation or base defense mission when so assigned.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Capable of organizational (1st and 2d echelon) maintenance on all organic equipment.

(2) Capable of intermediate (3d echelon) maintenance on organic HAWK systems, surveillance radar, fire direction equipment, communication and electronics equipment, and on the electrical components of mobile electric power generators.

(3) Capable of intermediate (4th echelon) maintenance on organic HAWK systems, surveillance radar, and fire distribution equipment.

b Supply. Capable of organic supply functions.

c Transportation. Capable of providing sufficient motor transportation to displace the essential fire control elements of one missile battery and essential operational elements of the H&S Battery simultaneously, and to sustain the missile supply for four missile batteries.

d Medical. Capable of providing routine and emergency medical support for the battalion.

e Messing. Capable of providing organic dining support.

7 The major items of equipment are shown below.

LIGHT ANTIAIRCRAFT MISSILE BATTALION, MACG

Control Box, GM Launch Sect., AN/GSA-132A	12
Chassis, Trailer, GP, 3-1/2T, M353	50
Decontamination Apparatus, M12A1	1
GM Battery Control Central HAWK, AN/TSW-13	4
Harness, GM Equipment, M-4	4
Improved Plat. Command Post, I HAWK, AN/MSW-18	4
Information Coordination Center, HAWK, AN/MSW-111	4
Interrogator Set (IFF), AN/TPX-46	8
Interrogator Set, Programmer (STINGER), AN/GSX-1	1
Interrogator Set, IFF (STINGER), AN/PPX-3B	8
Launcher Zero-length, M-192-I	24
Loader Transporter, GM, HAWK, M501E3	16
Launcher, STINGER	160
Machine Gun, Cal.50, M2	24
Machine Gun, 7.62mm, M60	24
Night Vision Sight, Crew Served Weapon, AN/TVS-5	6
Pistol, Automatic, Cal .45, M1911A1	104
Radar Set-HAWK, AN/MPQ-55	4
Radar Set (XO-2) HAWK, AN/MPQ-50	4
Radar Set (XO-1) (ROR) I HAWK, AN/MPQ-51	4
Radio Set, AN/MRC-123	3
Radar Set, (XO-2) (HPI) (HAWK), AM/MPQ-57	8

Rifle, 5.56mm, M16A2	723
Radio Terminal, AN/TRC-166	12
Radar Set (LBSR), AN/PPS-15(V)2	13
Radio Set, Control Group, AN/GRA-39B	28
Radio Set, AN/GRC-160	5
Radio Set, AN/MRC-138	3
Radio Set, AN/PRC-77	20
Radio Set, AN/PRC-75B	4
Radio Set, AN/PRC-104	20
Radio Terminal, AN/MRC-135	9
Receiving Set, AN/GRR-17	5
Switchboard, Telephone, Manual SB-3082(V)2/GT	5
Shop, Electronic, AN/GRM-94	2
Shelter, Electronics Maint. Spt., AN/GRM-86X	18
Shotgun, 12 Gauge, M870/MK1	6
Switchboard, Telephone, Automatic, SB-3614(V)TT	2
Tractor, Medium, FT-D7G Caterpillar	1
Telephone Set, TA-838/TT	20
Teletypewriter, AN/GGC-3A	1
Terminal, Telephone-Telegraph, TH-85A/GCC	4
Trailer, Amphib. Cargo, 1/4T, M416	19
Trailer, Flatbed, 3/4T, M762	16
Trailer, Cargo, 1-1/2T, M105A2	9
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	7
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	3
Truck, Utility, 1/4T, 4x4, M151A2	12
Truck, Wrecker, 5T, 6x6, M543A2	4
Truck, Cargo, 5T, XLWB, M928	123
Trailer, GM, HAWK, M-502 Series	48
Truck, Wrecker, 5T, 6x6, M936	4
Truck, Utility, Cargo/Troop Carrier, M998	12

(5) Marine Aerial Refueler Transport Squadron

(a) Mission. Provide aerial refueling service and provide assault air transport of personnel, equipment, and supplies in support of the FMF and conduct other air operations as may be directed.

(b) Tasks.

1 Provide aerial refueling service to FMF units.

2 Provide assault air transport of air-landed troops and combat cargo between air head of supply and combat fields in the objective area.

3 Provide a capability of long-range direct delivery of high-priority material and personnel to alleviate an emergency combat situation wherein other means of suitable air transport are not readily available.

4 Provide casualty evacuation from fields within the objective area.

5 Maintain the capability to operate during darkness and under instrument flight conditions, as applicable to the mission, to include air delivery of combat cargo and emergency resupply under control of Air Support Radar Teams.

6 Maintain the capability of operating from advanced bases and expeditionary airfields within capability of assigned aircraft.

7 Perform organizational maintenance on assigned aircraft and support equipment. Authorized selected intermediate maintenance on peculiar equipment when independently deployed.

8 Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

9 Provide aircraft for airborne DASC/Command Post functions as required.

(c) Concept of Organization. The Squadron will be under the command and control of the Wing Commander or as designated by him.

(d) Concept of Employment. Provide general support to aviation and ground forces as directed by the Wing Commander.

(e) Administrative Capability. Capable of self-administration.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of performing organizational maintenance on assigned aircraft. When the Maintenance Augment Section is retained, capable of performing intermediate maintenance on assigned aircraft and support equipment. When the Maintenance Augment Section is attached to a supporting group, capable of performing organizational maintenance on assigned aircraft. Capable of organizational (2d echelon) maintenance on infantry weapons.

b Support. None.

2 Supply. Supply and fiscal support consolidated at MAG level.

3 Medical. Capable of providing routine and emergency medical support.

4 Transportation. Possesses sufficient motor transport equipment for routine squadron operations.

5 Messing. None. Food service support is provided by the appropriate Wing unit.

(g) Miscellaneous. Communication support is provided by the appropriate Wing unit.

(h) The major items of equipment are shown below.

MARINE AERIAL REFUELER TRANSPORT SQUADRON

Aircraft KC-130F	12
Pistol, Automatic, Cal .45, M1911A1	80
Rifle, 5.56mm, M16A2	268
Radiac Set AN/PDR-56G	1
Revolver, Cal.38	56
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Utility, 3/4T, M1009	2

(5) Marine Wing Support Group (MWSG)

(a) Mission. Provide command, control, supply, and logistic support for the squadrons of the group; motor transport and refueling support for both ground equipment and aircraft; engineer support and organizational maintenance (motor transport and engineer) for elements of the MAW. (See Figure 3-4.)

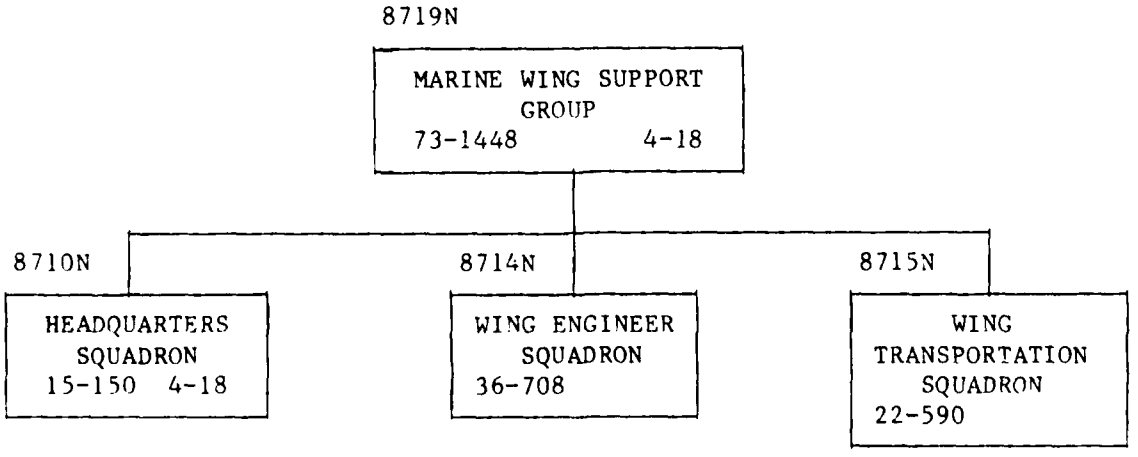


Figure 3-4 -- Marine Wing Support Group

(b) Tasks

1 Provide motor transport support.

2 Provide engineer equipment support.

3 Provide material-handling equipment and support for Wing units.

4 Provide refueling support for ground equipment and aircraft.

5 Provide Tactical Airfield Fuel Dispensing Systems as required for MAW units.

6 Provide camp construction and facilities maintenance for MAW units.

7 Provide organizational maintenance for motor transport and engineer equipment with a contact capability for designated MAW units.

8 Provide mobile electric power for the MAW.

9 Provide essential water and hygiene support in the area of potable water, bath facilities, and laundry facilities for the MAW.

10 Locate quarries, sand and gravel pits, and other sources of construction material in the objective area.

11 Provide expedient/minor repair of existing airfields, runways, and taxi ways.

(c) Concept of Organization. The MWSG is organized and equipped for employment as an integral unit in support of the MAW. It is structured to provide deployable elements in support of the garrison and/or deployed posture of the MAW.

(d) Administrative Capability. Capable of self-administration.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of performing organizational (1st echelon) maintenance on assigned equipment. Capable of performing organizational (2d echelon) maintenance on assigned motor transport, engineering, communication and electronics equipment, and infantry weapons.

b Support. Provides organizational (2d echelon) maintenance support on motor transport and engineer equipment for Wing units not capable of organizational (2d echelon) maintenance.

2 Supply. Possesses the capability to provide supply support for the MWSG.

3 Medical. Capable of providing routine and emergency medical support.

4 Transportation. Capable of providing general transportation support for Wing units.

5 Messing. Provides food service support for organic units of the MWSG.

(f) Communications. Provides communications support for organic units of the MWSG.

(g) Headquarters Squadron (HQS SQD)

1 Mission. To provide administration for the Squadron and Group headquarters.

2 Tasks

a Provide command, control, and administrative support for assigned units.

b Maintain the capability to deploy as an integral unit or by elements in support of MWSG units.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of the MWSG.

4 Concept of Employment. Provides administration for the Squadron and Group headquarters.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

1 Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on assigned ordnance equipment and communication and electronics equipment.

2 Support. None.

b Supply. Possesses the capability to provide organic supply functions for all organic units of the MWSG.

c Medical. Capable of providing routine and emergency medical support for elements of the MWSG.

d Transportation. None.

e Messing. Provides food service support for organic units of the MWSG.

7 Miscellaneous. Provides communication support for organic units of the MWSG.

8 The major items of equipment are shown below.

HEADQUARTERS SQUADRON, MWSG

Machine Gun, 7.62mm, M60	8
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	56
Radio Set, AN/GRC-193	3
Rifle, 5.56mm, M16A2	128
Radiac Set AN/PDR-56G	2
Radio Set, Control Group, AN/GRA-39B	7
Radio Set, AN/GRC-160	2
Radio Set, AN/MRC-110	1
Radio Set, AN/PRC-77	7
Radio Set, AN/VRC-47	1
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Cordless, Manual, SB-86/P	2
Switchboard, Telephone, Manual SB-3082(V)2/GT	1
Switchboard, Telephone, Automatic, SB-3614(V)TT	2
Telephone Set, TA-838/TT	20

(h) Wing Engineer Squadron (WES)

1 Mission. To provide engineer (construction, utilities, MHE, MEP, and TAFDS) support to the MAW and to provide engineer organizational maintenance for elements of the MAW.

2 Tasks

a Provide engineer reconnaissance/ survey for the MAW.

b Repair, improve, and maintain existing road nets within the MAW area of responsibility.

c Provide construction and maintenance of expedient roads.

d Construct, improve, and maintain helicopter and light reconnaissance aircraft landing sites.

e Provide construction of temporary camps to include the provision of technical and equipment assistance for erection of shelters.

f Provide essential utilities support in the area of mobile electric power.

g Provide essential water and hygiene support in the area of potable water, bath facilities, and laundry facilities.

h Develop, improve, and maintain drainage systems.

i Supervise special camouflage requirements.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of the MWSG.

4 Concept of Employment. To function as an integral unit of the MWSG by providing deployable elements in support of the MAW and its assigned units.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of performing organizational (2d echelon) maintenance on engineer equipment and infantry weapons for Wing units.

(2) Support. Capable of providing organizational (2d echelon) maintenance support on engineer equipment for Wing units not capable of organizational (2d echelon) maintenance.

b Supply. None. Supply support is supplied by Headquarters Squadron (HQS), MWSG.

c Medical. None. Medical support is provided by HQS, MWSG.

d Transportation. Motor transport support is provided by the Wing Transportation Squadron.

7 Miscellaneous. Communication support is provided by HQS, MWSG.

8 The major items of equipment are shown below.

WING ENGINEER SQUADRON, MWSG

Bucket, Clamshell, 3/4yd. cap. MOD, GP34G	3
Bucket, General Purpose, 2-1/2 yd. cap.	12
Chassis, Trailer, GP, 3-1/2T, M353	29
Crane, Rough Terrain, 30T, DROH-2500	6
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	25
Decontamination Apparatus, M12A1	6
Demolition Equipment	3
Detecting Set, Mine, Portable, Metallic, PSS-12	9
Excavator, Hydraulic, MC40DR	1
Grader, Road, 5R4040	7
Helicopter Expedient Refueling System	18
Laundry Unit, 1910-1	12
Mixer, Concrete, 16S-2A	3
Pistol, Automatic, Cal .45, M1911A1	257
Rifle, 5.56mm, M16A2	486
Roller, Compactor, 420-C, RAYGO	3
Scraper, Earthmoving, Towed, MC80	2
Trailer, Bath Unit, EC-8B-64	14
Tractor, Full-tracked, Small, MC-450	2
Tractor, RT, Wheeled, Industrial, MC580B	4
Tractor, Wheeled, Industrial, MRS-100, M-69	2
Truck, Forklift, MC-6000RTL	56
Tractor, Medium, FT-D7G Caterpillar	2
Tractor, RT, Articulated Steer, 72-31MP	24
Truck, Forklift, RT, MC-4000	20
Trailer, Flatbed, 3/4T, M762	49
Water Distribution Equipment Set, M-62	18
Water Purification Unit, Frame Mounted, U22446	39

(i) Wing Transportation Squadron (WTS)

1 Mission. To provide motor transport support for the MAW.

2 Tasks

a Provide motor transport service support as required.

b Provide organizational motor transport maintenance with contact capability for designated Wing motor transport equipment.

c Provide aircraft and ground refueling support as required.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of the MWSG.

4 Concept of Employment. To function as an integral unit of the MWSG by providing deployable elements in support of the MAW and its assigned units.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

1 Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of performing organizational (2d echelon) maintenance on motor transport equipment and assigned infantry weapons, less optical equipment.

2 Support. Capable of performing organizational (2d echelon) maintenance on motor transport equipment for Wing units.

b Supply. None. Supply support is provided by HQS SQD, MWSG.

c Transportation. Possesses sufficient motor transport equipment to accomplish assigned missions and tasks.

7 Miscellaneous. Communication support is provided by HQS, MWSG.

8 The major items of equipment are shown below.

WING TRANSPORTATION SQUADRON, MWSG

Machine Gun, Cal.50, M2	19
Pistol, Automatic, Cal .45, M1911A1	68
Rifle, 5.56mm, M16A2	543
Radiac Set AN/PDR-56G	1
Sweeper, Runway, ASS32M3	7
Semi-trailer, Refueler, 5000 gal, M-970	42
Semi-Trailer, Van, 6T, M313	5
Semi-Trailer, Stake, 12T, M127A2C	26
Semi-trailer, Lowbed, 25T, M172A1	14
Truck, Dump, 5T, M51A2	23

Trailer, Utility, 2-1/2T	30
Truck, Firfighting, Brush, M530CB	3
Truck, Firefighting, Structural, M530CS	2
Truck, Multi-stop, Repair Parts, M893	40
Truck, Tractor, 5T, M52A2	59
Truck, Ambulance, 1-1/4T, M886	4
Truck, Ambulance, 1-1/4T, M1010	4
Truck, Tank, Water, 2-1/2T, 1000 Gal, M50A2	12
Trailer, Amphib. Cargo, 1/4T, 4x4, M416	44
Trailer, Cargo, 3/4T, M101A1	1
Trailer, Cargo, 1-1/2T, M105A2	67
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	60
Truck, Cargo, 1-1/4T, 4x4T, M880	78
Truck, Cargo, 1-1/4T, M1008	98
Truck, Cargo, 5T, 6x6, M923	104
Truck, Cargo, 5T, 6x6, M54A2C	8
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	12
Truck, Utility, 1/4T, 4x4, M151A2	102
Truck, Wrecker, 5T, 6x6, M543A2	7
Truck, Utility, 3/4T	40
Truck, Utility, Cargo/Troop Carrier, M998	60
Truck, Wrecker, 5T, 6x6, M936	5

(7) Marine Aircraft Group (MAG). The MAG is an administrative and tactical command element. Each MAG is task organized for the mission assigned and provides direct support to tactical squadrons assigned. MAGs within the MAW are usually four in number and of two types -- a helicopter MAG and three fighter/attack MAGs. In a typical MAW, the MAGs (V) assigned may have any combination of Fighter Attack Squadrons (VMFA), Marine All-Weather Attack Squadrons (VMA(AW)), or Attack Squadrons (VMA). The Helicopter MAG (H) will usually have one Observation Squadron (VMO), one Light Helicopter Squadron (HML), one Attack Helicopter Squadron (HMA), three Medium Helicopter Squadrons (HMM), and two Heavy Helicopter Squadrons (HMH). Each MAG, V, or H has an H&MS and a MABS. (See Figure 3-5.)

(a) Marine Aircraft Group (MAG (H))

1 Mission. Commensurate with assets assigned, conduct helicopter and fixed-wing operations in support of the FMF and such other air operations as may be directed.

2 Tasks

a Conduct helicopter assault and support operations in support of the FMF and other air operations as may be directed.

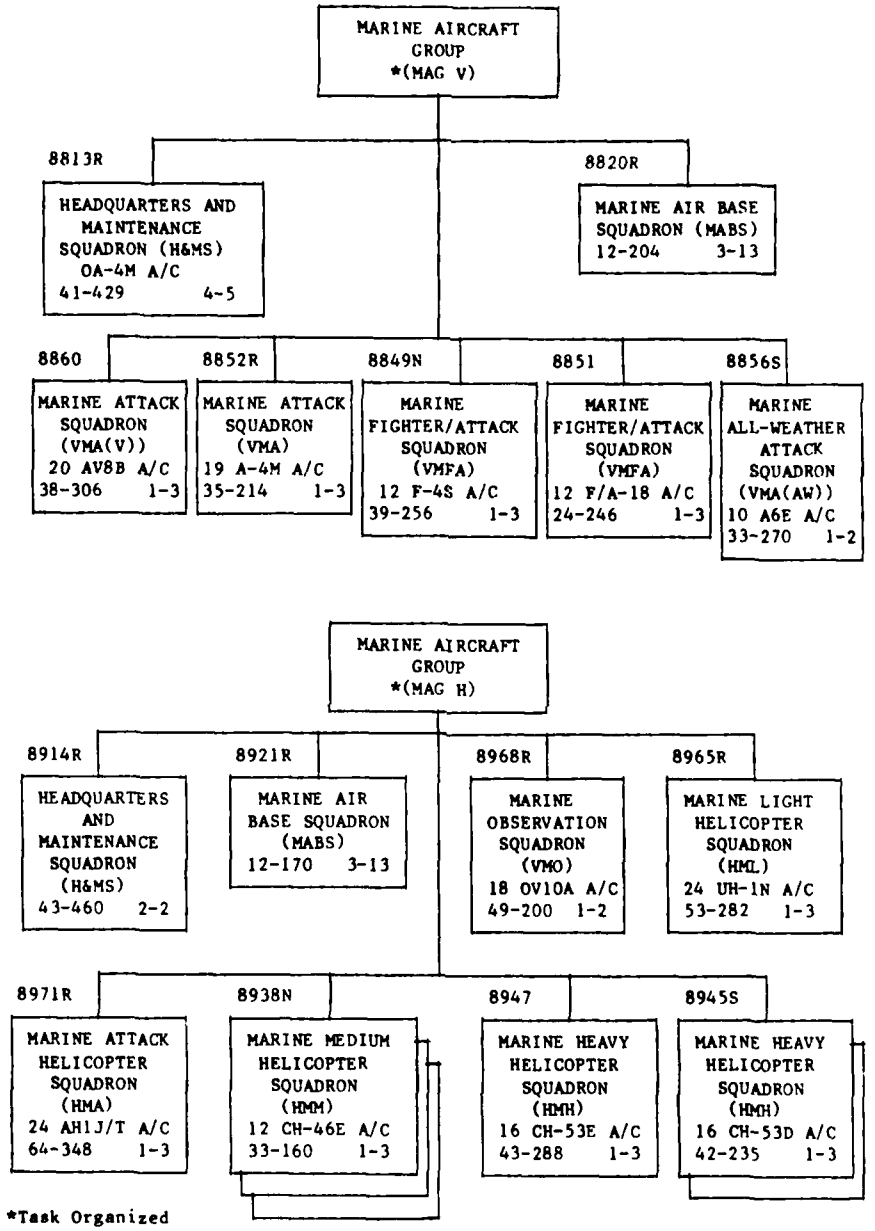


Figure 3-5 -- Marine Aircraft Group (MAG(V)/MAG(H))

b Conduct, supervise, and coordinate such unit and individual training as may be required to qualify assigned units for tactical deployment and combat.

c Maintain the capability of deploying squadrons, detachments, and/or composite squadrons aboard naval shipping, advanced bases, or to the field for independent operations.

d Maintain the capability of deploying as an integral unit in an amphibious operation and providing command, control, and logistic support ashore for subordinate units.

e Provide, when directed, detachments for the traffic control of helicopters and for the supervision of loading and unloading of personnel and cargo at designated terminals or landing zones.

f Augment the shore establishments when based thereon, with personnel and equipment as directed by appropriate authority.

g Provide and coordinate air-sea rescue services at advanced bases.

h Determine and coordinate requirements for ground defense with cognizant commands when in a separate location.

i Provide for the internal security of assigned areas.

j Collect, evaluate, interpret, and disseminate intelligence information in coordination with appropriate agencies.

k Provide 3d echelon maintenance of Marine Corps-furnished communication and electronics material items organic to the group, less single sideband.

l Provide logistic and maintenance support for attached squadrons.

m Provide intermediate-level calibration (qualification) and repair services for all aeronautical test and measuring equipment assigned to MAG units.

n Provide supply, financial, and aircraft maintenance automated data processing (ADP) support in accordance with OPNAV, NAVSUP, and Marine Corps directives.

o Requisition, store, issue, and provide for appropriate supplies and equipment for supported units.

(b) Marine Aircraft Group (MAG(V))

1 Mission. Conduct antiair warfare and offensive air support operations in support of the FMF from advanced bases, expeditionary airfields, and aircraft carriers. Conduct other air operations as may be directed.

2 Tasks

a Conduct antiair warfare and offensive air operations in support of the FMF. Conduct other air operations as may be directed by higher authority.

b Plan and conduct tactical air operations as the aviation combat element of a MAB or MAU.

c Maintain the capability of deploying and operating from advanced bases, expeditionary airfields, and aircraft carriers.

d Conduct, supervise, and coordinate such individual and unit training as may be required to qualify assigned squadrons for tactical deployment and combat.

e Maintain the capability of manning and operating an expeditionary airfield.

f Augment shore establishments, when based thereon, with personnel and equipment as directed by appropriate authority.

g Provide and/or coordinate air-sea rescue services at advanced bases.

h Coordinate requirements for ground defense with appropriate command when in a separate location.

i Provide for the internal security of assigned areas.

j When deployed, and not under the operational control of a MAW, maintain a capability for planning and conducting Nuclear Biological Chemical weapons delivery, utilizing weapons compatible with assigned aircraft.

k Collect, evaluate, interpret, and disseminate intelligence information in coordination with appropriate agencies.

l Provide logistic and maintenance support for attached squadrons.

m Provide intermediate-level calibration (qualification) and repair services for all aeronautical test and measuring equipment assigned to MAG units.

n Provide supply, financial, and aircraft maintenance ADP support in accordance with current OPNAV, NAVSUP, and Marine Corps directives.

o Provide detachments for the support and maintenance of separately deployed units as required.

(c) Headquarters and Maintenance Squadron (H&MS)

1 Mission

a MAG (V). Perform tactical logistic and administrative support for units attached to the MAG.

b MAG (H). Perform logistic and administrative support for units attached to the MAG.

2 Tasks (Note: Tasks apply to MAG (H) and MAG (V) except as noted).

a Provide intermediate maintenance on aircraft of units assigned to the MAG.

b Provide administrative and supply support for headquarters of the MAG.

c Screen and repair aeronautical materials in need of rework, test, or check (condition codes B and E).

d Maintain the capability to deploy as an integral unit or by elements in support of separately employed units.

e Conduct individual and unit training as required to qualify organic personnel and supported squadrons for performance of assigned missions and tasks.

f Provide logistic, administrative, and training flight support for assigned squadrons.

g MAG (V)

(1) Provide Tactical Air Coordinator Airborne TAC(A) and Forward Air Controller Airborne FAC(A) for offensive air support.

(2) Provide direct support of tactical squadrons assigned to the MAG.

(3) Perform additional air support missions to include automatic radio retransmission, intrusion detector monitoring, flare drop, and medical evacuation.

(4) Provide base storage and distribution of Class V and V(A) ammunition to supported units.

(5) Manufacture cryogenics products as required for supported units.

(6) Perform organizational and intermediate maintenance on assigned aircraft.

h MAG(H). Perform intermediate and organizational maintenance on assigned aircraft.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG. MAG(H) only: When appropriately augmented by the Intermediate Maintenance Section of each supported squadron, it is capable of providing intermediate maintenance to support any mix of aircraft squadrons.

4 Concept of Employment

a MAG (V). Coordinate antiair warfare and offensive air support operations in support of the FMF. When appropriately augmented by the Intermediate Maintenance Section of each supported squadron, capable of providing intermediate maintenance support for any mix of aircraft squadrons.

b MAG (H). Support FMF units by providing logistic and administrative support for units attached to the MAG.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities. (Note: Capabilities apply to MAG (V) and MAG(H).)

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all organic equipment and organizational (2d echelon) maintenance on assigned infantry weapons. Capable of performing organizational and intermediate maintenance on assigned aircraft and support equipment.

(2) Support. Capable of performing intermediate maintenance on assigned aircraft and support equipment of supported aircraft squadrons.

b Supply. Capable of supply and fiscal functions required for group operations.

c Medical. None. Medical support is provided by the MABS of the MAG.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Messing support is provided by the MABS of the MAG.

7 The major items of equipment are shown below.

HEADQUARTERS AND MAINTENANCE SQUADRON, H&MS

	(V)	(H)
Aircraft, OA-4M		*
Demolition Equipment	1	1
Night Vision Goggles, Individual, AN/PVS-5A	0	137
Pistol, Automatic, Cal .45, M1911A1	125	136
Rifle, 5.56mm, M16A2	342	351
Revolver, Cal.38	16	14
Truck, Utility, 3/4T, M1009	2	3

* Number of aircraft varies between H&MSs.

(d) Marine Airbase Squadron (MABS)

1 Mission. Provide airbase facilities and services (except airfield construction) for the MAG, or supplement the airbase facilities and services provided by a station or facility when based thereon.

2 Tasks

a Conduct airfield operations as required for supported units.

b Provide dining facilities as required for MAG organic units.

c Maintain the capability to deploy as an integral unit and by elements in support of separately employed units.

d Conduct individual and unit training as required to qualify organic personnel and supported squadrons for performance of assigned missions and tasks.

e Provide 3d echelon/intermediate maintenance of communication and electronics material items organic to the group, less avionics, single sideband, and MATCS equipment.

f Provide weather service support, as required, for supported units.

g Provide internal security to airbase facilities to include personnel and traffic control and limited perimeter security.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG.

4 Concept of Employment. Provide airbase facilities and services for the MAG, or supplement airbase facilities and services provided by a station or facility when based thereon.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on assigned infantry weapons. Capable of intermediate (3d echelon) maintenance on organic communication and electronics equipment, less single sideband, and, for MABS (H), avionics equipment.

(2) Support. Provides intermediate (3d echelon) maintenance support for communication and electronics equipment organic to the MAG, less avionics, single sideband equipment, and, for MABS (V), MATCS equipment.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. Limited. Motor transport support is provided by the WTS, MWSG.

e Messing. Provides messing support for the MAG.

7 The major items of equipment are shown below.

MARINE AIRBASE SQUADRON, MABS

	(V)	(H)
Decontamination Apparatus, M12A1	2	2
Demolition Equipment	0	1
Machine Gun, 7.62mm, M60	12	12
Night Vision Sight, Individual Served Weapon, AN/PVS-4	5	5
Pistol, Automatic, Cal .45, M1911A1	59	50

MARINE AIRBASE SQUADRON, MABS (Cont'd)

Radio Set, AN/GRC-193	2	2
Rifle, 5.56mm, M16A2	238	191
Radio Set, AN/VRC-85	1	2
Radio Terminal, AN/TRC-166	6	6
Radar Set (LBSR), AN/PPS-15(V)2	3	4
Radiac Set AN/PDR-56G	1	2
Radio Set, Control Group, AN/GRA-39B	5	8
Radio Set, AN/GRC-160	2	2
Radio Set, AN/MRC-138	4	4
Radio Set, AN/MRC-110	0	6
Radio Set, AN/PRC-77	25	29
Radio Set, AN/PRC-75B	8	6
Radio Set, AN/PRC-104	0	8
Radio Set, AN/VRC-47	4	1
Radio Terminal, AN/MRC-135	2	2
Receiving Set, AN/GRR-17	1	1
Revolver, Cal.38	4	4
Switchboard, Cordless Telephone, Manual, SB-86/P	2	0
Switchboard, Telephone, Manual SV-3082(V)2/GT	1	1
Shotgun, 12 Gauge, M870/MK1	20	20
Switchboard, Telephone, Automatic, SB-3614(V)TT	2	2
Truck, Aircraft Crash Structure, Firefighting, A/S32T-19A	4	4
Truck, Firefighting, Brush, M530CB	1	1
Truck, Utility, 3/4T, M1009	1	1
Truck, Ambulance, 1-1/4T, M1010	3	0
Telephone Set, TA-838/TT	20	20
Teletypewriter, AN/GGC-3A	2	0
Terminal, Telephone-Telegraph, TH-85A/GCC	7	3
Truck, Crash/Fire/Rescue, M-1000	4	4
Truck, Ambulance, 1/4T, 4x4, M718A1	0	2
Trailer, Amphib. Cargo, 1/4T, M416	3	2

(e) Marine Fighter/Attack Squadron (VMFA)F4S/F/A-18

1 Mission. Intercept and destroy enemy aircraft under all-weather conditions; attack and destroy surface targets and conduct other air operations as may be directed.

2 Tasks

a Intercept and destroy enemy aircraft in conjunction with ground or airborne fighter control under all-weather conditions.

b Maintain the capability to attack and destroy surface targets with those conventional weapons compatible with assigned aircraft.

c Provide escort of friendly aircraft, as required, under all-weather conditions.

d Maintain the capability of deploying and operating from aircraft carriers, advanced bases, and expeditionary airfields.

e Conduct close air support within capability of assigned aircraft.

f Maintain the capability of deployment or extended range operations employing aerial refueling.

g Perform organizational maintenance on assigned aircraft.

h Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Administrative Capability. Capable of self-administration.

5 Logistic Capabilities

a Maintenance

1 Organic. Capable of organizational (1st echelon) maintenance on all organic equipment and organizational (2d echelon) maintenance on assigned infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the H&MS for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS.

2 Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Messing support is provided by MABS.

6 The major items of equipment are shown below.

MARINE FIGHTER/ATTACK SQUADRON (VMFA)

	F4S	F/A-18
Aircraft	12	12
Pistol, Automatic, Cal. 45, M1911A1	55	59
Rifle, 5.56mm, M16A2	211	197
Revolver, Cal.38	34	19
Switchboard, Telephone, Manual, SB-22A/PT	1	1
Truck, Utility, 3/4T, M1009	1	1

(f) Marine Attack Squadron (VMA), A-4M/AV8B

1 Mission. Attack and destroy surface targets, escort helicopters, and conduct other air operations as may be directed.

2 Tasks (Note: Tasks apply to both types of squadrons except as noted.)

a Conduct close air support.

b Conduct air defense operations within capability of aircraft assigned.

c Maintain capability to operate during darkness and under instrument flight conditions, to include ordnance delivery under the control of Air Support Radar Teams.

d Maintain the capability of deployment or extended operations employing aerial refueling.

e Maintain capability to perform emergency resupply missions compatible with assigned aircraft.

f Conduct armed escort missions in support of helicopter operations.

g Perform organizational maintenance on assigned aircraft.

h VMA (A-4M)

(1) Conduct armed reconnaissance, interdiction operations, and strikes against enemy installations, utilizing all types of conventional and NBC weapons compatible with assigned aircraft.

(2) Perform smoke laying, night battlefield or target illumination, and insecticide spraying.

(3) Maintain the capability of deploying and operating from aboard carriers, advanced bases, and expeditionary airfields.

(4) Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

i VMA (AV8B)

(1) Conduct armed reconnaissance, interdiction operations, and strikes against enemy installations utilizing all types of conventional weapons compatible with assigned aircraft.

(2) Maintain the capability of deploying and operating from aboard carriers and other suitable seagoing platforms, advanced bases, expeditionary airfields, and remote tactical sites.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Provide general support to aviation and ground forces as directed by the Wing commander.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and

organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron (A-4M or AV8B) is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the H&MS for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS. A-4M only: Detachments of this squadron are not capable of self-support in other than Special Support Equipment (SSE) and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Messing support is provided by MABS.

7 The major items of equipment are shown below.

MARINE ATTACK SQUADRON (VMA)

	A4M	AV8B
Aircraft	19	20
Pistol, Automatic, Cal .45, M1911A1	50	64
Rifle, 5.56mm, M16A2	170	267
Radio Set, AN/PRC-77	0	3
Radio Set, AN/PRC-75B	0	2
Revolver, Cal.38	25	31
Switchboard, Telephone, Manual, SB-22A/PT	1	1

(g) Marine All-Weather Attack Squadron (VMA(AW))

1 Mission. Attack and destroy surface targets under all-weather conditions, escort helicopters, and conduct other air operations as may be directed.

2 Tasks

a Conduct close air support under all-weather conditions to include ordnance delivery under control of Air Support Radar Teams and the Radar Beacon Forward Air Controller Team.

b Conduct armed reconnaissance, radar search and attack, interdiction operations, emergency mining missions, and strikes against enemy installations utilizing all types of conventional and NBC weapons compatible with assigned aircraft under visual and all-weather conditions.

c Conduct air defense operations within capabilities of aircraft assigned.

d Perform smoke laying, night battlefield or target illumination, and insecticide spraying.

e Maintain the capability of deployment or extended operations employing aerial refueling.

f Maintain the capability of deploying and operating from aboard carriers, advanced bases, and expeditionary airfields.

g Maintain capability to perform emergency resupply missions compatible with assigned aircraft.

h Conduct armed escort missions in support of helicopter operations.

i Collect and disseminate information on enemy units within capability of assigned aircraft.

j Perform organizational maintenance on assigned aircraft.

k Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

l Maintain the capability to conduct mining missions under all-weather situations.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Provide general support to aviation and ground forces as directed by the Wing commander.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS. Detachments of this squadron are not capable of self-support in other than SSE, and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by MABS.

7 The major items of equipment are shown below.

MARINE ALL-WEATHER ATTACK SQUADRON (VMA(AW))

Aircraft, A6E	10
Pistol, Automatic, Cal.45, M1911A1	60
Rifle, 5.56mm, M16A2	217
Revolver, Cal.38	34
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Utility, 3/4T, M1009	12

(h) Marine Light Helicopter Squadron (HML), UH-1N

1 Mission. To provide utility combat helicopter support to the landing force in the ship-to-shore movement and in subsequent operations ashore.

2 Tasks

a Provide airborne control of tactical air support operations, as required, for command and control.

b Conduct emergency aerial supply and resupply.

c Conduct front-line casualty evacuation.

d Conduct liaison and courier service.

e Augment local search and rescue facilities within the capability of assigned aircraft.

f Conduct special operations as directed by higher authority.

g Perform organizational maintenance on assigned aircraft.

h Provide 1st echelon maintenance for organic motor transport equipment.

i Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Support FMF units by providing utility helicopter support during aerial and ground combat operations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then

obtain its intermediate maintenance support from H&MS. Detachments of this squadron are not capable of self-support in other than SSE, and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support is consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by MABS.

7 The major items of equipment are shown below.

MARINE LIGHT HELICOPTER SQUADRON (HML)

Aircraft, UH-1N	24
Pistol, Automatic, Cal .45, M1911A1	50
Rifle, 5.56mm, M16A2	236
Receiving Set, AN/GRR-17	1
Revolver, Cal.38	48
Switchboard, Telephone, Manual, SB-22A/PT	1

(i) Marine Medium Helicopter Squadron (HMM), CH46E

1 Mission. Provide helicopter transport of supplies, equipment, and personnel for the landing force during ship-to-shore movement and within an objective area.

2 Tasks

a Transport supplies, equipment, and troops. Primary task is the transport of troops.

b Conduct evacuation operations.

c Augment local search and rescue facilities.

d Maintain the capability to operate from LHAs, LPHs, LPDs, or other floating bases.

e Maintain the capability to operate under conditions of darkness and instrument flight conditions.

f Perform organizational maintenance on assigned aircraft.

g Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Support FMF units by providing transport of supplies, equipment, and personnel in amphibious operations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS. Detachments of this squadron are not capable of self-support in other than SSE, and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by MABS.

7 The major items of equipment are shown below.

MARINE MEDIUM HELICOPTER SQUADRON (HMM)

Aircraft, CH-46E	12
Pistol, Automatic, Cal .45, M1911A1	41
Rifle, 5.56mm, M16A2	124
Revolver, Cal.38	38

(j) Marine Heavy Helicopter Squadron (HMH), CH-53D/CH53E

1 Mission. Provide helicopter transport of heavy supplies, equipment, and personnel for the landing force during ship-to-shore movement and within an objective area.

2 Tasks

a Transport supplies, equipment, and troops. Primary task is the transport of supplies and equipment.

b Conduct evacuation operations.

c Conduct special operations.

d Augment local search and rescue facilities.

e Maintain the capability to operate from aviation or amphibious aviation ships and air-capable ships.

f Maintain the capability to operate under conditions of darkness and instrument flight conditions.

g Perform organizational maintenance on assigned aircraft.

h Maintain the capability to operate in the area of chemical biological radiological conditions.

i Maintain a self-defense capability.

j Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Support FMF units by providing transport of supplies, equipment, and personnel in amphibious operations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS. Detachments of this squadron are not capable of self-support in other than SSE, and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by MABS.

7 The major items of equipment are shown below.

MARINE HEAVY HELICOPTER SQUADRON (HMH)

	CH-53D	CH-53E
Aircraft	16	16
Pistol, Automatic, Cal .45, M1911A1	42	54
Rifle, 5.56mm, M16A2	193	238
Revolver, Cal.38	38	36
Switchboard, Telephone, Manual, SB-22A/PT	1	1
Truck, Utility, 3/4T, M1009	1	1

(k) Marine Helicopter Attack Squadron (HMA), AH-1J/T

1 Mission. To provide close-in fire support during aerial and ground escort operations during the ship-to-shore movement and within an objective area.

2 Tasks

a Conduct armed escort flights in support of personnel- and cargo-carrying helicopters.

b Provide landing zone suppression fire support.

c Maintain the capability to operate the TOW missile against threatening enemy armor.

d Conduct visual and armed reconnaissance.

e Provide target marking and airborne direction for the attack of surface targets by high performance aircraft.

f Provide air coordination for the utilization of supporting arms.

g Escort and provide suppressive fires for surface convoys and other ground unit operations.

h Maintain the capability to operate from aircraft carriers or other floating bases.

i Maintain the capability to operate under conditions of darkness and reduced visibility.

j Provide 1st echelon maintenance for organic motor transport.

k Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Support FMF units by providing close-in fire support during aerial and ground escort operations.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS. Detachments of this squadron are not capable of self-support in other than SSE, and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by MABS.

7 The major items of equipment are shown below.

MARINE HELICOPTER ATTACK SQUADRON (HMA)

Aircraft, AH-1J/T	24
Pistol, Automatic, Cal .45, M1911A1	51
Rifle, 5.56mm, M16A2	295
Revolver, Cal.38	58
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Utility, 3/4T, M1009	1

(1) Marine Observation Squadron (VMO), OV-10A

1 Mission. Conduct aerial reconnaissance, observation, and forward air control operations in support of FMF operations.

2 Tasks

a Conduct aerial reconnaissance and observation in support of FMF units.

b Conduct forward air control, artillery, and naval gunfire spotting.

c Provide air coordination for the utilization of supporting arms.

d Conduct emergency aerial supply and resupply within the capability of assigned aircraft.

e Augment local search and rescue facilities.

f Conduct front line, low-level aerial photography.

g Conduct other operations as may be required within capabilities of assigned aircraft.

h Maintain the capability to operate under conditions of reduced visibility and darkness.

i Perform organizational-level maintenance on assigned aircraft and associated equipment.

j Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

3 Concept of Organization. This organization will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG, and, when appropriately augmented, is capable of functioning independently or as the air component of a task organized element.

4 Concept of Employment. Support FMF units by providing aerial reconnaissance and observation throughout the amphibious objective area and subsequent operations ashore.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned air-

craft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from H&MS. Detachments of this squadron are not capable of self-support in other than SSE, and will be assigned to applicable units possessing general organizational capability for their remaining logistic requirements.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by MABS.

7 The major items of equipment are shown below.

MARINE OBSERVATION SQUADRON (VMO)

Aircraft, OV-10A	18
Pistol, Automatic, Cal.45, M1911A1	74
Rifle, 5.56mm, M16A2	147
Revolver, Cal.38	26
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Utility, 3/4T, M1009	1

(m) Marine Tactical Reconnaissance Squadron (VMFP), RF-4B

1 Mission. Conduct aerial multisensor imagery reconnaissance in support of FMF operations.

2 Tasks

a Conduct day and night aerial multisensor imagery reconnaissance.

b Conduct aerial pre- and post-strike multisensor imagery for target damage assessment.

c Process and provide aerial multisensor imagery for immediate responsive interpretation reports to Wing and/or supported commanders.

d Provide for the processing and/or reproduction of aerial multisensor imagery obtained by organic aircraft within capability of assigned laboratory equipment.

e Maintain the capability of operating from aircraft carriers, advanced bases, and expeditionary airfields within capability of organic aircraft.

f Maintain the capability to operate during darkness and under instrument flight conditions.

g Maintain the capability of deployment or extended operations employing aerial refueling.

h Be prepared to deploy photo detachments aboard carriers, advanced bases, and expeditionary airfields.

i Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

j Provide liaison personnel to Wing and landing force staffs to assist in VMFP employment planning.

k Perform organizational maintenance on assigned aircraft.

3 Concept of Organization. This organization will normally function through detachments which are assigned as subordinate units to a MAG. When the detachments are appropriately augmented, they are capable of functioning independently or as the air component of a task organized group.

4 Concept of Employment. Support airborne operations and ground forces by conducting aerial multisensor imagery reconnaissance.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. Capable of performing intermediate maintenance of assigned aircraft and support equipment for independent operations when augmented by the parent Intermediate Maintenance Activity (IMA). When this squadron is assigned to a supporting IMA, the IMA Augment Section is assigned TAD to that

activity. The squadron will then obtain its intermediate-level maintenance support from the supporting IMA.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by the appropriate Wing unit.

7 Miscellaneous. Communication support is provided by the appropriate Wing organization.

6 The major items of equipment are shown below.

MARINE TACTICAL RECONNAISSANCE SQUADRON (VMFP)

Aircraft, RF-4B	21
Pistol, Automatic, Cal .45, M1911A1	131
Rifle, 5.56mm, M16A2	320
Revolver, Cal.38	68
Switchboard, Telephone, Manual, SB-22A/PT	1
Shotgun, 12 Gauge, M870/MK1	14
Truck, Utility, 3/4T, M1009	1

(n) Marine Tactical/Electronic Warfare Squadron (VMAQ), EA-6B

1 Mission. Conduct airborne electronic warfare in support of FMF operations.

2 Trasks

a Conduct airborne electronic countermeasures (ECM) and electronic warfare support measures (ESM) operations.

b Conduct ECM operations for electronic counter-countermeasures training of FMF units.

c Process and provide mission data from tape recordings obtained on electronic warfare missions for updating and maintaining an electronic order of battle.

d Maintain the capability of operating from aircraft carriers, advanced bases, and expeditionary airfields.

e Maintain the capability to operate during darkness and all-weather flight conditions.

f Maintain the capability of deployment or extended operations employing aerial refueling.

g Be prepared to deploy detachments aboard carriers, advanced bases, and expeditionary airfields.

h Ensure that aeronautically designated personnel maintain basic flying skills concurrent with the performance of other assigned duties.

i Provide liaison personnel to Wing and landing force staffs to assist in VMAQ employment planning.

3 Concept of Organization. This organization will normally function through detachments which are assigned as subordinate units to a MAG. When the detachments are appropriately augmented, they are capable of functioning independently or as the air component of a task organized group.

4 Concept of Employment. Provide general support to aviation and ground forces as directed by the Wing commander.

5 Administrative Capability. Capable of self-administration.

6 Logistic Capabilities

a Maintenance

(1) Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on infantry weapons. Capable of performing organizational maintenance on assigned aircraft and support equipment. When this squadron is assigned to a supporting group, the Intermediate Maintenance Section of the squadron is assigned to the Aircraft Maintenance Department of the MAG for the duration of such assignment. The squadron will then obtain its intermediate maintenance support from the H&MS. Detachments of this squadron are capable of self-support.

(2) Support. None.

b Supply. Supply and fiscal support consolidated at MAG level.

c Medical. Capable of providing routine and emergency medical support.

d Transportation. None. Motor transport support is provided by the WTS, MWSG.

e Messing. None. Food service support is provided by the appropriate Wing unit.

7 Miscellaneous. Communication support is provided by the appropriate Wing organization.

8 The VMAQ squadron is currently deployed in two 4-plane detachments and a 7-plane squadron (-). The major items of equipment are shown below for the VMAQ(-) and one of the two identical Detachments VMAQ.

MARINE TACTICAL/ELECTRONIC WARFARE SQUADRON, VMAQ

	VMAQ(-)	DET VMAQ
Aircraft, EA6B	7	4
Pistol, Automatic, Cal .45, M1911A1	68	44
Rifle, 5.56mm, M16A2	250	153
Revolver, Cal.38	46	28
Switchboard, Telephone, Manual, SB-22A/PT	1	1
Shotgun, 12 Gauge, M870/MK1	8	5
Truck, Utility, 3/4T, M1009	1	1

SECTION 3B
MARINE AIRCRAFT WING
NEW EQUIPMENT DEVELOPMENTS (1986-1995)

306. GENERAL

a. While the mission of the Marine aircraft wing (MAW) in support of the Marine division will remain unchanged, the capability to perform that mission will be significantly enhanced. Emerging technology has facilitated performance improvements on existing aircraft as well as supported the introduction of completely new platforms. Other enhancements have occurred in the areas of:

- o Air-Delivered Munitions.
- o Air Command and Control.
- o Air Defense.
- o Support Systems and Equipment.

b. Concomitantly, with new acquisitions or improvement of existing systems and equipment, design initiatives have provided increased readiness levels through improved reliability and maintainability. In terms of new aircraft, the F/A-18 and the AV-8B are being introduced into the Marine Corps inventory at this time to replace fighter and light attack aircraft now in the active wings. The AH-1W attack helicopter with its upgraded power plant and Hellfire missile system will be introduced in the near term. The MV-22 Osprey tilt-rotor aircraft will replace the Marine Corps medium assault support helicopter and significantly improve the mobility of that force. The introduction of the TAV8B will provide a two-seat trainer that will speed transition of attack pilots into the light attack force. Additional procurements of the EA-6B and A-6E are being made to respond to increased operational requirements for them. Enhancements to the nighttime combat capability of all aircraft in the inventory is being actively pursued. Foward-looking infrared and ANVIS-6 night vision goggles are the most imminent developments. The new aircraft and the systems being considered for them will impact both on training requirements for operations and maintenance personnel and on support/maintenance concepts.

c. In the field of air-delivered munitions, antiarmor munitions are receiving the greatest emphasis. Laser Maverick will provide a stand-off tank kill capability for fixed-wing TACAIR as well as enable the ground commander to identify and destroy other targets, such as bunkers. Another fixed-wing delivered system is Gator (CBU-78), a cluster bomb that contains 45 antitank and 15 antipersonnel mines. The AH-1W attack helicopter will be armed with Hellfire, a semiactive laser terminal homing seeker that will enable indirect fire and lock-on after launch firing modes. Possessing a greater armor penetration than the TOW, Hellfire will provide a highly mobile close-in armor defense in the high threat battlefield.

d. In the area of air defense, the medium range, medium-to-low altitude all-weather air defense keystone is the Improved Hawk (I-Hawk) surface-to-air missile system. Product improvement efforts are directed at the system's interface capability and system operations and firing doctrine. The Stinger Post is a product-improved Stinger replacing the Redeye point defense missile system. It employs a guidance/seeker section that discriminates infrared and ultraviolet signatures and enables defeat of some infrared countermeasures. Another air-defense initiative is the possible employment of the GAU-12, a 25mm Gatling gun in the LAV Air Defense (LAV-AD) variant utilizing off-the-shelf technology. (See Section 2B for other LAV-AD candidates.) Complementing the weaponry described above will be the Advanced Tactical Air Command Central (ATACC) system. A computer-supported facility utilized by the tactical air commander to plan and execute the air battle, the ATACC system is undergoing several subsystem upgrades.

e. Aviation Command and Control Systems are keeping pace with the state of the art. In air traffic control, the Marine Air Traffic Control and Landing System is built upon four subsystems and provides all aspects of surveillance, identification, tracking, and vectoring of aircraft within sixty miles of an airfield. The Marine Remote Area Approach and Landing System will enable equipped helicopters and STO/VL-type aircraft to locate and approach remote landing sites under instrument meteorological conditions. The NAVSTAR Global Positioning System provides a highly accurate aircraft and missile position-fixing system to supplement the command and control tactical operations network. Improved long-range air surveillance is being attained through acquisition of the AN/TPS-59, an all solid state, long-range, three-dimensional air search radar providing primary inputs to the Tactical Air Operations Module. In the area of controlling ordnance delivery, the AN/PPN-19, Radar Beacon Forward Air Controller facilitates all-weather close air support and naval gunfire support through offset beacon delivery as well as precision aerial resupply and position marking. The improved beacon is compatible with 15 different aircraft including those of the U.S. Air Force.

f. In the field of communication/electronics, improvements in radios and other communications technology will enhance all organizations within the MAW during the period. Technological advancements will result in improved digital computers, solidstate components, integrated circuitry, and digital data links. Changes and improvements in communications systems and equipment within the MAW will generally parallel that already described in the division section. (See the matrix shown in Figure 3-6 for a complete list of communications equipment to be introduced into the MAW during the 1986-1995 period.) Significant equipment unique to the MAW will be explained within this section.

g. Other initiatives in the general area of aviation support include the acquisition of improved 40,000 and 25,000-lb. capacity KEVLAR slings for external helicopter lifts, the development of

improved expeditionary aircraft maintenance shelters and a Computer-Aided Mission Planning System that will enable aircrew mission planning around areas of significant threat.

h. The matrix (Figures 3-7 and 3-8) at the end of this section includes items that are also slated for use by the MAW, but since they are more specific to the requirements of another organization, they are detailed in that organization's section. In the case of logistics developments, they are described in Section 1D. Significant items listed include the personal defense weapon, logistics vehicle system, and engineer support equipment.

307. WING ORGANIZATION

a. Marine Wing Headquarters Squadron (MWHS)

b. Marine Air Control Group (MACG)

(1) Headquarters and Headquarters Squadron, MACG

(a) Advanced Tactical Air Command Center (ATACC). ATACC is a computer-supported facility consisting of four shelters: one large screen display shelter (Type A) and three control and communications shelters (Type B). The existing AN/TYQ-1 and AN/TYQ-3A will be replaced by the AN/UYQ-44 data processor, which will provide storage, processing, and display of the air situation data received from the TAOMs and other external data sources such as the Navy Tactical Data System, Army Tactical Data System (ATDS) and Air Force and NATO Air Control Systems. The ATACC will serve as the command center of the MAW headquarters and the Tactical Air Commander's command post. The IOC for ATACC is 1991.

(2) Marine Air Support Squadron, MACG

(a) Improved Direct Air Support Center. The AN/TSQ-122 is no longer capable of satisfying all direct air support requests, coordinating aircraft employment with other supporting arms or controlling aircraft within its area of responsibility. It is incapable of supporting simultaneous deployments of more than one MAGTF per division/aircraft wing. The wing has a requirement for an improved Direct Air Support Central to control all aircraft operating in support of FMF operations. The DASC will be configured to support simultaneously three separate MAGTFs per Marine Amphibious Force. Communications capabilities will enable the DASC to process all direct air support requests, coordinate aircraft employment with the Fire Support Coordination Center and other supporting arms controlling agencies and control all aircraft within its area of responsibility. The capability for common display of information concerning status, schedules, force disposition, boundaries and other tactical information is essential. The functional requirements outlined above will be met with an incremental, relative upgrade of functional components using off-the-shelf commercial hardware housed in an ISO shelter with no software development required.

The IOC for the improved DASC is FY 86. The program extends the service life of the current DASC until a longterm solution is fulfilled with the fielding of MIFASS.

(3) Marine Air Control Squadron, MACG

(a) Tactical Air Operations Module (TAOM). See Section 1B for a complete description of this development.

(b) Radar Set AN/TPS-32. Long the primary radar sensor for the Marine Air Command and Control System, this radar is undergoing product improvement incident to a service life extension program. The radar set is helicopter transportable, has a range of 300 nm, and is a three-dimensional set capable of detecting targets up to 100,000 feet. Product improvement efforts are being directed toward increasing the system's mean time between failure and decreasing the mean time to repair, as well as incorporating built-in test features. Other enhancements include antiradiation missile electronic countermeasures and utilization of fiber optics. The IOC for this product improvement is FY 86.

(c) Radar Set AN/TPS-59. The set is a long-range (300 nm) three-dimensional radar set that is helicopter transportable. The set has a trailer-mounted phased array, a rotating antenna, and the system is the only completely solid-state radar in the Marine Corps inventory. It utilizes computer-controlled performance monitoring and fault isolation and is intended to eventually become the primary sensor for the TAOM. The IOC is FY 86.

(d) Radar Set AN/TPS-63. A gap-filler radar designed for use in remote sites utilizing radar relay in conjunction with the TPS-32 or TPS-59, the AN/TPS-63 is a two-dimensional, solid-state radar used to provide the TACC with enroute traffic control and early warning in low-altitude, high-density areas. The AN/TPS-36 IOC is FY 86.

(4) Marine Air Traffic Control Squadron, MACG

(a) Marine Air Traffic Control and Landing System (MATCALS). MATCALS is an air transportable modular system providing automated and upgraded control capabilities for high-density air traffic in an objective area. The system is comprised of three major subsystems: the AN/TPN-22 (ALS) providing precision approach radar for all-weather landing; the AN/TSQ-107 Airport Surveillance Radar for the air traffic control subsystem (ATCS); and the AN/TSQ-131(V), which comprises the communications and control subsystem. The ATCS and ALS subsystem modules may be deployed separately with one of the two combat service support shelters. Three MATCALS systems will be assigned to each Marine Air Traffic Control Squadron, giving it the capability to support up to three geographically separated expeditionary airfields or a configuration of three expeditionary airfields/bare bases,

depending upon the meteorological conditions that exist. MATCALS will reach IOC during FY 86.

(b) Marine Remote Area Approach and Landing System (MRAALS). MRAALS is comprised of a Ground Transmitter Subsystem (AN/TPN-30) and an airborne Multimode Receiver (MMR), AN/ARN-138. Helicopters and STO/VL-type aircraft have the capability of locating and making a landing approach to suitable remote landing zones under instrument meteorological conditions. The ground subsystem can be transported by two men and requires minimal installation time. The IOC for MRAALS is FY 88.

(c) NAVSTAR Global Positioning System (GPS). The NAVSTAR GPS is a space-based radio navigation system that provides equipped users with the capability to determine accurate three-dimensional position, velocity, and reference time worldwide. Within the wing, system applications will include air surveillance, control of aircraft and missiles, survey of organic radars, directing attack aircraft to specific targets, and aircraft navigation. Monitor and control stations will also be located within the Light Antiaircraft Missile Battalion, and passive airborne user equipment will be installed in MAG aircraft as funded by the Navy. The IOC is FY 89.

(5) Forward Area Air Defense Battery, MACG

(a) Lightweight Air Defense Missile System (LADS). Replacing the Redeye in the inventory, the LADS or Stinger Post, an enhancement to the basic Stinger, will provide increased point defense against the low-altitude air threat. The Stinger is a man-portable, shoulder-fired, fire-and-forget heat seeking missile. The Stinger Post is an enhanced version employing a passive optical guidance/seeker section capable of discriminating between infrared and ultraviolet target signatures and enabling the missile to be reprogrammed to counter new threats to the seeker/guidance group as they arise. Stinger Post has a further enhancement under development in the NITE sight utilizing thermal-imaging technology. The IOC is FY 88.

(6) Light Antiaircraft Missile Battalion, MACG. While the Hawk missile system will remain as the Marine Corps' primary medium range, low-to-medium altitude air defense missile system, continued product improvement is ongoing to ensure that the system remains capable of countering present and emerging threats. In addition, initiatives are underway to enhance the system's reliability and maintainability. Phase III of the Improved Hawk program involves:

o Modifications to include a new automated data processor, a new Tactical Display and Engagement Console for the Platoon Command Post that will permit independent operations for a special tactical mission.

o Incorporation of a microcomputer in the high power illuminator to improve tracking.

o A modification to provide a multiple simultaneous/low-altitude engagement capability.

o A modification to the Continuous Wave Acquisition Radar (CWAR) will provide improved range accuracy and measurement of target data within a single scan.

o The acquisition of an integral operator trainer to provide a training capability within the Hawk battery independent of the system's actual operational components, thereby prolonging service life.

o The development of hardware and software additions to permit retention of the Pulse Acquisition Radar for medium altitude surveillance, as well as the two-fire section capability.

Other minor product improvements are also anticipated in the Phase III program, which will reach IOC in FY 89.

(7) Marine Wing Communications Squadron, MACG

c. Marine Wing Support Group, (MWSG). The MWSG organization and functions are under study by a working group at Headquarters, Marine Corps level. Issues involving the degree of combat service support that should be organic to the MWSG as opposed to the FSSG are unresolved at this writing. Consolidation of the MABSs into the MWSG is also under consideration.

(1) Wing Engineer Squadron, MWSG. Engineer equipment items listed in Figure 3-7 are described in Section 4B.

(2) Headquarters Squadron, MWSG

(3) Wing Transportation Squadron, MWSG. New tactical vehicle fleet replacement vehicles coming into the inventory are described in Section 1D.

d. Marine Aerial Refueler Transport Squadron, VMGR

e. Fighter/Attack Marine Aircraft Group MAG (V)

(1) Three munitions acquisitions will enhance this community's capability to conduct air support missions against armor threats. These are:

(a) Laser Maverick AGM-65E. Intended for use as a standoff weapon against fortified ground installations and armored vehicles, the missile employs a semiactive laser-seeker to detect and attack ground targets designated by the Modular Universal Laser Equipment (MULE) from the ground, and from the air by OV-10D, A-6E, A-4M, AV-8B, and F/A-18 aircraft equipped with similar designators.

The missile has a 300-pound blast/fragmentation warhead with a cockpit-selectable fuze providing impact or post-target penetration detonation. The missile satisfies a long-standing requirement for standoff antiarmor attack and greatly improves aircraft survivability in the close air support environment. The Laser Maverick will reach IOC in FY 86.

(b) GATOR, CBU-78. A deep support, airscatterable antiarmor and antipersonnel mine weapon, the Gator will provide a capability to canalize or slow attacking armor or personnel well beyond the range of friendly artillery. The cluster bomb unit utilizes a modified M7 (Rockeye) container and will normally hold 45 antitank mines and 15 antipersonnel mines. The ground combat element commander now has the capability for rapid minefield emplacement and the added dimension in the self- destruct feature of the mines to exploit tactical opportunities. The IOC for Gator is FY 86.

(c) SIDEARM. A short-range, self-protection antiradiation weapon system designed for use on the AV-8B, the OV-10D, and assault helicopters to counter close-in air defense systems. The missile is a variant of the AIM-9C semiactive radar Sidewinder seeker and utilizes onboard aircraft defensive electronic countermeasures equipment to provide threat detection which, when relayed to the missiles circuitry, provides lock-on and launch signals for the pilot. Sidearm complements the more sophisticated Harm weapon and provides the non-Harm-equipped aircraft with a point and shoot capability against the close-in tactical threat. The IOC is FY 88.

(2) Headquarters and Maintenance Squadron, MAG(V)

(3) Marine Air Base Squadron, MAG (V)

(a) Tactical Firefighting System, P19. The P-19 CFR truck is a diesel-powered, 4-wheel drive vehicle designed for operation over a wide range of surfaces. The truck is capable of carrying 1,000 gallons of water, 130 gallons of 3 to 6 percent AFFF, and 500 lbs. of Halon 1211 agent. The truck is capable of acceleration from 0 to 50 mph in 25 seconds and has a top speed of 65 mph. The P-19 is transportable in either C-130 or C141 type aircraft. The IOC for the P-19 was FY 85.

(4) Marine Fighter/Attack Squadron (VMFA), MAG (V)

(a) F/A-18 Hornet. Transition from the F-4 to the multirole F/A-18 continues. The versatile F/A-18 can carry air-to-air weapons to gain and maintain air superiority over an objective area. With its nine external weapons stations, it can carry a formidable array of ordnance in an air-to-ground role. A two-seat version of the F/A-18 is being outfitted with a night operations enhancement system. This system is comprised of a wide field of view fixed navigation forward-looking infrared, a RASTER capability on the heads up display to permit one-to-one scale readouts, and

night vision goggles for the aircrew. The night enhancement suite has the capability to revolutionize under-the-weather, night attack air warfare. The IOC for the night enhancements has not been determined.

(5) Marine Attack Squadron (VMA(V)) MAG (V)

(a) AV-8B Harrier II. Replacing the A-4M and the AV-8A aircraft in the active force, the AV-8B will assume the role of the Marine Corps primary light-attack aircraft. Significant improvements in performance and payloads have been attained through improved design and use of lighter materials, such as graphite epoxy composite materials for the wings. The AV-8B has an angle rate bombing system, two under-fuselage gun/ammunition packs mounting the GE GAU-12 25mm cannon, a single 1,000 lb stores point between the gun packs, and three ordnance stations under each wing. This extensive capacity as well as its rapid response capability make the AV-8B ideally suited for close air support missions. A night enhancement suite similar to that described for the F/A-18 is also under development. The IOC for the night enhancement suite has not been determined.

(6) Marine All-Weather Attack Squadron (VMA(AW)) MAG (V)

(a) A-6E Intruder. Continued upgrading of the A-6E capabilities is being made with significant improvements gained in the reliability/maintainability and air crew survivability areas. The Intruder, with its laser designator ranger and forward-looking infrared, is the only all-weather-capable attack aircraft in the Marine Corps inventory.

(b) Radar Beacon Forward Air Controller (RABFAC) AN/PPN-19 and Tactical Data Communicator (TDC). RABFAC Beacon AN/PPN-19 replaces the present AN/PPN-18 radar beacon for bombing and naval gunfire. The beacon provides the capability for aircraft to conduct all-weather close air support offset beacon bombing, and also provides for offset beacon naval gunfire support. The beacon aids precision aerial resupply and can electronically mark defensive positions, rendezvous location, and landing and drop zones. The beacon has a three band directional or dual band (I&J) omni-directional antenna capability, which makes it compatible with 15 different aircraft including U.S. Air Force models. The present RABFAC system operates with only two aircraft, the F-111 and A-6. Acquisition ranges greater than 145 nm have been demonstrated, as compared to a 20 nm range for the present RABFAC. Maintainability and reliability are enhanced by built-in test equipment and modular design construction. The beacon weighs 17 lbs without batteries. The TDC permits ground-to-air and air-to-ground digital communication between the forward air controller (FAC) and aircrew with storage and instantaneous retrieval of 10 to 12 complete sets of target data. The system will enable the FAC to call for and complete virtually any CAS mission devoid of VHF voice communications and with relative immunity from electronic warfare efforts. The IOC for RABFAC AN/PPN-19 and TDC is FY 87.

f. Helicopter Marine Aircraft Group MAG (H).

(1) Headquarters and Maintenance Squadron (H&MS) MAG (H)

(2) Marine Air Base Squadron (MABS) MAG (H)

(3) Marine Heavy Helicopter Squadron (HMH) MAG (H)

(4) Marine Medium Helicopter Squadron (HMM) MAG (H)

(a) MV-22 Osprey. The advent of the MV22 replacing the rapidly aging CH-46 aircraft in the Marine Corps medium-lift helicopter inventory represents a giant step in assault support. The MV-22 is designed to carry 24 combat troops or 10,000 lbs of cargo and will have a ferry range of 2,100 nm making it self-deployable worldwide. The MV-22 utilizes a unique tilt-rotor design that enables it to hover like a helicopter for vertical take offs and landings, and yet transition to forward conventional flight and attain an operating speed of 250 knots. The IOC for the MV-22 is planned for FY 91.

(5) Marine Light Helicopter Squadron (HML) MAG (H)

(6) Marine Attack Helicopter Squadron (HMA) MAG (H)

(a) AH-1W Sea Cobra. The AH-1W is a true multimission aircraft providing armed escort for troop assault helicopters, antiarmor kill capabilities with the TOW and Hellfire missile systems, and close-in fire support for ground forces with forward-firing rockets and a 20mm gun. The AH-1W has been further modified for a self-protection capability utilizing the AIM-9 (Sidewinder). Because of the weight increases inherent in these modifications, the basic airframe has been reengined with the GE T-700 twin-pack power plant to provide greater capability in high/hot operations and enhanced safety of flight. The AH-1W IOC is FY 86.

(b) Hellfire Missile System. The Hellfire missile is a 100 lb missile with a semiactive laser terminal homing seeker that will provide an increased standoff capability combined with an improved kill probability over present antitank guided missiles. Hellfire's range of 5000 meters versus 3,750 meters for the TOW compares very favorably, and, with the indirect fire and lock-on after launch firing modes does not expose the assault helicopter to enemy fire during the launch and guidance sequence. The Hellfire missile also has greater armor penetration than the TOW missile. Hellfire reaches IOC during FY 86.

(7) Marine Observation Squadron (VMO) MAG (H)

g. Marine Tactical Reconnaissance Squadron (VMFP) MAW

h. Marine Tactical/Electronic Warfare Squadron (VMAQ) MAW

(1) The EA-6B is replacing our present family of electronic countermeasures aircraft and has a suite of jamming equipment allowing the aircraft to automatically jam programmed threats or selectively jam specific signals in a semiautomatic mode.

(2) Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES). Working in conjunction with the EA-6B aircraft, TERPES is a ground modular shelter complex with computer-aided data processing that provides for identification and location of emitters, recording of mission results, updating electronic order of battle, and the performance of mission briefing, debriefing, crew training, and tactical jamming analysis (see Section 1C for a discussion of product improvements in connection with TERPES).

		MAW	MWCS	MACS	MASS	MATCS	LAAM BN	FAAD BTRY	MWSG	MAG (V)	MAG (H)	JUC
SWITCHING EQUIPMENT	AN/TTC-42 (AUTOMATIC TELEPHONE CENTRAL (ULCS))		◆									90
	SB-3865 (AUTOMATIC SWITCHBOARD (ULCS))		◆	◆						◆	◆	90
	AN/GYC-7 (ULMS)		◆	◆						◆	◆	90
MULTICHANNEL TRANSMISSION EQUIPMENT	AN/TSC-60 (COMMUNICATIONS CENTRAL)		◆									84
	AN/MRC-139(XN-1) (UHF DIGITAL WIDEBAND TRANS SYSTEM)		◆	◆	◆		◆					91
	AN/TRC-170 (SHF MULTIPLEX RADIO EQUIPMENT)		◆	◆	◆					◆	◆	91
	UE-334/TRC (AUX. GROUND TRANS. RADIO SHELTER)		◆		◆							87
	TD-1234 (MULTIPLEXER)		◆	◆	◆				◆		◆	88
	JTIDS-DTMA		◆	◆						◆	◆	91
SINGLE CHANNEL TRANS EQUIPT.	AN/VRC-83 (VEHICULAR MOUNT VHF RADIO)			◆	◆						◆	87
	AN/PRC-113 (HANDHELD VHF/UHF RADIO)		◆	◆	◆		◆			◆	◆	87
	AN/GRC-171A (GROUND-AIR UHF RADIO)		◆	◆	◆					◆	◆	85
	AN/GRC-( ) (SINCGARS RADIO FAMILY)		◆	◆	◆	◆	◆	◆	◆	◆	◆	90
TERMINAL DEVICES	AN/PSC-2 (DIGITAL COMMUNICATIONS TERMINAL)		◆	◆	◆		◆			◆	◆	88
	AN/UXC-7 (FACSIMILE)		◆	◆	◆				◆	◆	◆	87
	AN/UGC-74A (TACTICAL REPRO/DIST. FACILITY)		◆	◆	◆				◆	◆	◆	87
	AN/MSC-63 A/B (COMMUNICATIONS CENTRAL/SSGC)		◆									89
	TA-954 (TELEPHONE (DNVT))		◆	◆	◆		◆		◆	◆	◆	88
	FIBER OPTIC CABLE SYSTEM		◆	◆	◆		◆		◆		◆	88
	ADPE-CMP (COMM MESSAGE PROCESSOR)		◆									88
SATCOM EQUIPT	AN/TSC-95A (SHELTER MOUNTED SATCOM RADIO)		◆									88
	SCOTT (EHF SINGLE CHANNEL TACTICAL TERMINAL)		◆									91
COMSEC DEVICES	TSEC/KYV-5 (COMSEC FOR CV-3591 (ANDVT))		◆	◆	◆		◆		◆			88
	TSEC/KY-99 (COMSEC FOR ANDVT)		◆	◆	◆		◆		◆	◆	◆	89
	TSEC/KG-84A (DLED)			◆	◆							87
	TSEC/KGX-93 (TRUNK ENCRYPTION DEVICE)		◆	◆	◆				◆	◆	◆	88
	TSEC/KY-68/78 (DSVT)		◆	◆	◆		◆		◆	◆	◆	90
	TSEC/KY-90 (SDNHIU)		◆	◆	◆		◆	◆	◆	◆	◆	88

FIGURE 3-6. COMMUNICATIONS EQUIPMENT, MARINE AIRCRAFT WING (1986-1995)

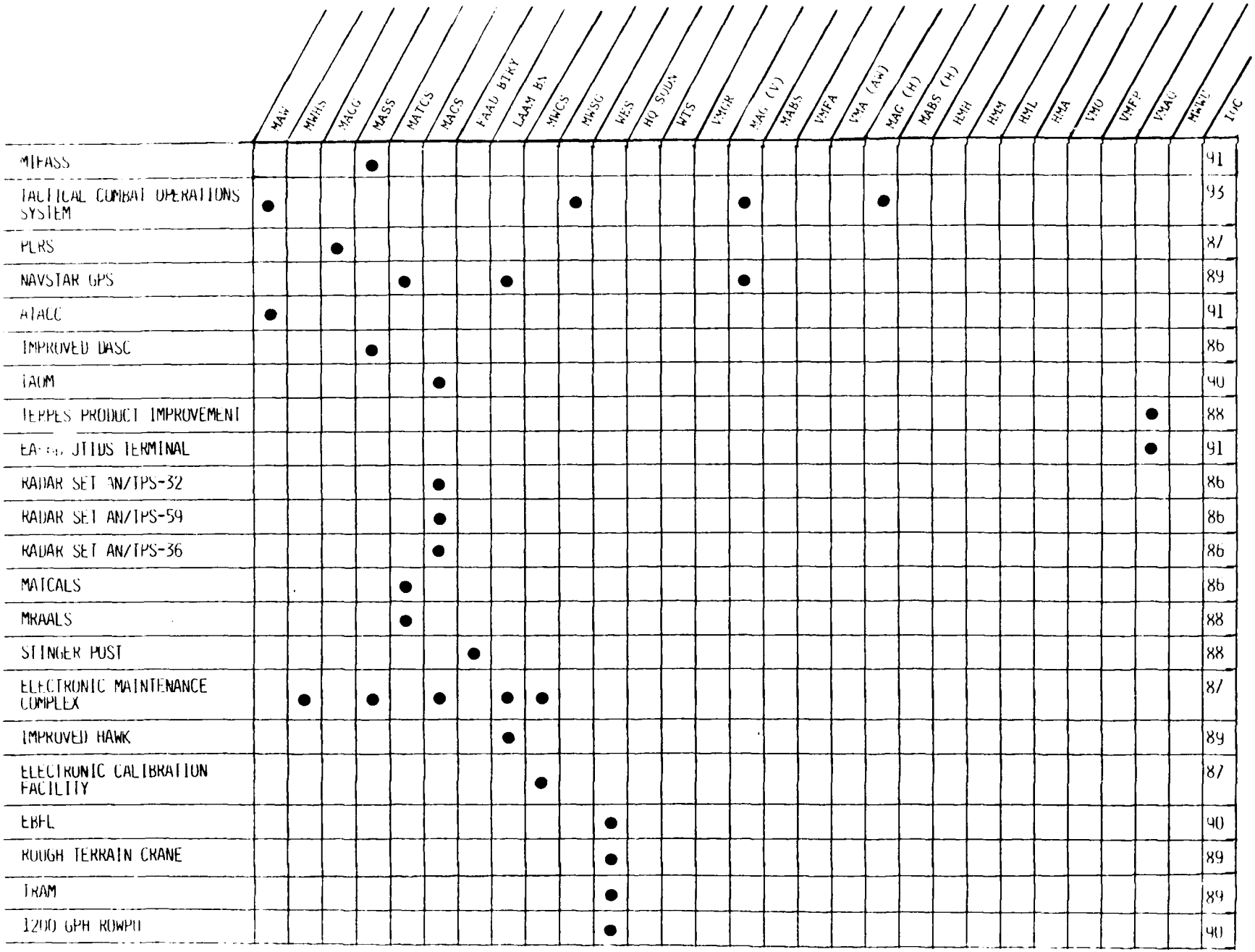


FIGURE 3-7. WEAPONS AND EQUIPMENT, MARINE AIRCRAFT WING (1986-1995)

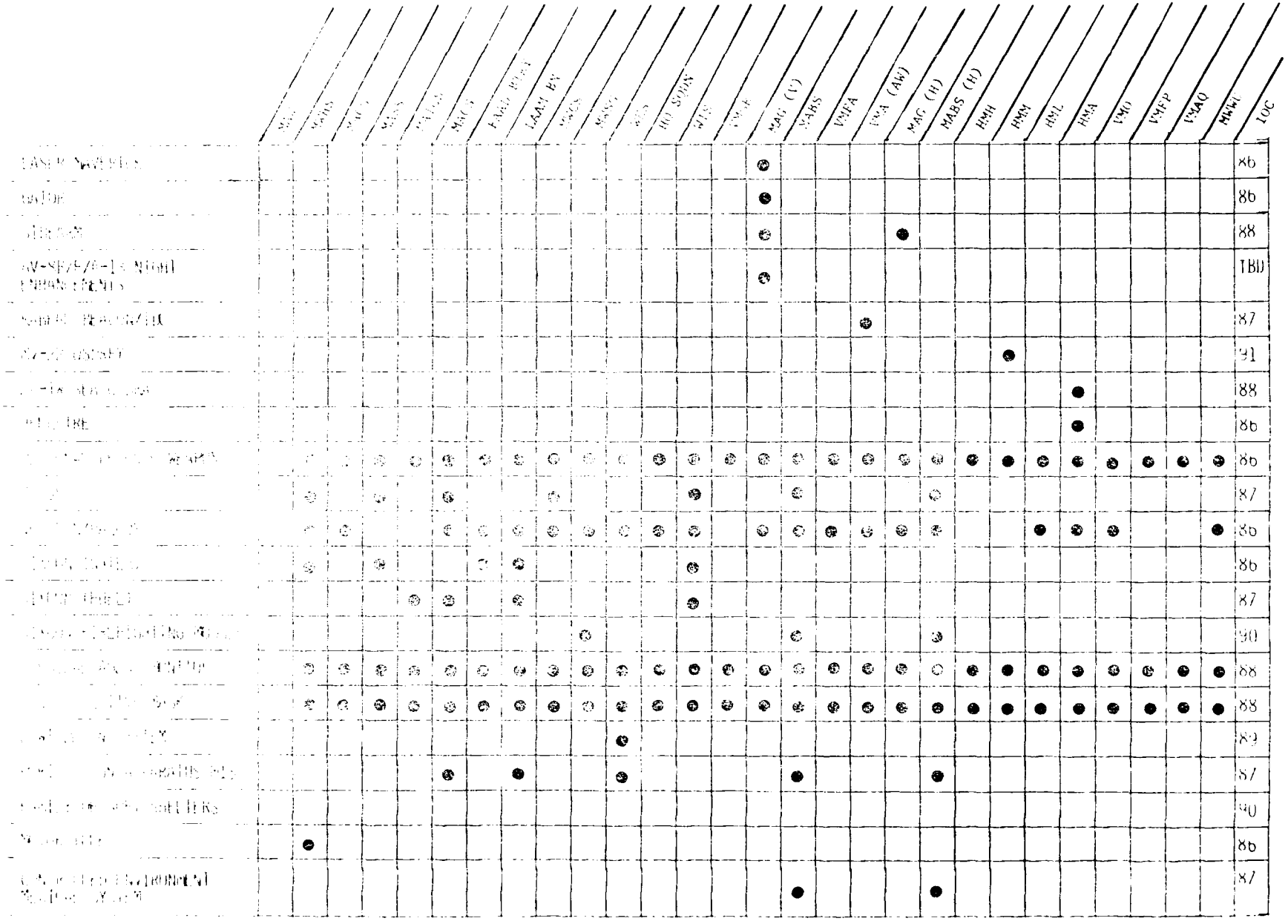


FIGURE 5-8. WEAPONS AND EQUIPMENT, MARINE AIRCRAFT WING (1980-1995)

SECTION 4A
FORCE SERVICE SUPPORT GROUP
1986 BASELINE

401. MISSION

To provide sustained combat service support to a Marine division, a Marine aircraft wing, and isolated components thereof, either when in garrison, deployed separately, or deployed as a MAF or MAGTF below MAF level executing amphibious assault operations and subsequent operations ashore. (See Figure 4-1.)

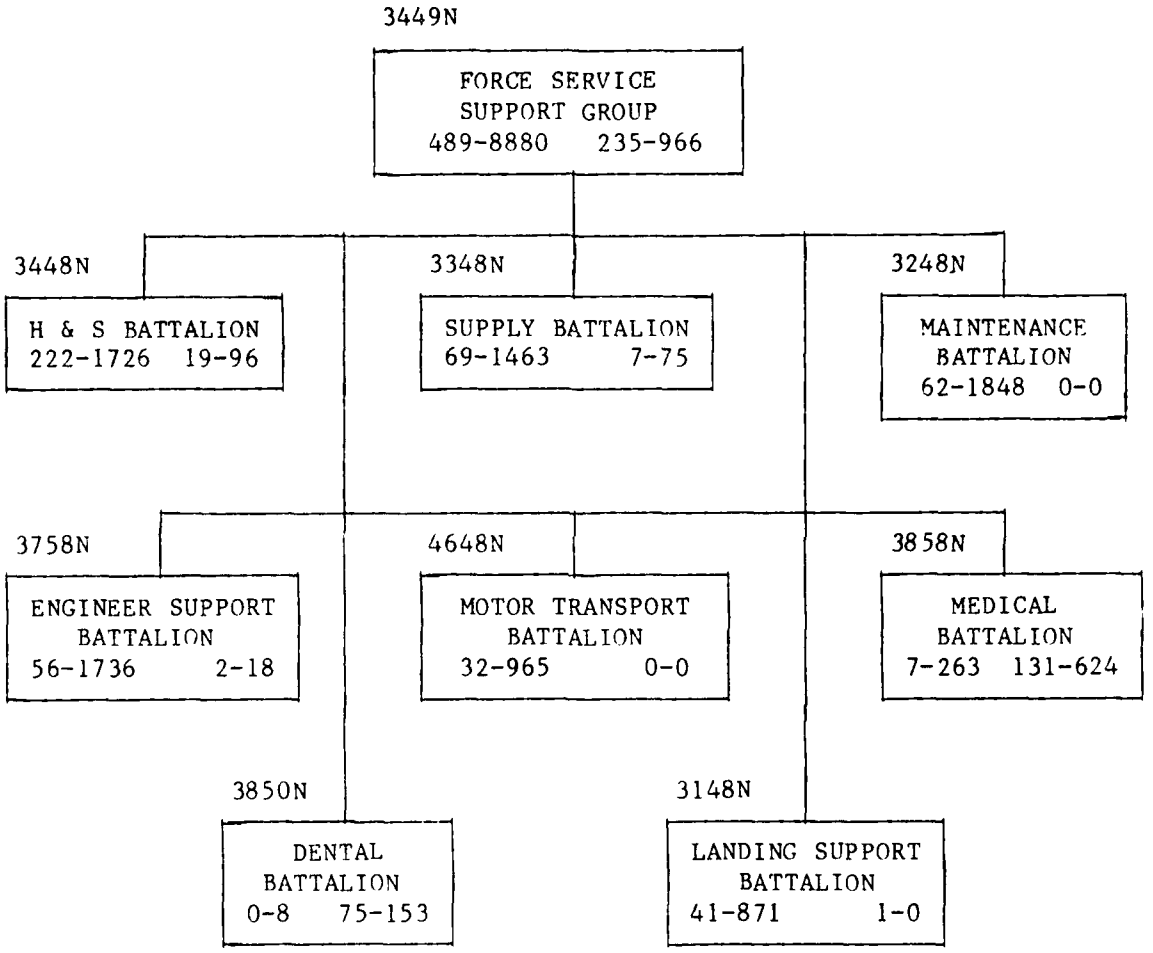


Figure 4-1 -- Force Service Support Group

402. TASKS

a. Provide both general and direct supply support missions for the MAF and other FMF units as required.

b. Provide general engineer support to the MAGTF.

c. Provide general motor transport support to the MAGTF.

d. Provide all of the MAF's intermediate maintenance support.

e. Provide medical support to the MAGTF.

f. Provide dental support to the MAGTF.

g. Maintain and operate the Operational Readiness Float (ORF) for the MAGTF.

h. Provide sustained combat service support to two deployed MABs or four deployed MAUs operating independently.

i. Plan, coordinate, and supervise the provision of combat service support to the landing force.

j. Plan, coordinate, and supervise the internal logistics functions of Headquarters and Service (H&S) Battalion.

k. Support the landing and assault phases of amphibious operations.

l. Assume full responsibilities for overall combat service support for the MAF, less those responsibilities inherent to the division and MAW commanders.

403. CONCEPT OF ORGANIZATION

The Force Service Support Group (FSSG) consists of a Headquarters and Service (H&S) Battalion, a Supply Battalion, a Maintenance Battalion, a Medical Battalion, a Landing Support Battalion, a Motor Transport Battalion, an Engineer Support Battalion, and a Dental Battalion. These organizations are structured to support the assigned mission of the FSSG.

a. Command and Control. The FSSG commander exercises command and control of the FSSG through the FSSG staff and the battalion and company commanders.

b. Firepower. Organic firepower capability is limited to individual and crew-served weapons for security.

c. Mobility. The FSSG is vehicular transportable and contains sufficient general and special-purpose transportation to effect displacement.

404. CONCEPT OF EMPLOYMENT

The FSSG is the combat service support element of the MAF. It assumes the full responsibilities for overall combat service support for the MAF, less those responsibilities inherent to the division and MAW commanders. In support of the assault phase of an

amphibious assault operation, the FSSG provides task organized elements to form the Landing Force Support Party. When the landing force is established ashore, the FSSG commander assumes control of and responsibilities for combat service support of the landing force. The FSSG provides balanced detachments for simultaneous sustained support for two MABs, each operating independently. Further, it supports in the same manner a maximum of four MAUs deployed independently.

405. ADMINISTRATIVE CAPABILITY

Subordinate elements of the FSSG are capable of self-administration.

406. LOGISTIC CAPABILITIES

a. Maintenance

(1) Organic. Capable of organizational (1st and 2d echelon) maintenance on all equipment organic to the FSSG.

(2) Support. Capable of providing all intermediate (3d and 4th echelon) maintenance for the MAF.

b. Supply. Capable of providing organic supply support for the FSSG. Capable of providing both general and direct supply support missions for the entire MAF and other FMF units as required.

c. Communications. The FSSG is organized to provide internal communications support among all levels of command for continual control of subordinate units as required.

d. Medical. Capable of providing medical/dental service support for the FSSG and the MAGTF.

e. Transportation. Capable of providing organic transportation incident to the accomplishment of the primary mission. Each battalion of the FSSG is capable of providing its own light organic motor transportation. The FSSG is capable of providing general support requirements to the MAGTF. It is further capable of providing augmentation support to the division and wing.

f. Messing. Capable of operating messes at the battalion level both in garrison and in the field.

407. ORGANIZATION

a. Headquarters and Service Battalion

(1) Mission. To provide command, control, administration, communications, security, and automatic data processing for the FSSG. To provide supporting services to the MAF in the amphibious assault and subsequent operations ashore, to

include general support automated data processing (ADP), disbursing, postal, legal services, and exchange. To provide the command central communications efforts of the combat service support elements of MAGTFs below MAF size. (See Figure 4-2.)

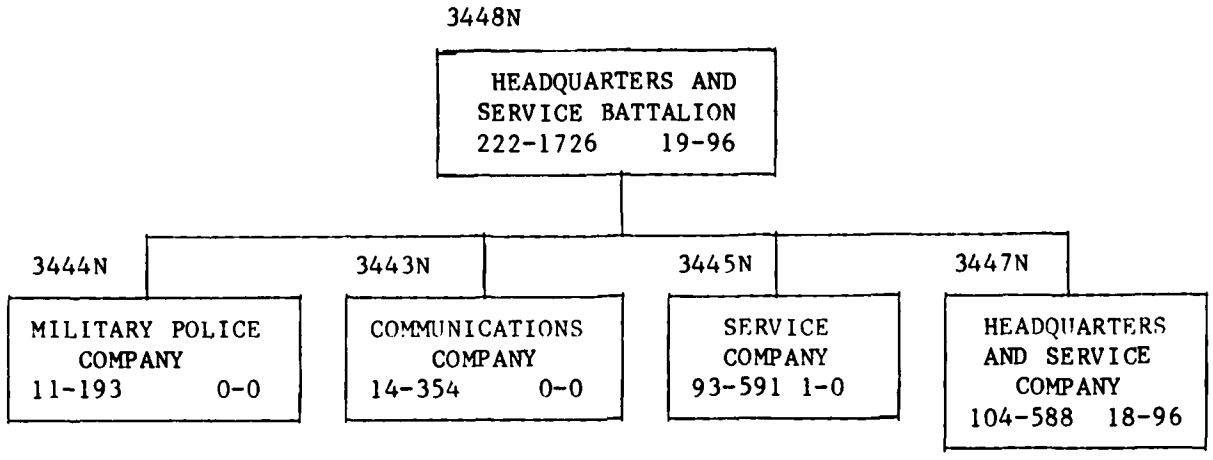


Figure 4-2 -- Headquarters and Service Battalion

(2) Tasks

(a) Provide internal communications support for units in geographically separated Combat Service Support Areas (CSSAs).

(b) Provide communications support between geographically separated CSSAs.

(c) Provide all of the disbursing functional support for the MAF.

(d) Provide all of the postal functional support for the MAF.

(e) Provide all of the exchange functional support for the MAF.

(f) Provide all of the Marine Corps ADP functional support for the MAF on a nondedicated basis.

(g) Provide reproduction functional support for the FSSG and backup support for the division and MAW capabilities.

(h) Provide all of the legal services functional support for the MAF.

(i) Provide beach, landing zone, and traffic control to prevent congestion and pilfering.

(j) Provide convoy escort as required.

(k) Enforce laws, orders, and regulations applicable to the area of operation.

(l) Provide for the evacuation, processing, guarding, and custody of enemy POWs and civilian detainees/internees.

(m) Conduct suspect, prisoner, and area searches as appropriate to the assigned mission.

(n) Provide sentry handler/dog capability for the security of key installations and facilities as may be directed.

(o) Provide scout handler/dog capability for the support of offensive operations as may be directed.

(p) Maintain a kennel facility for scout and sentry dogs organic to the battalion.

(q) Provide a company headquarters for the necessary administration and logistics support of the battalion.

(r) Conduct investigation and crime prevention.

(s) Provide food services support for the FSSG.

(t) Provide graves registration support for the MAF.

(3) Concept of Organization. The H&S Battalion consists of a Headquarters and Service (H&S) Company, a Service Company, a Communications Company, and a Military Police Company.

(a) Command and Control. The battalion commanding officer exercises command and control of the battalion through the battalion staff and the company commanders.

(b) Firepower. Organic firepower capability is limited to individual and automatic weapons for security.

(c) Mobility. The battalion is not considered to be a mobile unit due to the extent and complexity of resident equipment, and requires support from Motor Transport Battalion, FSSG, to effect displacement.

(d) Communications. All communications support is provided by the Communications Company, H&S Battalion.

(4) Concept of Employment. The H&S Battalion is organized to consolidate within a single battalion the internal support activities of the FSSG and smaller service support

activities as stated in the mission and as required by the FSSG and a MAF or lesser elements of the force. Units of the battalion are capable of task organization to meet the requirements of the particular service support for which they are responsible. The operational units operate primarily in assigned support areas in support of the FSSG and a MAF. Staff elements of the FSSG headquarters operate within one or both CSSAs. Battalion headquarters sections locate and operate within one or both force logistic support areas. Battalion staff and company personnel will be located in CSSAs to perform assigned mission. ADP support elements may be organized with support activities elements in order to provide regional data processing support. Service Company and Communications Company are structured to provide external logistic support as stated in their missions.

(5) Administrative Capability. Administrative functions for all subordinate elements are provided by H&S Battalion.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. Capable of providing organizational (1st and 2d echelons) maintenance on all organic equipment, and intermediate (3d and 4th echelons) maintenance on Marine Corps-furnished communications-electronics equipment designated as low-density/peculiar. Intermediate maintenance support of other than Marine Corps furnished communications electronics equipment designated as low-density/peculiar is provided by the Maintenance Battalion, FSSG.

2 Support. None.

(b) Supply. Capable of performing organic logistic supply support for the Battalion.

(c) Communication. Capable of providing communications support, as required, to the FSSG in garrison and when deployed in either one or two CSSAs.

(d) Medical. None organic. Support is provided by the H&S Company Medical Section, H&S Battalion, FSSG.

(e) Transportation. Capable of performing operations as set forth in the mission (to include unit distribution of supplies) with organic transportation.

(f) Messing. Capable of operating a single consolidated mess. Capable of providing up to three separate messes to support task organized elements of the FSSG.

(7) Headquarters and Service Company

(a) Mission. To provide for the internal support activities of the FSSG in the amphibious assault and subsequent operations ashore to include command, control, administration, organic supply, and motor transport.

(b) Tasks

1 Provide command and control for the operations of the FSSG in support of the MAF.

2 Provide organizational (2d echelon) maintenance on H&S Battalion engineer, motor transport, and ordnance equipment.

3 Provide food service support for the FSSG.

4 Provide ground motor transport support for the internal support activities of the FSSG in amphibious assault and subsequent operations ashore.

5 Provide command and control for organic and attached units of the battalion in amphibious assault and subsequent operations ashore.

6 Provide graves registration support for the MAF.

(c) Concept of Organization. The H&S Battalion consists of a Group Command Section containing a Chief of Staff Section, a G-1, G-2/G-3, NBC, Detection/Decontamination Team and G-4 Section, a Comptroller Section, a Force Combat Service Support Section, a Legal Section, an Adjutant Section, a Chaplain Section, a Special Services Section, an Education/Personal Affairs Section, a Career Planning Section, a Public Affairs Section, a Medical Section, a Battalion Headquarters containing a Command Section, an S-1/Adjutant Section; an S-3 Section, an S-4 Section, and a Battalion Supply Section; a Battalion Support Platoon containing a Platoon Headquarters, a Truck Section, a Maintenance Section, a Material Handling Equipment Platoon with a Platoon Headquarters, a Material Handling Equipment Section, a Maintenance Section, and a Firefighting Section, a Dining Facilities Platoon, a Graves Registration Platoon, a Company Headquarters and an Historical Section.

1 Command and Control. The company headquarters is provided to command and control organic and attached elements. The FSSG commander utilizes the FSSG staff element in the performance of his responsibilities.

2 Firepower. Organic firepower capability is limited to individual and automatic weapons for security.

3 Mobility. The Company is not considered to be a mobile unit due to the extent and complexity of resident equipment and requires support from Motor Transport Battalion, FSSG, to effect displacement.

(d) Concept of Employment. The H&S Company is structured to provide command and control for the operations of the FSSG in support of the MAF, the H&S Battalion, and also provide those same elements in support of lesser MAGTFs.

(e) Administrative Capability. None. Support consolidated at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of providing organizational (1st and 2d echelons) maintenance on all organic equipment. Intermediate (3d and 4th echelons) maintenance support is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing organizational (2d echelon) maintenance on H&S Battalion engineer, motor transport, and ordnance equipment.

2 Supply. Capable of performing organic supply support functions.

3 Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

4 Transportation. All units of the Company are capable of providing organic motor transport incident to their stated mission.

5 Messing. Capable of providing food service support to the group both in garrison and in the field as required.

(g) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, H&S BATTALION

Machine Gun, Cal.50, M2	9
Machine Gun, 7.62mm, M60	2
Night Vision Goggles, Individual, AN/PVS-5A	2
Night Vision Sight, Crew Served Weapon, AN/TVS-5	4
Pistol, Automatic, Cal .45, M1911A1	342
Rifle, 5.56mm, M16A2	447
Radiac Set AN/PDR-56G	1
Radio Set, AN/PRC-68A	6
Semi-Trailer, Van, 6T, M313	1

Shotgun, 12 Gauge, M870/MK1	10
Truck, Firfighting, Brush, M530CB	8
Truck, Firefighting, Structural, M530CS	1
Truck, Ambulance, 1-1/4T, M886	3
Truck, Ambulance, 1-1/4T, M1010	3
Truck, Tank, Water, 2-1/2T, 1000 Gal, M50A2	4
Truck, Forklift, MC-6000RTL	35
Tractor, RT, Articulated Steer, 72-31MP	6
Truck, Forklift, RT, MC-4000	25
Trailer, Amphib. Cargo, 1/4T, M416	52
Trailer, Cargo, 3/4T, M101A1	21
Trailer, Cargo, 1-1/2T, M105A2	12
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	14
Truck, Wrecker, 5T, M936	1
Truck, Ambulance, 1/4T, 4x4, M718A1	2
Truck, Cargo, 1-1/4T, 4x4T, M880	28
Truck, Cargo, 1-1/4T, M1008	22
Truck, Cargo, 5T, 6x6, M923	15
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	3
Truck, Utility, 1/4T, 4x4, M151A2	55
Truck, Wrecker, 5T, 6x6, M543A2	1
Telescope, Observation, M49	18
Truck, Utility, Cargo/Troop Carrier, M998	22

(8) Communications Company

(a) Mission. To install, operate, and maintain the communications systems for the headquarters and designated subordinate organization/elements of the FSSG.

(b) Tasks

1 To provide communications for a Force Combat Service Support Area (FCSSA)/FSSG headquarters, which is normally collocated with a MAF or other major subordinate command headquarters, and three CSSAs; or to provide communications for CSS elements to include two Brigade Service Support Groups (BSSGs), or four MAU Service Support Groups (MSSGs), or a combination of one BSSG and two MSSGs.

2 To install, operate,and maintain communications control facilities within the FSSG communications system.

3 To install, operate, and maintain radio communications for the FCSSA/FSSG headquarters and three CSSAs.

4 To install, operate, and maintain terminal ends of multichannel links to three CSSAs, Landing Support Battalion, Engineer Support Battalion, Motor Transport Battalion and Medical Battalion; and FCSSA/FSSG terminals for multichannel

links to division and MAW. CSSAs will normally be collocated sufficiently close to supported units to allow installation of wire between command posts.

5 To install, operate and maintain tactical automatic switching and wire communications for the FCSSA/FSSG, three CSSAs, and, when required, provide small-scale switching within the Maintenance and Supply Battalions.

6 To install, operate, and maintain message center facilities for the FCSSA/FSSG headquarters and the largest CSSA. Communications guard for the other two CSSAs will be provided by supported units.

(c) Concept of Organization. The Company consists of a company headquarters and radio, multichannel, maintenance, wire, and message center platoons. The headquarters and platoons are organized to facilitate assignment of communications elements to the various task organizations of the FSSG. Operational control of the Company is exercised through the office of the FSSG communications electronics officer.

1 Command and Control. The company commander directs and controls all matters relating to administration and logistics support. An Operations Officer/Section is provided to perform communications control functions, systems planning, and circuit engineering.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Organizational vehicles of the Company provide limited mobility. The Company requires external transportation assets to be fully mobile.

4 Possess organic equipment and personnel to provide required communications. Augmentation from the MAF Communications Battalion is required if a dedicated Naval Telecommunications System/Defense Communication System (NTS/DCS) entry is required.

(d) Concept of Employment. The Company provides all communications support for the FSSG headquarters in garrison, provides communications elements to MAGTF and non-MAGTF CSS units, and, in combat, is deployed to support a FCSSA/FSSG headquarters and up to three CSSAs.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

COMMUNICATIONS COMPANY, H&S BATTALION (Cont'd)

Switchboard, Telephone, Manual SB-3082(V)2/GT	2
Switchboard, Telephone, Manual, SB-22A/PT	8
Switchboard, Telephone, Automatic, SB-3614(V)TT	6
Teletypewriter, AN/TGC-14A-V	11
Telephone Set, TA-838/TT	250
Teletypewriter, AN/GGC-3A	8
Terminal, Telephone-Telegraph, TH-85A/GCC	20
Trailer, Amphib. Cargo, 1/4T, M416	20
Trailer, Cargo, 3/4T, M101A1	2
Trailer, Cargo, 1-1/2T, M105A2	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 1-1/4T, 4x4T, M880	2
Truck, Cargo, 1-1/4T, M1008	4
Truck, Cargo, 5T, 6x6, M923	3
Truck, Utility, 1/4T, 4x4, M151A2	7
Truck, Utility, Cargo/Troop Carrier, M998	5

(9) Military Police Company

(a) Mission. To provide the MAGTF commander with responsive combat support and rear area security by performing offensive and defensive tasks as an extension of law enforcement and security activities.

(b) Tasks

1 Provide traffic control, convoy escort, traffic enforcement, accident investigation, and analysis of traffic data to ensure the expeditious movement of personnel and equipment away from the beach or landing zone during combat operations.

2 Perform straggler collection, refugee control, and the forestalling or quelling of civil disorders to prevent civilian or refugee interference with tactical operations.

3 Operate a MAGTF, Enemy Prisoner-of-War (EPW) collection point, and provide for the evacuation, processing, temporary internment, and safeguarding of enemy POWs.

4 Operate a temporary detention facility for United States military personnel awaiting trial or convicted military prisoners awaiting evacuation, and provide escorts for the evacuation of military prisoners.

5 Enforce laws, orders, and regulations within the area of operations in conjunction with allied forces and host-country military/civilian police authorities; and perform measures necessary to minimize, suppress, or eliminate the opportunity to commit or engage in criminal activities.

6 Provide protection to the local populace and its material resources to deny access to those resources that would further hostile aims and objectives against the host country or allied military effort. This includes the collection, evaluation, and dissemination of police intelligence for law enforcement and security purposes.

7 Provide sentry dogs and handlers for the security of key installations and facilities as may be directed by the MAGTF commander.

8 Provide scout dogs and handlers for the support of offensive operations as may be directed by the MAGTF commander.

9 Maintain a kennel for military working dogs assigned to the Company.

10 Provide criminal investigation for the conduct of crime surveys, investigation of crimes and incidents, laboratory services, evidence retention, drug and bomb detector dog services, and related activities as requested.

11 Perform offensive and defensive infantry operations against minor enemy elements, tactical operations in urban areas, perimeter defense, and reaction forces for isolated posts and units.

(c) Concept of Organization

1 Command and Control.

a Command and Staff. With the assistance of a small company headquarters, the commander analyzes the mission, coordinates with the MAGTF provost marshal in developing and considering courses of action, assists in decisions regarding support of the MAGTF, issues orders, and assists the MAGTF provost marshal in the supervision and operation of military police assets within the MAGTF.

b Communications. Communication means are provided to maintain reliable and continuous communication channels to subordinate elements, supported units, and higher headquarters. The primary methods of communication are by wire and radio. Alternate methods of communication are messenger and visual.

2 Firepower. In addition to individual weapons, the organic firepower of the Military Police Company consists of shotguns, medium machine guns, and grenade launchers.

3 Mobility. The Company is primarily foot mobile, but the Company is readily transported by tracked and

wheeled vehicles as well as helicopters, amphibious ships and craft, and tactical and strategic air transportation.

(d) Concept of Employment. The Company is part of the service support element of a MAGTF and is normally assigned to general support of the ground and air combat elements under the direction of the MAGTF provost marshal. The Company is normally employed to provide law enforcement and security functions in the MAGTF rear area, and has the ability to provide support and reinforcement of forward military police assets assigned to the ground or air combat elements.

(e) Administrative Capability. Administrative support is provided by H&S Battalion.

(f) Logistic Capabilities

1 Maintenance. The Company is capable of providing organizational maintenance (1st echelon) of all authorized material.

2 Support. Support is provided by the battalion or the supported unit.

3 Transportation. The Company is helicopter transportable; however, its organic capability to displace is based on foot and transportation provided by the battalion or supported unit.

4 Medical. None organic. Support is provided by the battalion or the supported unit.

5 Messing. None organic. Support is provided by the battalion or the supported unit.

(g) The major items of equipment are shown below.

MILITARY POLICE COMPANY, H&S BATTALION

Launcher, Grenade, 40mm, M203	3
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	31
Revolver, Cal.38, 2-inch Barrel, M10	4
Rifle, 5.56mm, M16A2	173
Radio Set, Control Group, AN/GRA-39B	5
Radio Set, AN/GRC-160	14
Radio Set, AN/MRC-110	6
Radio Set, AN/PRC-77	17
Shotgun, 12 Gauge, M870/MK1	6
Trailer, Amphib. Cargo, 1/4T, M416	2
Truck, Cargo, 1-1/4T, 4x4T, M880	5

Truck, Cargo, 1-1/4T, M1008	5
Truck, Utility, 1/4T, 4x4, M151A2	2
Truck, Utility, Cargo/Troop Carrier, M998	2

(10) Service Company

(a) Mission. To provide services support for the MAF in garrison and to provide support for deployment of MAGTFs smaller than a MAF. To provide backup support for reproduction capabilities provided by the division and the MAW.

(b) Tasks

1 Provide all of the disbursing functional support for the MAF.

2 Provide all of the postal functional support for the MAF.

3 Provide all of the exchange functional support for the MAF.

4 Provide all of the Marine Corps ADP functional support for the MAF on a nondedicated basis.

5 Provide reproduction functional support for the FSSG and backup support for the division and MAW capabilities.

6 Provide all of the legal services functional support for the MAF.

(c) Concept of Organization. The Company is organized to provide command and control over the platoons organic to the company. The platoons are structured to provide subsections in each of the functional capabilities for support of the MAF. The Company consists of a Reproduction Section, a Disbursing Platoon, a Postal Platoon, an Exchange Platoon, a Force Automated Services Center (Medium) and (Small), a Legal Service Support Section, and a Company Headquarters.

1 Command and Control. The company commander executes the normal command and staff functions.

2 Firepower. Limited to light infantry weapons.

3 Mobility. None organic. To effect displacement, requires support from Motor Transport Battalion, FSSG.

(d) Concept of Employment. The Company will provide task organized elements to perform the functions contained in the unit mission. The nature of these functions are such that the task elements may perform their particular service at widely separated locations and are not necessarily restricted to the immediate objective area.

(e) Administrative Capability. Administrative support provided by H&S Battalion, FSSG.

(f) Logistic Capabilities

1 Maintenance.

a Organic. Capable of providing organizational (1st and 2d echelons) maintenance on infantry weapons.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

3 Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

4 Transportation. None organic. Support is provided by H&S Battalion, FSSG.

5 Messing. None. Support is provided by H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

SERVICE COMPANY, H&S BATTALION

Machine Gun, 7.62mm, M60	1
Pistol, Automatic, Cal .45, M1911A1	168
Rifle, 5.56mm, M16A2	453
Semi-trailer, Stake, 6T	4

b. Maintenance Battalion

(1) Mission. To provide intermediate-level maintenance support for the Marine Corps-furnished tactical ordnance, engineer, motor transport, communications/electronics, and general supply equipment of a MAF. (See Figure 4-3.)

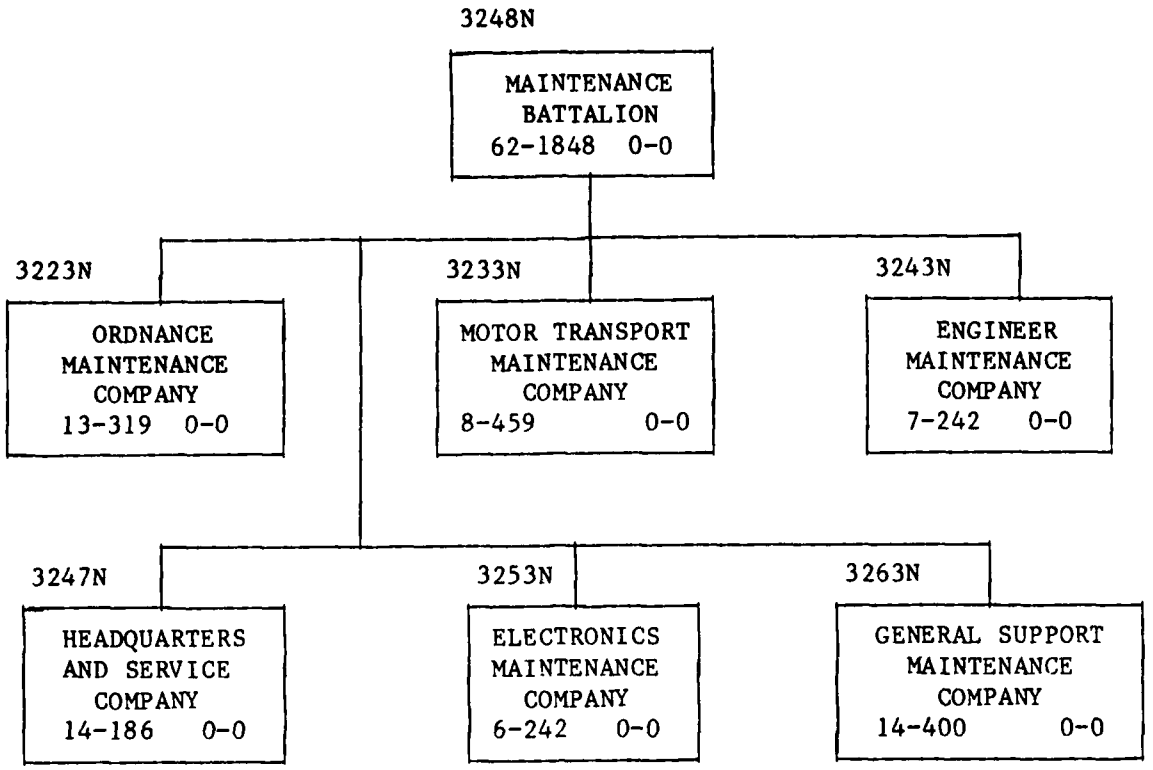


Figure 4-3 -- Maintenance Battalion

(2) Tasks

(a) Provide contact team maintenance to effect onsite repairs.

(b) Provide end item maintenance at battalion repair facilities when such maintenance is beyond the capability of contact team maintenance.

(c) Provide technical inspection services in support of the MAF commander's equipment maintenance program.

(d) Provide intermediate-level maintenance and modifications on in-stock equipment.

(e) Provide a general support maintenance facility to support the Secondary Repairables Program.

(f) Provide an ordnance-tracked vehicle recovery capability.

(g) Provide calibration services for all electrical/mechanical test and measuring equipment.

(h) Provide intermediate maintenance on major end items in mount-out and the operational readiness float.

(i) Provide technical assistance to and overflow organizational maintenance for supported units as directed by higher headquarters.

(j) Provide office machine repair support capability as required.

(3) Concept of Organization. The Battalion is structured to provide command and control over subordinate organic units. Responsibilities are discharged through the battalion headquarters consisting of the commander and executive staff. Maintenance support provided by the battalion to other units is coordinated under the staff cognizance of the Maintenance Operations Section. The S-4 Section is organized to plan, coordinate, and supervise the organic logistic functions of the Battalion. The Battalion consists of a Headquarters and Service Company, an Ordnance Maintenance Company, a Motor Transport Maintenance Company, an Engineer Maintenance Company, an Electronics Maintenance Company, and a General Support Maintenance Company. The Battalion is structured to facilitate the task organization for maintenance support from semimobile intermediate-level maintenance facilities, while simultaneously providing contact team maintenance to forward elements of the various combinations of MAGTFs.

(a) Command and Control. The Battalion commanding officer exercises command and control of the Battalion through battalion staff and company commanders.

(b) Firepower. Organic firepower capability is limited to individual weapons for personal security. The battalion is capable of providing local security and assisting in the defense of its installations against infiltration.

(c) Communications. None organic. Support is provided by the Communications Company, H&S Battalion, FSSG.

(d) Mobility. Certain elements within the battalion are helicopter and/or fixed-wing aircraft transportable. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace the maintenance installations.

(4) Concept of Employment. The Battalion will establish and operate intermediate-level direct and general support maintenance facilities under centralized control in one FCSSA or under decentralized control in two CSSAs. When not deployed as a battalion, it will provide the necessary task organized maintenance/maintenance control elements to support the different combinations of MAGTFs up to, and including, two MABs or four MAUs deployed in widely separated geographical areas. When the

maintenance/maintenance control elements cannot provide the required intermediate-level support, the equipment will be evacuated to the General Support Element for repair or disposition as required.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. Elements of the Battalion are capable of providing organizational (1st and 2d echelon) maintenance on all organic equipment.

2 Support. Capable of intermediate-level (3d and 4th echelons) maintenance on all Marine Corps-furnished equipment of the MAF (except those items which are provided intermediate-level maintenance through interservice support agreements, contractor agreements, etc., as specified in separate directives from the Commandant of the Marine Corps).

(b) Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

(c) Transportation. Capable of providing organic transportation incident to the accomplishment of the Battalion's primary mission.

(d) Supply. Capable of providing organic supply support.

(e) Messing. The H&S Company is capable of operating a battalion mess in garrison or in the field.

(7) Headquarters and Service Company

(a) Mission. To provide the battalion commander with facilities for command and control. To provide administration, organic supply, light motor transport, maintenance, and service support to the Battalion.

(b) Concept of Organization. The Company consists of a Battalion Headquarters containing an S-1/Adjutant Section; an S-2/S-3 Section; an S-4/Embarkation Section; a Maintenance Operations Section; a Battalion Supply Section; a Battalion MT/Maintenance Platoon containing a Utilities Maintenance Section; and a Company Headquarters. The Company is structured to facilitate task organization for operations in either one or two CSSAs.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons and personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various sections.

(c) Concept of Employment. The Company may be deployed under centralized control in one CSSA providing command and administrative facilities for the battalion, or it is capable of operating in two CSSAs providing the same services under decentralized control. The Company Headquarters is organized to plan, coordinate, and supervise the logistic functions of the subordinate elements of the Company with assistance by the battalion supply and motor transport officers.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all organic equipment. Capable of organizational (2d echelon) maintenance on organic motor transport and infantry weapons. Organizational (2d echelons) maintenance on all other assigned equipment is provided by Maintenance Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance support on all assigned equipment is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing organizational (2d echelon) maintenance on all Maintenance Battalion infantry weapons and motor transport vehicle assets, less General Support Maintenance Company vehicles.

2 Supply. Capable of providing organic supply support for the battalion.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Capable of providing light motor transport incident to the accomplishment of the Company's primary mission. Additional requirements are provided by Motor Transport Battalion, FSSG.

(5) Messing. Capable of operating a battalion mess in garrison or in the field.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, MAINTENANCE BATTALION

Chassis, Trailer, GP, 3-1/2T, M353	30
Dolly, Trailer, 6T, M197A1	12
Decontamination Apparatus, M12A1	1
Machine Gun, Cal.50, M2	6
Machine Gun, 7.62mm, M60	2
Pistol, Automatic, Cal .45, M1911A1	36
Rifle, 5.56mm, M16A2	158
Radiac Set AN/PDR-56G	1
Shotgun, 12 Gauge, M870/MK1	6
Semi-trailer Repair Parts Shop Van, M750	12
Truck, Cargo, 5T, XLWB, M928	4
Trailer, Amphib. Cargo, 1/4T, M416	3
Truck, Tractor, 5T, M52A2	4
Trailer, Flatbed, 3/4T, M762	21
Trailer, Cargo, 1-1/2T, M105A2	8
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	7
Truck, Wrecker, 5T, M936	2
Truck, Cargo, 1-1/4T, 4x4T, M880	5
Truck, Cargo, 1-1/4T, M1008	4
Truck, Cargo, 5T, 6x6, M54A2C	8
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	4
Truck, Utility, 1/4T, 4x4, M151A2	5
Truck, Cargo, 5T, 6x6, M923	8
Truck, Utility, Cargo/Troop Carrier, M998	5

(8) Electronics Maintenance Company

(a) Mission. To provide intermediate maintenance (3d and 4th echelons) support for all Marine Corps-furnished communication-electronics equipment of a MAF.

(b) Tasks

1 Provide onsite repair by contact teams.

Provide end item maintenance at company mobile repair facilities when such maintenance is beyond the capability of contact team maintenance.

3 Provide technical inspection services in support of the MAF commander's equipment maintenance program.

4 Provide required maintenance on in-stock communications-electronics equipment prior to issue.

5 Provide technical assistance to and overflow organizational maintenance for supported units as directed by higher headquarters.

6 Provide office machine repair support capability as required.

(c) Concept of Organization. The Company consists of a Company Headquarters containing a Maintenance Control Section; a Wire Section and an Office Machine Repair Section; a Radio/Radar Platoon containing two Radio Sections; and an Electronics Contact Maintenance Platoon consisting of three Wire Squads, two Office Machine Repair Squads, three Radio Squads and a Missile Maintenance Squad. The Company is organized to provide the basic structure necessary to facilitate the task organization for support of a MAF from either one or two CSSAs, while operating as an integral part of the Maintenance Battalion. When not deployed as a company, it is organized to provide the personnel and support equipment necessary for maintenance of ground communication-electronics equipment of the different configurations of MAGTFs up to and including two MABs or four MAUs deployed in widely separated geographical areas.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons, sections, and squads.

(d) Concept of Employment. The primary method of employment will be by contact teams equipped to effect onsite repairs, with evacuation of unserviceable/disabled equipment to backup company mobile repair facilities when repair cannot be accomplished onsite. When deployed as a unit in one CSSA or under decentralized control in two CSSAs, the Company will operate intermediate maintenance facilities for the repair of ground communication-electronics equipment as an integral part of Maintenance Battalion. The Company is structured to provide the appropriate technical and supervisory personnel and support equipment to form the communication-electronics maintenance element of a MAF or MAGTFs less than MAF size.

(e) Administrative Capability. Administrative support is provided at Battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on communication-electronics equipment and ordnance equipment, less infantry

weapons. Organizational (2d echelon) maintenance on all other assigned equipment is provided by Maintenance Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance support on all assigned equipment, less communication-electronics, is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing organizational (2d echelon) maintenance on all Maintenance Battalion communication-electronics equipment, less General Support Maintenance Company. Capable of providing intermediate (3d and 4th echelons) maintenance support on all Marine Corps-furnished communication-electronics equipment of the MAF.

2 Supply. None organic. Support is provided by H&S Company, Maintenance Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Capable of providing light motor transport incident to the accomplishment of the Company's primary mission. Additional requirements are provided by Motor Transport Battalion, FSSG.

(5) Messing. None organic. Support is provided by H&S Company, Maintenance Battalion, FSSG.

(g) The major items of equipment are shown below.

ELECTRONICS MAINTENANCE COMPANY, MAINTENANCE BATTALION

Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	6
Pistol, Automatic, Cal .45, M1911A1	26
Rifle, 5.56mm, M16A2	197
Radio Terminal, AN/TRC-166	5
Radar Set (LBSR), AN/PPS-15(V)2	4
Radio Set, AN/GRC-160	5
Radio Set, AN/PRC-68A	8
Radio Set, AN/PRC-75B	4
Receiving Set, AN/GRR-17	2
Shop, Electronic, AN/GRM-94	10
Shelter, Electronics Maint. Spt., AN/GRM-86X	8
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Cargo, 5T, XLWB, M928	13
Transponder Set, Forward Air Control, AN/PPN-18	4
Transponder Set, AN/UPN-32	2
Terminal, Telephone-Telegraph, TH-85A/GCC	8
Trailer, Amphib. Cargo, 1/4T, M416	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Cargo, 1-1/4T, 4x4T, M880	3
Truck, Cargo, 1-1/4T, M1008	3
Truck, Cargo, 5T, 6x6, M54A2C	8
Truck, Utility, 1/4T, 4x4, M151A2	2

Truck, Cargo 5T, 6x6, M923	8
Truck, Utility, Cargo/Troop Carrier, M998	2

(9) Engineer Maintenance Company

(a) Mission. To provide intermediate maintenance (3d and 4th echelons) support for all Marine Corps engineer equipment of a MAF.

(b) Tasks

1 Provide onsite repair by contact teams.

2 Provide end item maintenance at company mobile repair facilities when such maintenance is beyond the capability of contact team maintenance.

3 Provide technical inspection services in support of the MAF commander's equipment maintenance program.

4 Provide required maintenance on in-stock engineer equipment prior to issue.

5 Provide technical assistance to and overflow organizational maintenance for supported units as directed by higher headquarters.

(c) Concept of Organization. The Company consists of a Company Headquarters containing a Maintenance Control Section, a Fabric Repair Section, a Service/Support Section; an Engineer Contact Maintenance Platoon; and an Engineer Equipment Maintenance/Repair Platoon. The Company is organized to provide the basic structure necessary to facilitate the task organization for support of a MAF from either one or two CSSAs, while operating as an integral part of the Maintenance Battalion. When not deployed as a company, it is organized to provide the personnel and support equipment necessary for maintenance of ground engineer equipment of the different configurations of MAGTFs up to and including two MABs or four MAUs deployed in different areas.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various sections and/or squads.

(d) Concept of Employment. The primary method of employment will be by contact teams equipped to effect onsite repairs, with evacuation of unserviceable/disabled equipment to backup company mobile repair facilities when repair cannot be accomplished onsite. When deployed as a unit in one CSSA or under decentralized control in two CSSAs, the Company will operate intermediate maintenance facilities for the repair of ground engineer equipment as an integral part of Maintenance Battalion. The Company is structured to provide the appropriate technical and supervisory personnel and support equipment to form the engineering maintenance element of a MAF or MAGTFs less than MAF size.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on all fabric and assigned engineer equipment, less vehicular components. Organizational (2d echelon) maintenance on all other assigned equipment is provided by Maintenance Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance support on all assigned equipment, less engineer, is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing organizational (2d echelon) maintenance on all Maintenance Battalion organic fabric and engineer equipment, less General Support Maintenance Company. Capable of providing intermediate (3d and 4th echelons) maintenance for all Maintenance Battalion organic fabric and engineer equipment, less General Support Maintenance Company. Capable of providing intermediate (3d and 4th echelon) maintenance on all Marine Corps-furnished fabric and engineer equipment of a MAF.

2 Supply. None organic. Support is provided by H&S Company, Maintenance Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Capable of providing light motor transport incident to the accomplishment of the Company's primary mission. Additional requirements are provided by Motor Transport Battalion, FSSG.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

Crane, Rough Terrain, 30T, DROH-2500	1
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	1
Decontamination Apparatus, M12A1	1
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	6
Pistol, Automatic, Cal .45, M1911A1	39
Rifle, 5.56mm, M16A2	210
Semi-Trailer, Van, 6T, M313	2
Semi-trailer, Lowbed, 40T, M870	2
Truck, Tractor, 10T, 6x6, M123A1C	2
Tractor, Medium, FT-D7G Caterpillar	1
Tractor, RT, Articulated Steer, 72-31MP	1
Truck, Forklift, RT, MC-4000	1
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Wrecker, 5T, M936	2
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	4
Truck, Utility, 1/4T, 4x4, M151A2	3
Truck, Utility, Cargo/Troop Carrier, M998	3

(10) Ordnance Maintenance Company

(a) Mission. To provide intermediate (3d and 4th echelons) maintenance support for all Marine Corps ordnance equipment of a MAF.

(b) Tasks

1 Provide onsite repair by contact teams.

2 Provide end item maintenance at company mobile repair facilities when such maintenance is beyond the capability of contact team maintenance.

3 Provide technical inspection services in support of the MAF commander's equipment maintenance program.

4 Provide required maintenance on in-stock ordnance equipment prior to issue.

5 Provide an ordnance-tracked vehicle recovery capability as required.

6 Provide technical assistance to and overflow organizational maintenance for supported units as directed by higher headquarters.

(c) Concept of Organization. The Company consists of a Company Headquarters containing a Maintenance Control Section and a Recovery Section; a Tracked Vehicle Repair Platoon, an Armament Repair Platoon, and two Contact Maintenance Platoons. The

Company is organized to provide the basic structure necessary to facilitate the task organization for support of a MAF from either one or two CSSAs, while operating as an integral part of the Maintenance Battalion. When not deployed as a company, it is organized to provide the personnel and support equipment necessary for maintenance of ground ordnance equipment of the different configurations of MAGTFs up to and including two MABs or four MAUs deployed in different areas.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The primary method of employment will be by contact teams equipped to effect onsite repairs, with evacuation of unserviceable/disabled equipment to backup company mobile repair facilities when repair cannot be accomplished onsite. When deployed as a unit in one CSSA or under decentralized control in two CSSAs, the Company will operate intermediate maintenance facilities for the repair of ground ordnance equipment as an integral part of Maintenance Battalion. The Company is structured to provide the appropriate technical and supervisory personnel and support equipment to form the ordnance maintenance element of a MAF or MAGTFs less than MAF size.

(e) Administrative Capability. Support consolidated at battalion level.

(f) Logistic Capabilities

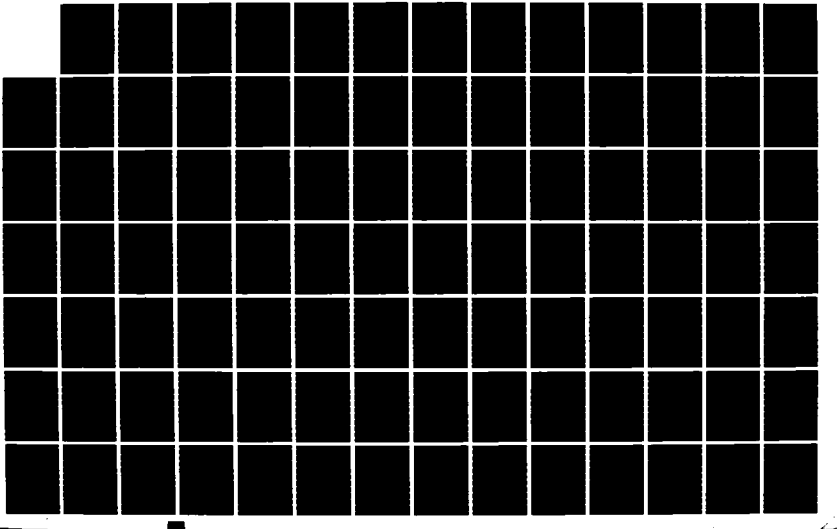
1 Maintenance

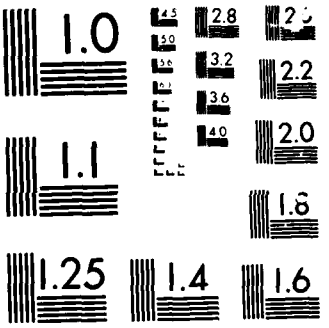
a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on assigned ordnance equipment, less infantry weapons and transport vehicular components. Organizational (2d echelon) maintenance support on all other assigned equipment is provided by Maintenance Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance support on all assigned equipment, less ground ordnance, is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing intermediate (3d and 4th echelons) maintenance support of all Marine Corps-furnished ground ordnance equipment of the MAF.

AD-A165 268 US MARINE CORPS LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)(U) CACI INC-FEDERAL ARLINGTON VA D R LEISTEN DEC 85 M00027-84-D-0037 4/3

UNCLASSIFIED F/G 15/7 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.8
3.2
3.6
4.0

2 Supply. None organic. Support is provided by H&S Company, Maintenance Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Capable of providing light motor transport and heavy transportation of ordnance- tracked vehicles incident to accomplishment of the Company's primary mission. Additional requirements are provided by Motor Transport Battalion, FSSG.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

ORDNANCE MAINTENANCE COMPANY, MAINTENANCE BATTALION

Decontamination Apparatus, M12A1	1
Landing Vehicle, Tracked, Recovery, AAVR7A1	4
Machine Gun, Cal.50, M2	5
Machine Gun, 7.62mm, M60D	4
Machine Gun, 7.62mm, M60	6
Night Vision Sight, Crew Served Weapon, AN/TVS-5	2
Pistol, Automatic, Cal .45, M1911A1	41
Rifle, 5.56mm, M16A2	242
Recovery Vehicle, M88A1	4
Semi-trailer, Tank Transporter, M793	4
Truck, Tractor, 10T, M123E2	4
Truck, Van, 2-1/2T, M109A3	2
Truck, Wrecker, 5T, M936	2
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Cargo, 3/4T, M101A1	6
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Cargo, 1-1/4T, 4x4T, M880	6
Truck, Cargo, 1-1/4T, M1008	6
Truck, Utility, 1/4T, 4x4, M151A2	3
Truck, Utility, Cargo/Troop Carrier, M998	3

(11) General Support Maintenance Company

(a) Mission. To provide general and backup support for the commodity-oriented companies of the Battalion, and for machine shop facilities, for the accomplishment of intermediate (3d and 4th echelons) maintenance for all ground equipment of a MAF.

(b) Tasks

1 Provide intermediate (3d and 4th echelons) maintenance on secondary repairables from the secondary repairable float.

2 Provide organizational (1st and 2d echelons) and intermediate (3d and 4th echelons) maintenance on major end items in mount-out and the ORF.

3 Prepare in-stock items for issue.

4 Provide calibration services in support of direct support elements of the Battalion and subsequent to the accomplishment of required general support intermediate maintenance on test and measuring equipment.

5 Provide maintenance and repair of general supply items.

6 Provide calibration services for all Marine Corps furnished test and measuring equipment organic to the MAF.

(c) Concept of Organization. The Company is a functionally organized unit consisting of a Company Headquarters; a Support Platoon containing a Maintenance Control Section and a Machine Shop Section; an End Item Repair Platoon containing two Repair Sections and four Repair Teams; a Component Rebuild Platoon containing a Weapons Section, an Engine Rebuild Section and a Power Transmission and Suspension Section; a Communications-Electronics Platoon containing a Wire Section and a Radio Section; a General Support Maintenance Repair Platoon containing three Genral Support Maintenance Repair Teams; an Operational Readiness Platoon consisting of a Supply Administrative Section and an Equipment Section; and an Electrical/Mechanical Calibration Platoon consisting of Electrical and Mechanical Calibration Sections and a Missile Maintenance Section. The Company is structured to facilitate task organization for operations in support of a MAF from either one or two CSSAs while still an integral part of the Maintenance Battalion. When not deployed as a company, it is organized to provide the personnel and support equipment necessary for the maintenance of all ground equipment of the different configurations of MAGTFs up to and including two MABs or four MAUs deployed in widely separated geographical areas.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The Company may be deployed as a unit in one CSSA or under decentralized control in two CSSAs. It will operate general support intermediate repair

facilities for the repair of ground equipment of the MAF. The Company is structured to provide the appropriate technical and supervisory personnel and support equipment to augment the maintenance elements of an MSSG/BSSG with a general support intermediate maintenance capability.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st and 2d echelons) maintenance on all assigned equipment.

b Support. Capable of general support intermediate (3d and 4th echelons) maintenance on all ground equipment of the MAF.

2 Supply. None organic. Support is provided by H&S Company, Maintenance Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical section, H&S Battalion, FSSG.

4 Transportation. Capable of providing light motor transport incident to accomplishment of the Company's primary mission. Additional requirements are provided by Motor Transport Battalion, FSSG.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

GENERAL SUPPORT MAINTENANCE COMPANY, MAINTENANCE BATTALION

Calibration Complex, Transportable, AN/TSM-119	2
Calibration Shop, Transportable, AN/TSM-124	1
Dolly, Trailer, M354	1
Decontamination Apparatus, M12A1	1
Maintenance Facility, AN/TAM-6	2
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	4
Pistol, Automatic, Cal .45, M1911A1	71
Radio Set, AN/GRC-193	2
Rifle, 5.56mm, M16A2	304
Radio Terminal, AN/TRC-166	2
Radio Set, Control Group, AN/GRA-39B	2
Radio Set, AN/GRC-160	2
Radio Set, AN/PRC-68A	8
Radio Set, AN/PRC-77	4
Radio Set, AN/PRC-75B	2

Radio Set, AN/PRC-104	2
Switchboard, Telephone, Manual SB-3082(V)2/GT	1
Shop, Electronic, AN/GRM-94	4
Shelter, Electronics Maint. Spt., AN/GRM-86X	4
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Cargo, 5T, XLWB, M928	3
Transponder Set, Forward Air Control, AN/PPN-18	1
Truck, Wrecker, 5T, M936	1
Terminal, Telephone-Telegraph, TH-85A/GCC	22
Trailer, Amphib. Cargo, 1/4T, M416	1
Trailer, Cargo, 3/4T, M101A1	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Cargo, 1-1/4T, 4x4T, M880	2
Truck, Cargo, 1-1/4T, M1008	4
Truck, Utility, 1/4T, 4x4, M151A2	2
Van, Maintenance, DRAGON, AN/TSM-162	2
Van, Maintenance, TOW, AN/TSM-161	2
Trailer, Cargo, 1-1/2T, M105A2	2
Truck, Van, 2-1/2T, 6x6, M109A3	12
Truck, Utility, Cargo/Troop Carrier	2

(12) Motor Transport Maintenance Company

(a) Mission. To provide intermediate (3d and 4th echelons) maintenance support for all Marine Corps motor transport equipment of a MAF.

(b) Tasks

1 Provide onsite repair by contact teams.

2 Provide end item maintenance at company mobile repair facilities when such maintenance is beyond the capability of contact team maintenance.

3 Provide technical inspection services in support of the MAF commander's equipment maintenance program.

4 Provide required maintenance on in-stock motor transport equipment prior to issue.

5 Provide technical assistance to and overflow organizational maintenance for supported units as directed by higher headquarters.

(c) Concept of Organization. The Company consists of a Company Headquarters containing a Support Section; an Automobile Repair Platoon and two Automobile Contact Maintenance Platoons. The Company is organized to provide the basic structure necessary to facilitate the task organization for support of a MAF from either one or two CSSAs, while operating as an integral part of the Maintenance Battalion. When not deployed as a company, it

is organized to provide the personnel and support equipment necessary for maintenance of motor transport equipment of the different configurations of MAGTFs, up to and including two MABs or four MAUs.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The primary method of employment will be by contact teams equipped to effect onsite repairs, with evacuation of unserviceable/disabled equipment to backup company mobile repair facilities when repair cannot be accomplished onsite. When deployed as a unit in one CSSA or under decentralized control in two CSSAs, the Company will operate intermediate maintenance facilities for the repair of motor transport equipment as an integral part of Maintenance Battalion. The Company is structured to provide the appropriate technical and supervisory personnel and support equipment to form the motor transport maintenance element of a MAF or MAGTFs less than MAF size.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Capable of organizational (2d echelon) maintenance on assigned motor transport equipment. Organizational (2d echelon) maintenance support on all other assigned equipment is provided by Maintenance Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance support on all assigned equipment, less motor transport, is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing intermediate (3d and 4th echelons) maintenance support on all Marine Corps-furnished motor transport equipment of the MAF. Capable of providing organic (2d echelon) maintenance support for all Maintenance Battalion motor transport equipment, less General Support Maintenance Company and H&S Company.

2 Supply. None organic. Support is provided by H&S Company, Maintenance Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Capable of providing light motor transport incident to accomplishment of the Company's primary mission.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

MOTOR TRANSPORT MAINTENANCE COMPANY, MAINTENANCE BATTALION

Decontamination Apparatus, M12A1	1
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	6
Pistol, Automatic, Cal .45, M1911A1	39
Rifle, 5.56mm, M16A2	390
Trailer, Amphib. Cargo, 1/4T, M416	2
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	5
Truck, Wrecker, 5T, M936	3
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	6
Truck, Utility, 1/4T, 4x4, M151A2	2
Trailer, Cargo, 1-1/2T, M105A2	2
Truck, Van, 2-1/2T, 6x6, M109A3	12
Truck, Utility, Cargo/Troop Carrier	2

c. Supply Battalion

(1) Mission. To provide all functions, including stock control, cross-servicing, and civilian contracting incident to the supply of all classes of supply (except bulk fuel) to a Marine division, a MAW, and FSSG units, including isolated components thereof, either in garrison when employed separately, as a MAF, or as MAGTFs of less than MAF size in the amphibious assault and subsequent operations ashore. (See Figure 4-4.)

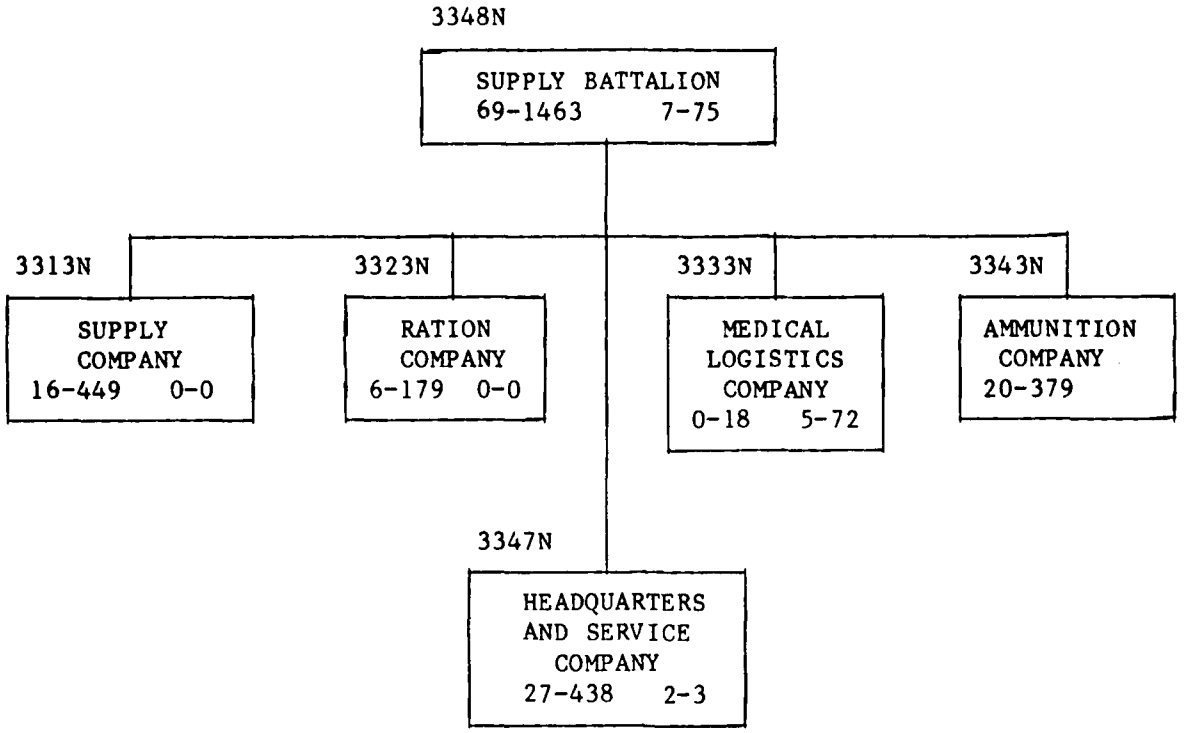


Figure 4-4 -- Supply Battalion

(2) Tasks

(a) Manage and provide supply service support to include stock control functions for the MAF, through the SASSY Management Unit (SMU).

(b) Provide salvage functions for the MAF.

(c) Provide technical management, data research, customer service, and assistance to the MAF.

(d) Provide Consolidated Issue Points (CIP) for the MAF.

(e) Provide management of the MAF's special allowance training pool items and initial issue of provisioning assets.

(f) Provide management of the MAF's secondary repairables through the maintenance float.

(g) Provide procurement services for the MAF of items decentralized by the integrated material manager.

(h) Provide supply status management reports as required.

(i) Provide interface with financial and maintenance management systems in support of MAF requirements.

(j) Provide accounting for Classes II, IV, VII, and limited Class IX supplies; initial issue provisioning assets; and authorized levels of war reserve.

(k) Establish and operate ration dumps to include storage issue and accounting for Class I items in support of the MAF.

(l) Establish and operate a field bakery in support of the MAF.

(m) Provide technical assistance in the receipt, storage, assembling, and providing of nuclear ordnance and other specified ordnance to ground and aviation elements of the MAF.

(n) Provide receipt, storage, and forwarding of package fuel to the MAF.

(o) Provide packing, preservation, and packaging services to the MAF.

(3) Concept of Organization. The Battalion consists of an H&S Company, an Ammunition Company, a Ration Company, a Supply Company, and a Medical Logistics Company.

(a) Command and Control. The battalion commanding officer exercises command and control of the Battalion through the battalion staff and company commanders.

(b) Firepower. Organic firepower capability is limited to individual weapons for personal security. The Battalion is capable of providing local security and assisting in the defense of its installations against infiltration.

(c) Communications. None organic. Support is provided by the Communications Company, H&S Battalion, FSSG.

(d) Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace organic equipment.

(4) Concept of Employment. The Battalion consolidates the supply capability of the FSSG, to include stock control, warehousing, cyclic inventory, cross-servicing, and civilian contracting. It is further structured with commodity area companies capable of providing supply support to the MAF, isolated components of the MAF, or to MAGTFs less than MAF size up to and including two MABs or four MAUs deployed in widely separated

geographical areas. When providing support to MAGTFs of less than MAF size, the Battalion organizes a detachment using the direct support platoons in each of the commodity companies. In a MAF size operation, the Battalion may operate in one or more CSSAs. Supply management and control is exercised by the SMU in the H&S Company.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. The Battalion is capable of providing organizational (1st and 2d echelons) maintenance on all organic equipment. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

2 Support. Capable of intermediate (3d and 4th echelons) maintenance on all medical and dental equipment of the MAF.

(b) Supply. Capable of providing organic support for the Battalion to accomplish its stated mission.

(c) Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

(d) Transportation. The Battalion possesss light organic motor transport capability. Motor transport assistance is required from Motor Transport Battalion, FSSG, to effect distribution of supplies as required by the primary mission.

(e) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(7) Supply Company

(a) Mission. To provide for the receipt, storage, and issue support of Classes II, III (packaged), IV, and IX (Consumable) general account operating stocks to elements of the MAF during an amphibious assault and subsequent operations ashore.

(b) Tasks

1 Provide bin and bulk storage of identified general account operating stocks.

2 Provide supply locator services.

3 Provide total receipt, storage, and issue support for all general account operating stocks.

4 Provide warehousing capability from one or all three supply platoons to perform storage for deployed CSSEs.

5 Provide receipt, storage, and forwarding of packaged fuel to the MAF.

6 Provide packing, preservation, and packaging services as required.

(c) Concept of Organization. The Company consists of a Headquarters Platoon containing a Headquarters Section and an Operations Section; a Packing, Preservation and Packaging (PP&P) Platoon containing an Operations Section and three PP&P Teams; three Supply Platoons consisting of an Issue/Receiving Section, a Bin Storage Section, a Medium-Bulk Storage Section, and a Lot Storage Section; and a Direct Support Fuel Platoon containing three Fuel Squads.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The Company is organized to centralize Classes II, III (Packaged), IV, and IX (Consumable) supply support of the group within one company. The Company can operate as a single entity or can be separated into three balanced units to provide support to the MAF or to MAGTFs less than MAF size. Each platoon is capable of performing limited in-stock maintenance and stock control. Each is capable of establishing several retail store commodity sections of bin storage material if required. The Company is capable of providing supply support in one or more CSSAs.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of providing organizational (1st echelon) maintenance on all assigned equipment. Organizational (2nd echelon) maintenance on all assigned equipment is provided by H&S Company, Supply Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Supply Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Possesses light organic motor transport capability. Requires motor transport assistance to effect distribution of supplies as required in the primary mission.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

SUPPLY COMPANY, SUPPLY BATTALION

Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	8
Pistol, Automatic, Cal .45, M1911A1	92
Rifle, 5.56mm, M16A2	373
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Cargo, 1-1/4T, 4x4T, M880	2
Truck, Cargo, 1-1/4T, M1008	3
Truck, Utility, 1/4T, 4x4, M151A2	3
Truck, Utility, Cargo/Troop Carrier, M998	2

(8) Ration Company

(a) Mission. To provide for the receipt, storage, and issue support of Classes I and VI (when prescribed) general account operating stocks to elements of the MAF during an amphibious assault and subsequent operations ashore.

(b) Tasks

1 Establish and operate ration dumps to include storage, issue, and accounting for Class I items in support of a landing force.

2 Establish and operate a field bakery to support the landing force.

(c) Concept of Organization. The Company consists of a Company Headquarters containing a Ration Platoon and four Ration Sections; two Direct Support Ration Platoons, each containing three squads; and a Bakery Platoon containing four Bakery Sections.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The Company is structured to provide ration support to the MAF, to MAGTFs less than MAF size, or to elements of the MAF operating independently, through its Direct Support Ration Platoons. The Company is capable of establishing and operating ration dumps to include storage, accounting, and issuing of subsistence items in support of a landing force. The Company is capable of providing detachments from the Direct Support Ration Platoon to support deployment CSSEs.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Organizational (2d echelon) maintenance on assigned equipment is provided by H&S Company, Supply Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Supply Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Possesses light organic motor transport capability. Requires motor transport assistance to effect distribution of supplies as required in the primary mission.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

Bakery Plant, Field portable	7
Bakery Plant, Trailer mounted, M1945	1
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	3
Pistol, Automatic, Cal .45, M1911A1	20
Refrigeration Unit, ME-10-M1	11
Refrigeration Unit, PTE-10-3	23
Refrigerator, Prefab, 100 cu.ft.	11
Refrigerator, Prefab, 630 cu.ft., TK600JMC	23
Rifle, 5.56mm, M16A2	165
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	9
Truck, Cargo, 1-1/4T, 4x4T, M880	1
Truck, Cargo, 1-1/4T, M1008	2
Truck, Utility, 1/4T, 4x4, M151A2	3
Truck, Utility, Cargo/Troop Carrier, M998	2

(9) Ammunition Company

(a) Mission. To provide for the receipt, storage, and issue support of Class V general account operating stocks; all explosive ordnance dispposal (EOD) support; and technical assistance in receipt, storage, assembling, and forwarding of nuclear ordnance (and other specified ordnance) to elements of the MAF during an amphibious assault and subsequent operations ashore.

(b) Tasks

1 Provide receipt, storage, issue, and accounting functions for all Class V items.

2 Provide minor rework of Grade III ammunition and repackaging support for the MAF.

3 Provide EOD support as required.

4 Provide technical assistance in the receipt, storage, assembling, and forwarding of nuclear ordnance to ground and aviation elements of the MAF.

(c) Concept of Organization. The Company consists of a Company Headquarters containing an Operations/Records Section and a Missile Section; an Ammunition Platoon containing an Operations Section, four Ammo Squads, two Packaged/Helo Support Squads and an Aviation Ammo Section; two Direct Support Ammo Platoons consisting of an Operations Section, four Ammo Squads, two Packaged Helo Support Squads and two Aviation Ordnance Sections each; a Nuclear Ordnance Platoon containing two Nuclear Ordnance Sections; and an EOD/NW Platoon containing three EOD/NW Teams.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The Company is structured to provide support to the MAF or to MAGTFs less than MAF size. Through its Direct Support Ammo Platoons, the Company is capable of providing detachment support to elements of the MAF operating independently. In MAF-size operations, the Company is capable of organizing and operating one or more ammunition supply points in one or more CSSAs.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Organizational (2d echelon) maintenance on assigned equipment is provided by H&S Company, Supply Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Supply Battalion, FSSG.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Possesses light organic motor transport capability. Requires motor transport assistance to effect distribution of supplies as required in the primary mission.

(5) Messing. None organic. Support is provided by H&S Company, H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

AMMUNITION COMPANY, SUPPLY BATTALION

Decontamination Apparatus, M12A1	2
Demolition Equipment	5
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	5
Pistol, Automatic, Cal .45, M1911A1	39
Rifle, 5.56mm, M16A2	340
Radiac Set AN/PDR-56G	8
Shotgun, 12 Gauge, M870/MK1	28
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Cargo, 3/4T, M101A1	5
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Cargo, 1-1/4T, 4x4T, M880	5
Truck, Cargo, 1-1/4T, M1008	6
Truck, Cargo, 5T, 6x6, M54A2C	3
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Cargo, 5T, 6x6, M923	3
Truck, Utility, Cargo/Troop Carrier, M998	3

(10) Headquarters and Service Company

(a) Mission. To provide for the command and administration of the Battalion and furnish organic supply and transportation services to the Battalion. Furnish supply management control to the MAF during the amphibious assault and subsequent operations ashore. Furnish command sections for detachments of the Battalion on independent missions in support of MAGTFs of less than MAF size.

(b) Tasks

1 Provide supply service support to include stock control functions for all supported units through the SMU.

2 Provide salvage functions for the MAF.

3 Provide technical management data research, customer service, and assistance to all user units.

4 Provide consolidated issue points for the MAF.

5 Provide management of special allowance training pool items and initial issue provisioning assets.

6 Provide management of secondary repairables through the maintenance float.

7 Provide procurement services for items decentralized by the IMM.

8 Provide supply status management reports to higher headquarters.

9 Provide interface with financial and maintenance management systems.

10 Provide civilian contracting/cross-servicing functional support for deployed units.

11 Provide accounting for Classes II, IV, VII, VIII, and limited Class IX supplies; initial issue provisioning assets; and authorized levels of war reserves.

(c) Concept of Organization. The Company consists of a Battalion Headquarters containing an S-1/Adjutant Section, an S-3 Section, and an S-4/Embarkation Section; a SASSY Management Unit; a Battalion Supply Section, a Motor Transport/Maintenance Platoon; a Salvage Platoon consisting of three Salvage Sections; and a Company Headquarters.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(d) Concept of Employment. The Company is structured to provide centralized supply control and management for the MAF from within the SMU. Accounting for all classes of supply is supported through SASSY by the SMU, Supply Battalion, FSSG, with the current exception of Classes I, III, V, and VI. The SMU conducts the functions necessary to manage and maintain control of all classes of supplies handled by the other companies of the Supply Battalion. The Company is able to combine elements of the battalion headquarters with other elements of the Battalion to provide overall supply support to elements of the MAF or to MAGTFs less than MAF size, or provide small independent units of task organized supply control and management personnel.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st and 2d echelons) maintenance on all assigned equipment. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. Capable of providing organizational (2d echelon) maintenance support on all equipment assigned to the battalion.

2 Supply. Capable of providing organic supply support to all elements of the Battalion.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Capable of providing motor transport support necessary to accomplish internal battalion support. Requires support from Motor Transport Battalion, FSSG, to fill other requirements.

(5) Messing. Capable of operating a mess facility in garrison or in the field.

(g) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, SUPPLY BATTALION

Decontamination Apparatus, M12A1	2
Machine Gun, Cal.50, M2	7
Machine Gun, 7.62mm, M60	2
Night Vision Goggles, Individual, AN/PVS-5A	2
Night Vision Sight, Crew Served Weapon, AN/TVS-5	2
Pistol, Automatic, Cal .45, M1911A1	88
Rifle, 5.56mm, M16A2	377
Radiac Set AN/PDR-56G	2
Truck, Cargo, 5T, XLWB, M928	3
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Cargo, 3/4T, M101A1	4
Trailer, Cargo, 1-1/2T, M105A2	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	4
Truck, Cargo, 5T, 6x6, M923	6
Truck, Utility, 1/4T, 4x4, M151A2	3
Truck, Wrecker, 5T, 6x6, M543A2	2
Truck, Wrecker, 5T, 6x6, M936	2
Truck, Utility, Cargo/Troop Carrier, M998	3

(11) Medical Logistics Company

(a) Mission. To provide for the receipt, storage, and issue of Class VIII supplies in support of the Authorized Medical Allowance List/Authorized Dental Allowance List (AMAL/ADAL) of medical/dental units and elements; intermediate biomedical technical (3d and 4th echelons) maintenance and repair of medical/dental equipment; and technical assistance for the inventory and quality control of AMAL/ADAL, and 1st and 2d echelons

maintenance of medical/dental equipment of the MAF during an amphibious assault and subsequent operations ashore.

(b) Tasks

1 Provide for the acquisition, receipt, and issue of all Class VIII material.

2 Provide for the packaging, preservation, storage, and maintenance of Class VIII resupply.

3 Provide for the 3d and 4th echelons of maintenance for all Class VIII equipment.

4 Provide technical assistance to MAF medical/dental units and elements for the maintenance and inventory of unit/element AMAL/ADAL.

5 Establish and operate Class VIII supply points, to include acquisition, receipt, storage, and issue of Class VIII material for the MAF.

(c) Concept of Organization. The Company consists of a Headquarters Section, three Supply Platoons and an Equipment Repair Platoon.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Requires motor transport support from the Motor Transport Battalion, FSSG, to displace its sections and platoons.

(d) Concept of Employment. The Company is structured to provide centralized supply facilities for Class VIII supplies. The Supply Platoons are capable of operating as a single unit or decentralizing into three balanced units in support of a MAF, a MAGTF less than MAF size, or elements of the MAF operating independently. The Equipment Repair Platoon is capable of providing in-stores maintenance of equipment stored by the Company, and intermediate maintenance of medical and dental equipment of the MAF. It is capable of operating in a centralized repair site and/or providing contact team maintenance in the field.

(e) Administrative Capability. Capable of self-administration.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st and 2d echelons), and intermediate (3d and 4th echelons) maintenance of medical and dental equipment. Capable of organizational (1st echelon) maintenance of all other assigned equipment. Organizational (2d echelon) maintenance on all other assigned equipment is provided by H&S Company, Supply Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance on all Marine Corps assigned nonmedical equipment is provided by Maintenance Battalion, FSSG.

b Support. Provides intermediate (3d and 4th echelons) maintenance on medical and dental equipment of the MAF.

2 Supply. Capable of providing organic supply support.

3 Medical. None organic. Support is provided by Group Medical Section, H&S Battalion, FSSG.

4 Transportation. Possesses light organic motor transport capabilities. Requires motor transport support to effect distribution of supplies as required in the primary mission.

(5) Messing. None organic. Support is provided by H&S Company, Supply Battalion.

(g) The major items of equipment are shown below.

MEDICAL LOGISTICS COMPANY, SUPPLY BATTALION

Pistol, Automatic, Cal .45, M1911A1	77
Refrigeration Unit, ME-10-M1	3
Refrigerator, Prefab, 100 cu.ft.	3
Trailer, Amphib. Cargo, 1/4T, M416	2
Truck, Cargo, 1-1/4T, 4x4T, M880	1
Truck, Cargo, 1-1/4T, M1008	3
Truck, Utility, 1/4T, 4x4, M151A2	2

d. Engineer Support Battalion

(1) Mission. To increase the combat effectiveness of the landing force by accomplishing general engineer missions of a deliberate nature, to include the technical supervision involved in the installation and provisions for fixed-panel and floating bridge equipage, and the performance of all functions incident to the handling, storage and distribution of bulk Classes III and III(A). (See Figure 4-5.)

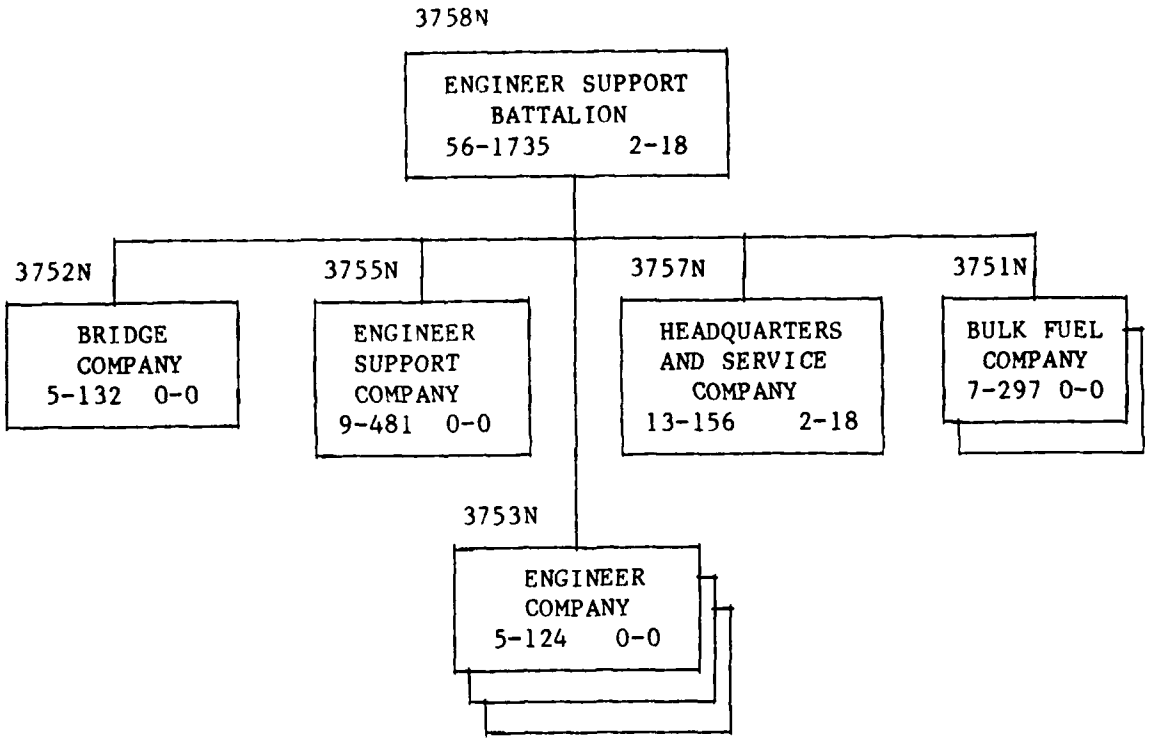


Figure 4-5 -- Engineer Support Battalion

(2) Tasks

(a) Provide fixed-panel and floating bridge equipage.

(b) Provide bath and laundry services.

(c) Provide water supply.

(d) Provide utility power support.

(e) Provide storage and distribution of bulk fuel (Classs III and Class III(A)).

(f) Repair, stabilize, and reinforce taxiways and runways within organizational capability.

(g) Prepare site, install, and maintain expeditionary airfield runways and taxiways.

(h) Provide repair and maintenance of airfield runways and taxiways beyond the capability of the Wing Engineer Squadron.

(3) Concept of Organization. The Battalion is organized into an H&S Company, an Engineer Support Company, a Bridge Company, two Bulk Fuel Companies, and three Engineer Companies.

(a) Command and Control. The battalion commanding officer exercises command and control of the Battalion through the battalion staff and the company commanders.

(b) Firepower. Limited to light infantry weapons.

(c) Mobility. Capable of providing sufficient ground vehicular transportation to move essential command, operational, and logistic elements of the Battalion. The majority of the equipment within the Battalion is not helicopter transportable. Additional support is provided by the Motor Transport Battalion, FSSG.

(4) Concept of Employment. The Engineer Support Battalion provides general engineer support to the landing force. It gives depth to the engineer effort by furnishing assistance to the Combat Engineer Battalion and the Marine Wing Engineer Squadron, and assuming responsibility for engineer support to elements to the rear of the division. It may also furnish assistance to or receive assistance from naval construction units supporting the landing force. Although engineer companies with appropriate reinforcement from other elements of the Battalion and navy construction units can provide deliberate engineer support to MAGTFs of less than MAF size, the Battalion is most effectively employed when operating as a unit under centralized control.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. The Battalion provides organizational (1st and 2d echelons) maintenance on all material authorized to the Battalion.

2 Support. Intermediate (3d and 4th echelons) maintenance of the Battalion's equipment is provided by Maintenance Battalion, FSSG.

(b) Communication. Support is provided by the Communications Platoon of H&S Company, Engineer Support Battalion, FSSG.

(c) Supply. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

(d) Medical. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

(e) Transportation. The Battalion has organic motor transport incident to its stated mission. Augmentation is provided by the Motor Transport Battalion, FSSG.

(f) Messing. Support is provided by H&S Company, Engineer Support Battalion, FSSG, through consolidated battalion messing.

(7) Bridge Company

(a) Mission. To maintain and have readily available fixed-panel bridge equipage and floating bridge equipage necessary to support the heaviest loads of the FMF; to provide technical supervision for the construction of fixed-panel bridge equipage.

(b) Concept of Organization. The Company is organized to provide command and control over the platoons organic to the Company. The Company consists of a Company Headquarters and three Bridge Platoons. Each Bridge Platoon contains a Platoon Headquarters and two Bridge Sections.

1 Command and Control. The company commander executes the normal command and staff functions.

2 Firepower. Light automatic weapons are organic for self-defense purposes. The Company is capable of providing local security and assisting in the defense of its installations against infiltration.

3 Mobility. The Company possesses motor transport trailer capability to move approximately one-half of its bridging. To move the rest of the bridging and to tow the trailers, the Company requires motor transport support.

(c) Concept of Employment. The Company and its platoons or sections normally operate in support of the MAF, MAGTFs of less than MAF size, or elements of the division or MAW operating independently. Functions of the Company include maintenance of bridging equipment, the provision of bridging equipment, and the technical assistance/supervision for erection of bridges by supported units.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of 1st echelon maintenance on all organic equipment. Capable of 1st through 2d echelon maintenance on all bridge peculiar equipment.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

3 Medical. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

4 Communications. Limited organic capability. Support is required from the Communications Company, H&S Battalion, FSSG.

5 Transportation. Only light vehicles are organic to the Company. Augmentation is required to transport bridging material to the job site. Support is provided by Motor Transport Battalion, FSSG.

6 Messing. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

(f) The major items of equipment are shown below.

BRIDGE COMPANY, ENGINEER SUPPORT BATTALION

Bridge, Boat, HP-127C	6
Bridge, Erection	4
Bridge, Fixed-floating, 60T, M4T6	3
Bridge, Fixed, highway-type, 60T, M6	3
Bridge, Floating, foot	6
Bridge, Medium (MGB)	8
Dolly, Trailer, 6T, M197A1	96
Demolition Equipment	6
Detecting Set, Mine, Portable, Non-metallic, PRS-8	3
Detecting Set, Mine, Portable, Metallic, PSS-12	3
Inflatable Boat, Small	12
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	8
Outboard Motor, Silent Run, 35HP	12
Pistol, Automatic, Cal .45, M1911A1	10
Rifle, 5.56mm, M16A2	127
Radio Set, Control Group, AN/GRC-39B	1
Receiving Set, AN/GRR-17	1
Semi-Trailer, Stake, 6T, M118A1	96
Trailer, Amphib. Cargo, 1/4T, M416	1
Trailer, Cargo, 1-1/2T, M105A2	6
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 1-1/4T, 4x4T, M880	3
Truck, Cargo, 1-1/4T, M1008	3
Truck, Cargo, 5T, 6x6, M54A2C	6
Truck, Utility, 1/4T, 4x4, M151A2	1

Truck, Cargo, 5T, XLWB, M928	6
Truck, Utility, Cargo/Troop Carrier, M998	1

(8) Bulk Fuel Company

(a) Mission. To perform all functions incident to the receipt, storage, and distribution of bulk Classes III and Class III(A) to elements of the MAF, to include distribution to but not within air bases during an amphibious assault and subsequent operations ashore. To assure that Class III(A) products distributed to supported air elements are of the required type, quality, and purity. To furnish detachments for reinforcing divisions and MAWs as may be required and to support MAGTFs of less than MAF size.

(b) Concept of Organization. The Company is organized to provide command and control over the platoons organic to the Company. The Company consists of a Company Headquarters, Headquarters Section, Operations Section; Engineer Equipment Section, four Bulk Fuel Platoons, each containing a Platoon Headquarters; and two Amphibious Assault Bulk Fuel System Sections.

1 Command and Control. The company commander executes the normal command and staff functions.

2 Firepower. Capability is limited to light infantry weapons. Capable of defense against guerilla-type units, but must be reinforced to protect fuel hose laid overland.

3 Mobility. The Company requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons and/or sections.

(c) Concept of Employment. The Company is organized to centralize and provide all of the bulk fuel support capability of the FSSG. It has the capability of providing elements to operate (light) Amphibious Assault Bulk Fuel System (AABFS) in support of a MAF or MAGTF's less than MAF size. Capable of delivering bulk fuel by hose for a distance of about 3 miles over level terrain; with tanker truck augmentation, the distance can be increased.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of 1st echelon maintenance on all organic equipment. Capable of 1st through 2d echelon maintenance on all bulk fuel systems peculiar equipment.

Organizational (2d echelon) on all other authorized equipment is provided through the Engineer Support Company, Engineer Support Battalion, FSSG.

b Support. None.

2 Supply. Internal support is provided by H&S Company, Engineer Support Battalion, FSSG. External support capability is limited to the provision of Classes III and III(A) to the MAF or MAGTFs less than MAF size.

3 Medical. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

4 Communications. None organic. Support is provided by the Communications Company, H&S Battalion, FSSG.

5 Transportation. Only light vehicles and firefighting vehicles are organic to the Company. Requires motor transportation support from Motor Transport Battalion, including 5,000-gallon petroleum tank trucks, to perform its primary mission.

6 Messing. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

(f) The major items of equipment are shown below.

BULK FUEL COMPANY, ENGINEER SUPPORT BATTALION

Bucket, General Purpose, 2-1/2 yd. cap.	4
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	4
Fuel System Amphib. Assault, 600,000 gal, M69HC	6
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	4
Pump Assembly, M-81 TDH	32
Pump Set, 65GPM	3
Pistol, Automatic, Cal .45, M1911A1	24
Rifle, 5.56mm, M16A2	280
Tractor, RT, Articulated Steer, 72-31MP	4
Trailer, Amphib. Cargo, 1/4T, M416	5
Trailer, Cargo, 3/4T, M101A1	4
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	4
Truck, Utility, 1/4T, 4x4, M151A2	5
Truck, Utility, Cargo/Troop Carrier, M998	5

(9) Engineer Support Company

(a) Mission. To provide motor transport, engineer equipment maintenance support, bath and laundry services, water supply, utilities, and motor transport support to the Battalion and to augment the engineer companies of the battalion with heavy engineer equipment and operators.

(b) Concept of Organization. The Company is organized to provide command and control over the platoons organic to the Company. The Company consists of a Company Headquarters, Maintenance Platoons, Motor Transport Platoon, Utilities Platoon, Water Supply and Hygiene Platoon, and an Engineer Equipment Platoon.

1 Command and Control. The company commander executes the normal command and staff functions.

2 Firepower. The Company possesses light infantry weapons.

3 Mobility. Provided by Motor Transport Battalion, FSSG.

(c) Concept of Employment. The Company performs maintenance functions, less communications and ordnance, for the Battalion. It augments the other companies of the Battalion with maintenance personnel, engineer equipment and personnel, and motor transport as required. It may also be required to reinforce the engineer companies with water supply, electrical utilities equipment, and operational personnel. The water supply and electrical utilities capabilities are applicable to the general support role of the Battalion.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of 1st and 2d echelons of maintenance on all organic equipment, less ordnance.

b Support. Capable of providing 2d echelon maintenance on all equipment, less communications and ordnance items, held by the Engineer Support Battalion.

2 Supply. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

3 Medical. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

4 Communications. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

5 Transportation. The Company provides motor transport support to all elements of the Engineer Support Battalion.

6 Messing. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

(f) The major items of equipment are shown below.

ENGINEER SUPPORT COMPANY, ENGINEER SUPPORT BATTALION

Bucket, Concrete, horizontal discharge	2
Bucket, Clamshell, 3/4yd. cap. MOD, GP34G	3
Bucket, General Purpose, 2-1/2 yd. cap.	4
Chassis, Trailer, GP, 3-1/2T, M353	51
Crane, Rough Terrain, 30T, DROH-2500	4
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	4
Decontamination Apparatus, M12A1	4
Excavator, Hydraulic, MC40DR	2
Hypochlorination Unit, purification	2
Ice Cream Plant, M33	1
Ice Making Machine, FAM-149A	2
Laundry Unit, 1910-1	18
Machine Gun, Cal.50, M2	4
Machine Gun, 7.62mm, M60	4
Pistol, Automatic, Cal .45, M1911A1	37
Rifle, 5.56mm, M16A2	446
Roller, Compactor, 420-C, RAYGO	4
Scraper Unit, MRS 105SM71	2
Scraper, Earthmoving, Towed, MC80	5
Semi-trailer, Lowbed, 40T, M870	5
Semi-trailer, Lowbed, 25T, N172A1	1
Tractor, Rubber-tired, MRC I-100	2
Truck, Dump, 5T, M51A2	36
Trailer, Bath Unit, EC-8B-64	9
Truck, Tractor, 10T, 6x6, M123A1C	6
Tractor, RT, Wheeled, Industrial, MC580B	1
Tractor, Wheeled, Industrial, MRS-100, M-69	5
Truck, Cargo, 1-1/4T, M561	4
Tractor, Medium, FT-D7G Caterpillar	20
Tractor, Full-tracked, MC-1150	6
Tractor, RT, Articulated Steer, 72-31MP	4
Trailer, Amphib. Cargo, 1/4T, M416	12
Trailer, Flatbed, 3/4T, M762	33
Trailer, Cargo, 1-1/2T, M105A2	15
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	5
Truck, Wrecker, 5T, M936	2
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	8
Truck, Cargo, 5T, 6x6, M54A2C	6
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	12
Water Distribution Equipment	18
Water Purification Unit, Frame Mounted, U22446	18
Truck, Cargo, 5T, 6x6, M923	6
Truck, Utility, Cargo/Troop Carrier, M998	12

(10) Headquarters and Service Company

(a) Mission. To administer, direct, and coordinate the operations of the Battalion, to include the provision of communications, supply, medical, and messing support for the Battalion.

(b) Concept of Organization. The Company is organized to provide command and control of the companies organic to the Battalion. It is organized into a Battalion Headquarters containing a Headquarters Section, S-1 Section, S-2/S-3 Section, Construction Section with two Construction Teams each, and an S-4 Section. It contains a Communications Platoon, a Supply Platoon, a Medical Platoon, and a Chaplains Section. It also contains a Company Headquarters with a Headquarters Section and a Battalion Mess Section.

1 Command and Control. The company commander performs the command and staff functions necessary for the operation of the Company and support of the Battalion.

2 Firepower. The Company possesses light infantry weapons.

3 Mobility. Support is provided by Engineer Support Company, Engineer Support Battalion, FSSG.

(c) Concept of Employment. The Company provides the necessary command, control, and support assets to provide for the efficient operation of the Battalion. It provides those assets necessary to support balanced detachments operating in support of a MAF, lesser MAGTFs, or elements of the division or MAW operating independently.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all organic equipment. Capable of organizational (2d echelon) maintenance on organic ordnance and communications equipment.

b Support. Capable of providing organizational (2d echelon) maintenance on all ordnance equipment held by the Battalion.

2 Medical. The Company provides medical support to the Battalion.

3 Transportation. Motor transport support is provided by the Engineer Support Company, Engineer Support Battalion, FSSG.

4 Supply. The Company operates the organic supply account for the Battalion.

5 Communications. The Company provides communications support to the Battalion.

6 Messing. The Company provides messing support to the Battalion.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, ENGINEER SUPPORT BATTALION

Machine Gun, 7.62mm, M60	6
Night Vision Goggles, Individual, AN/PVS-5A	20
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	52
Rifle, 5.56mm, M16A2	135
Radio Set, Control Group, AN/GRA-39B	8
Radio Set, AN/GRC-160	4
Radio Set, AN/MRC-138	9
Radio Set, AN/PRC-68A	12
Radio Set, AN/MRC-110	9
Radio Set, AN/PRC-77	29
Radio Set, AN/PRC-75B	1
Radio Set, AN/PRC-104	2
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	4
Truck, Ambulance, 1/4T, 4x4, M718A1	1

(11) Engineer Company

(a) Mission. To provide engineer support of a deliberate nature to elements of the MAF, lesser MAGTFs, or elements of the division or MAW operating independently.

(b) Tasks

1 Repair, stabilize, and reinforce taxiways and runways within organizational capabilities.

2 Prepare site, install, and maintain expeditionary airfield runways and taxiways.

3 Provide repair and maintenance of airfield runways and taxiways beyond the capability of the Wing Engineer Squadron.

(c) Concept of Organization. The Company is organized to provide command and control over the platoons organic to the Company. The Company consists of a Company Headquarters, Equipment Platoon containing a Platoon Headquarters, Engineer Equipment Section, Motor Transport Section and Construction Shop Section, and two Engineer Platoons each containing a Platoon Headquarters and three Engineer Squads.

1 Command and Control. The company commander executes the normal command and staff functions.

2 Firepower. The Company possesses light infantry weapons.

3 Mobility. The Company requires heavy motor transport support from the Motor Transport Battalion, FSSG, to displace its various platoons, sections, and/or squads.

(d) Concept of Employment. The Company normally operates under the centralized control of the Battalion on general support tasks for the landing force. It may be reinforced with the necessary equipment and personnel from H&S Company, Engineer Support Company, Bridge Company, Bulk Fuel Company, or elements of Navy construction units, and may then be attached to or placed in direct support of the division, MAW, or MAGTFs of less than MAF size.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of 1st echelon maintenance on all organic equipment; 2d echelon maintenance on all equipment, less communications and ordnance, is provided by the Engineer Support Company, Engineer Support Battalion. 2d echelon maintenance on all communications and ordnance is provided by H&S Company, Engineer Support Battalion.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

3 Medical. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

4 Communications. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

5 Transportation. Motor transport support is provided by Engineer Support Company, Engineer Support Battalion, FSSG.

6 Messing. None organic. Support is provided by H&S Company, Engineer Support Battalion, FSSG.

(f) The major items of equipment are shown below.

ENGINEER COMPANY, ENGINEER SUPPORT BATTALION

Crane, Rough Terrain, 30T, DROH-2500	1
Demolition Equipment	10
Grader, Road, 5R4040	1
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	6
Pistol, Automatic, Cal .45, M1911A1	12
Rifle, 5.56mm, M16A2	117
Radio Set, AN/GRC-160	1
Scraper, Earthmoving, Towed, MC80	1
Semi-trailer, Lowbed, 40T, M870	1
Semi-trailer, Lowbed, 25T, M172A1	1
Tractor, Rubber-tired, MRC I-100	1
Truck, Dump, 5T, M51A2	12
Truck, Tractor, 10T, 6x6, M123A1C	2
Tractor, RT, Wheeled, Industrial, MC580B	1
Tractor, Wheeled, Industrial, MRS-100, M-69	1
Truck, Cargo, 1-1/4T, M561	4
Tractor, Medium, FT-D7G Caterpillar	4
Tractor, RT, Articulated Steer, 72-31MP	1
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Cargo, 1-1/2T, M105A2	4
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 5T, 6x6, M54A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Cargo, 5T, 6x6, M923	2
Truck, Utility, Cargo/Troop Carrier, M998	8

e. Medical Battalion

(1) Mission. To provide for the collection, emergency treatment, temporary hospitalization, specialized surgery, evacuation of casualties, and other medical support to the MAF. (See Figure 4-6.)

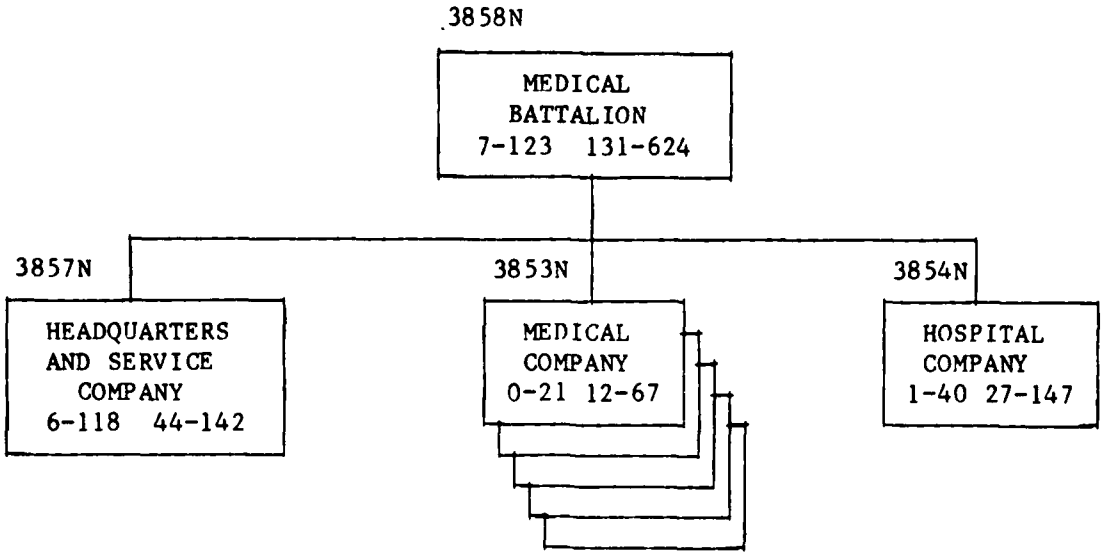


Figure 4-6 -- Medical Battalion

(2) Tasks

(a) Coordinate and support MAF medical requirements.

(b) Plan, supervise, and coordinate preventive measures for the control of disease.

(c) Assist in identification of remains.

(3) Concept of Organization. The Battalion consists of an H&S Company, five Medical Companies, and a Hospital Company.

(a) Command and Control. The battalion commander exercises command and control of the Battalion through the battalion staff and company commanders.

(b) Communications. The battalion Communications Section provides radio support to the Battalion. Other communications support is provided by Communications Company, H&S Battalion, FSSG.

(c) Firepower. Limited to light infantry weapons.

(d) Mobility. The Battalion has sufficient motor transport capability to evacuate wounded from the units it supports, and administrative vehicles to accomplish internal battalion support. Other ground transportation support is provided by Motor Transport Battalion, FSSG. The majority of the Battalion's authorized equipment is helicopter transportable.

(4) Concept of Employment. The Battalion provides medical support to the MAF. Elements of the Battalion provide similar support to MAGTFs less than MAF size or division/MAW elements operating independently in widely separated areas. Task organized elements from the Medical Companies, appropriately reinforced by H&S Company, will be tailored to the mission requirements of the MAGTFs. Medical Companies are capable of operating individually or as a part of the Battalion. They may be located in close proximity to combat units or in designated CSSAs. The Hospital Company may or may not be located in the Amphibious Objective Area. The Hospital Company is deployed in support of MAF-sized operations. It should be located adjacent to a fixed-wing aircraft installation and provide necessary extended medical care to the wounded prior to their evacuation from the Amphibious Objective Area.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. Organizational (1st and 2d echelons) maintenance of all authorized Medical Battalion equipment.

2 Support. None.

(b) Supply. The Service Platoon of H&S Company provides supply support to the battalion.

(c) Medical. Support is organic to the Battalion.

(d) Transportation. Sufficient capability for evacuation of wounded and internal transportation requirements. Other transportation support is provided by Motor Transport Battalion, FSSG.

(e) Messing. H&S Company, Medical Battalion, FSSG, provides messing support to the Battalion.

(7) Headquarters and Service Company

(a) Mission. To administer, support, and coordinate subordinate elements of the Battalion.

(b) Tasks

1 Provide medical specialist augmentation personnel to the subordinate elements of the Battalion.

2 Provide shock and surgical teams to augment the Medical Companies or Beach Evacuation/Helicopter Support Team evacuation stations.

3 Provide Surgical Support Platoon reinforcements for the Medical Companies.

4 Provide preventive medicine support to the MAF.

5 Assist in the identification of remains.

(c) Concept of Organization. The Company is organized into a Battalion Headquarters Section consisting of an Administrative Medical Records Section, a Logistics Section, a Training/Education Section, a Service Platoon, a Medical Specialist Section, a Preventive Medicine Section, Shock/Surgical Teams, Surgical Support Platoons, a Medical Support Operations Section, and a Company Headquarters.

1 Command and Control. The company commander performs the necessary functions for operation of the Company.

2 Communications. Radio communications for the Battalion are organic to the Company. Additional communications support is provided by Communications Company, H&S Battalion, FSSG.

3 Firepower. Limited to light infantry weapons.

4 Mobility. The majority of the Company's authorized equipment is helicopter transportable.

(d) Concept of Employment. The Company will provide the required command, administration, communication, and logistics support to elements of the Medical Battalion as needed. The Company will provide necessary personnel augmentation and medical specialist support to the Medical Companies and the Hospital Company from its organic sections/platoons. For MAGTFs of less than MAF size, task organized detachments will be assigned to the deploying force.

(e) Administrative Capability. Capable of self-administration.

(f) Logistic Capabilities

1 Maintenance

a Organic. The Service Platoon provides organizational (1st and 2d echelons) maintenance on all equipment organic to the Company.

b Support. Provides organizational (1st and 2d echelons) maintenance on all organic equipment for the companies of the Battalion.

2 Supply. The Company operates the supply account for the Medical Battalion.

3 Medical. Organic to the Company.

4 Transportation. Capable of providing ground transportation support for the evacuation of wounded from the units the Battalion supports, and administrative vehicular support for the Medical Battalion and Dental Battalion. Other ground transportation is provided by Motor Transport Battalion, FSSG.

(5) Messing. Organic to the Company. Provides support to the Medical Companies, Medical Battalion.

(g) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, MEDICAL BATTALION

Decontamination Apparatus, M12A1	1
Machine Gun, 7.62mm, M60	2
Night Vision Goggles, Individual, AN/PVS-5A	2
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	197
Rifle, 5.56mm, M16A2	113
Radio Frequency Monitor Set, AN/USQ-46A	1
Radio Set, AN/GRC-160	4
Radio Set, AN/MRC-138	32
Radio Set, AN/PRC-68A	2
Radio Set, AN/PRC-77	7
Radio Set, AN/PRC-104	8
Receiving Set, AN/GRR-17	2
Trailer, Bath Unit, EC-8B-64	1
Trailer, Amphib. Cargo, 1/4T, M416	6
Trailer, Cargo, 1-1/2T, M105A2	5
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	1
Truck, Cargo, 1-1/4T, 4x4T, M880	3
Truck, Cargo, 1-1/4T, M1008	3
Truck, Cargo, 5T 6x6, M923	10
Truck, Utility, 1/4T, 4x4, M151A2	10
Truck, Utility, Cargo/Troop Carrier, M998	5

(8) Medical Company

(a) Mission. To provide for lifesaving surgery, temporary hospitalization, and collecting/evacuating casualties for supported elements of the MAF.

(b) Tasks

1 Provide for the collection of casualties from the next forward echelon in the casualty evacuation chain.

2 Establish and operate a temporary surgical hospital facility in support of Marine Corps operations.

3 Prepare patients and arrange for rearward evacuation of casualties.

(c) Concept of Organization. The Company is organized into a Headquarters Section, a Service Section, a Surgical Platoon, and two Evacuation Platoons.

1 Command and Control. The company commander performs the necessary functions for operation of the company.

2 Communications. None organic. Support provided by H&S Company.

3 Firepower. Limited to light infantry weapons.

4 Mobility. The Company is helicopter transportable.

(d) Concept of Employment. The Medical Company contains one Surgical Platoon and two Evacuation Platoons. The Surgical Platoon is capable of providing 2 surgical operating rooms and 60 hospital beds in support of a MAB-sized MAGTF. With augmentation from the H&S Company Surgical Support Platoons, the capacity can be expanded by 1 surgery/20 bed increments. With augmentation of Shock/Surgical teams, the Medical Company augmentation block, and T/E equipment, the Company can extend its capability by an additional two surgeries and 40 hospital beds. The Evacuation Platoon provides a means for casualty evacuation from the next forward echelon. When reinforced with a Shock/Surgical Team from the H&S Company, the platoon has the capability of establishing an operating beach and/or helicopter support team evacuation stations.

(e) Administrative Capability. Capable of self-administration.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance of all authorized equipment. Organizational (2d echelon) maintenance support is provided by H&S Company, Medical Battalion, FSSG. Intermediate (3d and 4th

echelons) maintenance support on medical equipment is provided by Medical Logistics Company, Supply Battalion, FSSG.

b Support. None.

2 Supply. None organic. Provided by H&S Company, Medical Battalion, FSSG.

3 Medical. Support is organic to the Company.

4 Transportation. Significant capability exists to assist in ground evacuation of the wounded. Motor transport support is provided by H&S Company, Medical Battalion, or Motor Transport Battalion, FSSG.

(5) Messing. None organic. Support is provided by H&S Company, Medical Battalion, FSSG.

(g) The major items of equipment are shown below.

MEDICAL COMPANY, MEDICAL BATTALION

Ice Making Machine, FAM-149A	1
Laundry Unit, 1910-1	1
Machine Gun, Lt., Sqd. Auto. Wpn., M249	2
Machine Gun, 7.62mm, M60D	2
Pump Set, 65GPM	1
Pistol, Automatic, Cal .45, M1911A1	81
Refrigeration Unit, ME-10-M1	1
Rifle, 5.56mm, M16A2	19
Truck, Ambulance, 1-1/4T, M792	3
Truck, Ambulance, 1-1/4T, M886	3
Truck, Ambulance, 1-1/4T, M1010	3
Trailer, Amphib. Cargo, 1/4T, M416	1
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Ambulance, 1/4T, 4x4, M718A1	3
Truck, Cargo, 1-1/4T, M1008	1
Truck, Utility, 1/4T, 4x4, M151A2	1

(9) Hospital Company

(a) Mission. To provide resuscitation and surgical facilities for the MAF.

(b) Tasks

1 Establish and operate a 200-bed hospital for the minor wounded, sick, and injured personnel of the MAF.

2 Stabilize the condition of patients requiring prolonged hospitalization and arrange for their evacuation rearward.

(c) Concept of Organization. The Company is organized into a Headquarters Platoon, a Hospital Platoon, and a Service Platoon.

1 Command and Control. The company commander performs the necessary functions to accomplish the company mission.

2 Communications. None organic. Support provided by H&S Company.

3 Firepower. Limited to light infantry weapons.

4 Mobility. The Company is helicopter transportable.

(d) Concept of Employment. The Company provides facilities for the establishment of 6 surgical operating rooms and a 200-bed hospital. The hospital is equipped to provide highly specialized surgical facilities, including neuro-surgical, thoracic, opthalmic, and maxillo-facial surgery. At the Hospital Company, an appropriately staffed medical regulating office is established to provide for coordination of casualty evacuation within and from the area of operations. Provisional medical detachments, or surgical teams, may be task organized to reinforce/augment other medical units of the Battalion.

(e) Administrative Capability. Capable of self-administration.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on organic equipment. Organizational (2d echelon) maintenance support on organic equipment is provided by H&S Company, Medical Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance support on medical equipment is provided by Medical Logistics Company, Supply Battalion, FSSG.

b Support. None.

2 Supply. Capable of performing supply and fiscal functions required for company operations.

3 Medical. Organic to the Company.

4 Transportation. The Company possesses assets for internal operations. Other support is provided by H&S Company, Medical Battalion, FSSG.

(5) Messing. Capable of operating messes in support of the Company and the normal patient load.

(g) The major items of equipment are shown below.

HOSPITAL COMPANY, MEDICAL BATTALION

Ice Making Machine, FAM-149A	1
Laundry Unit, 1910-1	1
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	2
Pump Set, 65GPM	1
Pistol, Automatic, Cal .45, M1911A1	181
Refrigeration Unit, ME-10-M1	2
Refrigerator, Prefab, 100 cu.ft.	12
Rifle, 5.56mm, M16A2	35
Trailer, Bath Unit, EC-8B-64	1
Truck, Ambulance, 1-1/4T, M886	6
Truck, Ambulance, 1-1/4T, M1010	6
Trailer, Amphib. Cargo, 1/4T, M416	1
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	4
Truck, Cargo, 1-1/4T, M1008	2
Truck, Utility, 1/4T, 4x4, M151A2	2

f. Dental Battalion

(1) Mission. To provide dental service support for the MAF and to provide specialized care of casualties with maxillo-facial injuries. (See Figure 4-7.)

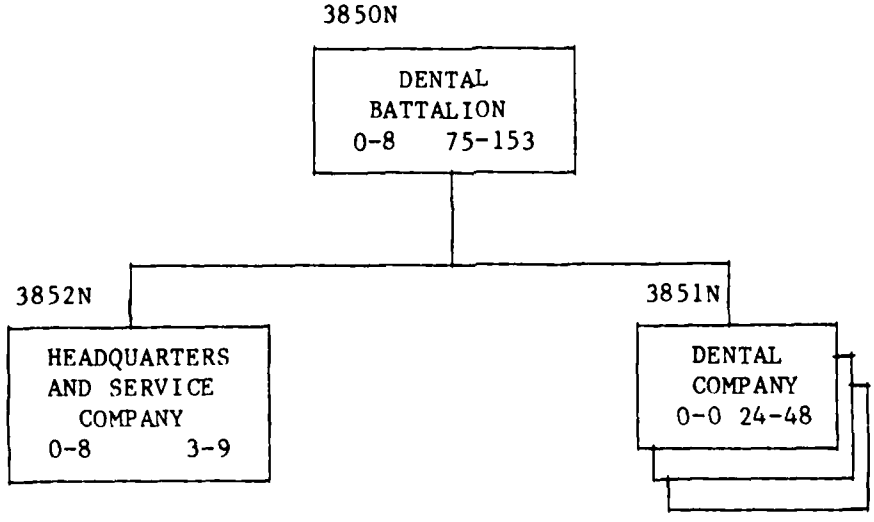


Figure 4-7 -- Dental Battalion

(2) Tasks. To coordinate and support MAF dental service support requirements.

(3) Concept of Organization. The Battalion consists of an H&S Company and three Dental Companies.

(a) Command and Control. Command and control is exercised by the commanding officer through subordinate company commanders. The commanding officer of the Battalion also functions as the FSSG Staff Dental Officer. During the commanding officer's absence, the commanding officer of a dental company will be designated as the acting battalion commander.

(b) Communications. None organic. External support required.

(c) Firepower. Possesses only individual weapons.

(d) Mobility. The Battalion is vehicular transportable but contains no general purpose or special purpose transportation.

(4) Concept of Employment

(a) The Battalion is structured to provide command, control, and administrative support to the Dental Companies and is designed to attain maximum utilization of professional dental manpower while providing the most effective and timely dental service support to combat or other FMF operations.

(b) The administrative services are centralized in the H&S Company.

(c) Each Dental Company is designed to provide dental support to a major subordinate element of a MAF, i.e., one company in support of a division, a MAW, a brigade, or an FSSG.

(d) The organization and equipment are designed to permit a considerable degree of flexibility and mobility. Detachments of varying sizes may be formed for assignment to separate or independent units.

(e) Provisional detachments may be formed to provide necessary assistance in the care and evacuation of mass casualties and for the purpose of reinforcing a Medical Battalion.

(5) Administrative Capability. Capable of dental administration and limited Navy personnel administration only. Other administrative support must be provided by appropriate units of the FSSG.

(6) Logistic Capabilities

(a) Maintenance. The Battalion is capable of maintenance and repair of in-use dental equipment. The Medical Logistics Company of the Supply Battalion services the dental

equipment while maintaining the ADALs and provides assistance to the Dental Battalion as required. The battalion commander is responsible for ensuring that the ADALs are in a deployable status at all times.

(b) Supply. Capable of performing those supply functions necessary for battalion operations. Other supply support, including Class VIII management, is provided by the Supply Battalion.

(c) Medical. Support is required from the medical resources of the FSSG.

(d) Transportation. None organic. All transportation support in garrison will be provided by the H&S Battalion of the FSSG. When deployed, transportation will be furnished by the supported unit.

(7) Headquarters and Service Company

(a) Mission. To administer, support, and coordinate subordinate elements of the Battalion.

(b) Tasks

1 To provide personnel administrative support to the Dental Battalion.

2 To provide support to all elements of the Dental Battalion.

(c) Concept of Organization. The H&S Company is organized into a Battalion Headquarters Section and a company headquarters designed to provide Navy personnel with administrative and logistic support.

1 Command and Control. The commanding officer performs the command and staff functions necessary for the operation of H&S Company.

2 Communications. None organic.

3 Firepower. Possesses only individual weapons.

4 Mobility. The unit is helicopter transportable.

(d) Concept of Employment. The Company can provide detachments to render the necessary administrative support of various elements of the Dental Battalion.

(e) Administrative Capability. Capable of dental and Navy personnel administration. Other administrative support will be provided by the FSSG or the supported unit.

(f) Logistic Capabilities

1 Maintenance

a Organic. None.

b Support. None.

2 Supply. Capable of performing the supply and fiscal functions required in support of the Dental Battalion.

3 Medical. None organic.

4 Transportation. None organic.

(g) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, DENTAL BATTALION

Pistol, Automatic, Cal .45, M1911A1	13
Semi-Trailer, Van, 6T, M313	2
Trailer, Amphib. Cargo, 1/4T, M416	1
Truck, Utility, 1/4T, 4x4, M151A2	1
Truck, Utility, Cargo/Troop Carrier, M998	1

(8) Dental Company

(a) Mission. To provide dental service support for a major component of a MAF.

(b) Tasks

1 Provide operative and preventive dental treatment.

2 Provide surgical maxillo-facial treatment.

3 Provide limited prosthetic treatment.

(c) Concept of Organization. The Company is organized into a Headquarters Section and a Clinic Section.

1 Command and Control. The commanding officer performs the command and staff functions necessary for the operation of the Company.

2 Communications. None organic.

3 Firepower. Possesses only individual weapons.

4 Mobility. The unit is helicopter transportable.

(d) Concept of Employment

1 The Company is designed to attain maximum utilization of professional dental manpower while providing the most effective and timely dental support to FMF operations in combat and in garrison.

2 The Company can provide detachments to render necessary assistance in the care and evacuation of mass casualties, provide reinforcement of another dental company or a medical battalion, and provide support of offensive operations of infantry units or other elements of a MAF.

(e) Administrative Capability. Capable of dental administration. Navy personnel administration is provided by the H&S Company of the Dental Battalion. Other administrative support is provided by the FSSG or the supported unit.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of maintaining all in-use dental equipment. The Medical Logistics Company maintains the dental equipment contained in the ADAL held in the Supply Battalion. Nondental maintenance support is provided by the FSSG.

b Support. None.

2 Medical. None organic. Provided from the medical resources of the FSSG or the unit supported.

3 Supply. Supply support is provided through the H&S Company of the Dental Battalion.

4 Transportation. None organic.

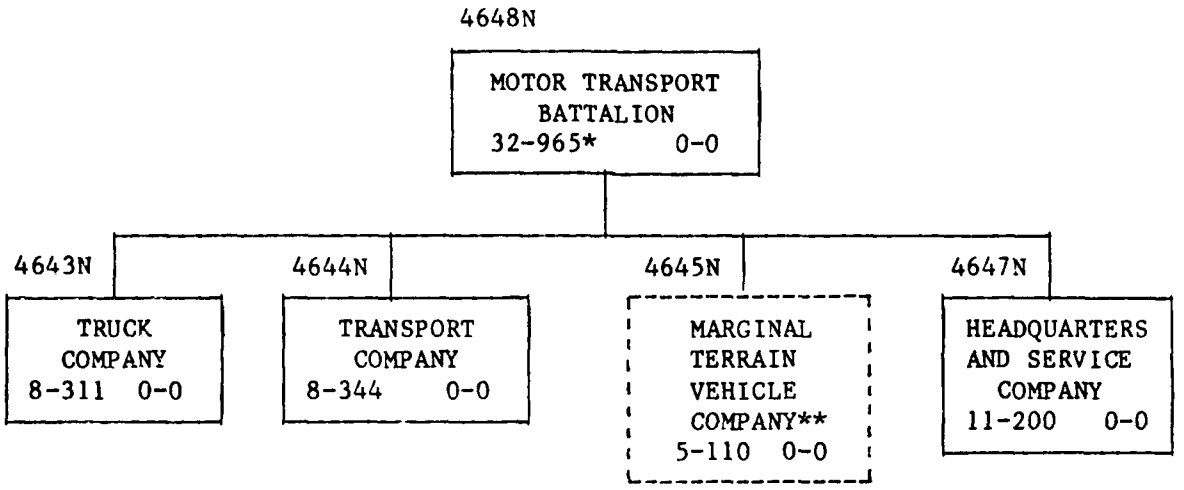
(g) The major items of equipment are shown below.

DENTAL COMPANY, DENTAL BATTALION

Truck, Utility, 1/4T, M151A2	1
Pistol, Automatic Cal.45, M1911A1	62

g. Motor Transport Battalion

(1) Mission. To provide general or direct medium and heavy motor transport support to the major elements of the MAF in the amphibious assault and subsequent operations ashore. (See Figure 4-8.)



*TOTALS INCLUDE CADRED UNIT
**CADRE

Figure 4-8 -- Motor Transport Battalion

(2) Tasks

(a) Provide heavy motor transport support to tactical or service elements for both bulk dry cargo and Classes III and III(A) (bulk).

(b) Provide adverse terrain transportation support as required.

(c) Provide refrigerated van storage capability for Class I perishables.

(d) Provide heavy equipment lift capability to tactical or service elements.

(3) Concept of Organization. The Battalion is structured to provide command and control over subordinate organic units. The Battalion consists of an H&S Company, a Transport Company, a Truck Company, and, when activated by CMC, a Marginal Terrain Vehicle Company.

(a) Command and Control. The battalion commanding officer exercises command and control of the Battalion through the battalion staff and the company commanders.

(b) Firepower. Organic firepower capability is limited to individual weapons for personal security. The Battalion is capable of providing local security and assisting in the defense of its installations against infiltrations.

(c) Mobility. Possesses organic firepower capability to accomplish displacement.

(d) Communications. The Battalion is capable of providing internal mission radio/communications support for assigned units. Other support is provided by Communications Company, H&S Battalion, FSSG.

(4) Concept of Employment. The Battalion is equipped and organized to provide a pool of tactical cargo-type vehicles and marginal terrain vehicles for logistic support. The Transport, Truck, and Marginal Terrain Vehicle Companies or elements thereof are structured so that they may be attached to or placed in direct support of the major tactical and service organizations of the MAF and MAGTFs of less than MAF size. The Battalion is equipped and structured to provide sustained operations on a 24-hour-per-day basis in the execution of its assigned mission.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. Capable of organizational (1st and 2d echelons) maintenance on all authorized and assigned motor transport, engineering and ordnance. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

2 Support. None.

(b) Supply. Capable of providing organic supply support functions to the Battalion.

(c) Medical. None organic. Medical support is provided by the Group Medical Section, H&S Battalion, FSSG.

(d) Transportation. Capable of providing organic transportation support to the Battalion to accomplish its stated mission.

(e) Messing. The H&S Company is capable of providing a battalion messes in garrison or in the field.

(7) Headquarters and Service Company

(a) Mission. To provide the command and coordination for operations of the Motor Transport Battalion in its logistic support capacity during the amphibious assault and subsequent operations ashore.

(b) Concept of Organization. The Company is organized into a Battalion Headquarters which contains S-1/Adjutant, S-2/S-3, S-4/Supply, and Radio Sections; a Maintenance Platoon containing a Repair Section, and Marginal Terrain Vehicle Maintenance Section; and a Company Headquarters.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Possesses sufficient ground vehicular capacity to displace command, logistics, and operations personnel.

4 Communications. Capable of providing internal mission radio communications support for the Battalion. Other support is provided by Communications Company, H&S Battalion, FSSG.

(c) Concept of Employment. The Company provides necessary operational logistical support to the Battalion to aid it in the accomplishment of its mission. The Company provides support to the Battalion whether it is employed in general support as a company or employed as detachments to provide support to battalion detachments. The Company provides the battalion commander with the operational command and coordination necessary to accomplish his mission. The Company is capable of continuous operations on a 24-hour-per-day basis.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of providing organizational (1st and 2d echelons) maintenance on all authorized battalion motor transport, ordnance, and engineering equipment. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. Capable of providing organic supply support to the Battalion.

3 Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

4 Transportation. The Battalion possesses organic transportation support necessary to accomplish its stated mission.

5 Messing. Capable of providing a battalion mess in garrison or in the field.

(f) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, MOTOR TRANSPORT BATTALION

Decontamination Apparatus, M12A1	8
Machine Gun, Cal.50, M2	6
Machine Gun, 7.62mm, M60	2
Night Vision Goggles, Individual, AN/PVS-5A	2
Night Vision Sight, Individual Served Weapon, AN/PVS-4	4
Pistol, Automatic, Cal .45, M1911A1	30
Rifle, 5.56mm, M16A2	183
Radio Set, Control Group, AN/GRA-39B	6
Radio Set, AN/GRC-160	10
Radio Set, AN/MRC-138	4
Radio Set, AN/PRC-77	5
Radio Set, AN/PRC-104	3
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual, SB-22A/PT	3
Truck, Tank, Water, 2-1/2T, 1000 Gal, M50A2	9
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	2
Truck, Wrecker, 5T, M936	3
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	9
Truck, Cargo, 5T, M923	2
Truck, Utility, 1/4T, 4x4, M151A2	9
Truck, Tank, Fuel Servicing, 1200 gal, M49A2C	2
Truck, Utility, Cargo/Troop Carrier, M998	4

(8) Transport Company

(a) Mission. To provide general transport support, in augmentation and reinforcement, of the organic land transport capability of the major elements of a MAF in the amphibious assault and subsequent operations ashore.

(b) Tasks

1 Provide heavy motor transport support for both bulk dry cargo and Classes III and III(A) (bulk) to tactical or service elements.

2 Provide refrigerated van storage capability for Class I perishables.

3 Provide heavy equipment lift capability to tactical or service elements.

(c) Concept of Organization. The Company is organized into a Company Headquarters; three Transport Platoons each containing four Transport Sections; a Heavy Transport Section; and a Fuel Transport Platoon containing four Fuel Transport Sections.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistics support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Possesses organic capability to accomplish displacement.

4 Communications. None organic. Internal mission radio communication support is provided by H&S Company, Motor Transport Battalion, FSSG. Other support is provided by Communications Company, H&S Battalion, FSSG.

(c) Concept of Employment. The Company is equipped with 5-ton truck tractors, 10-ton truck tractors, 5,000-gallon semitrailer tank fuelers, semitrailer van refrigerators, 25-ton semitrailer low beds and 12-ton semitrailers. It may be employed to transport cargo and supplies over extended distances for a sustained period of time in logistic support of elements of the MAF or MAGTFs of less than MAF size. It may be employed in general support as part of the Motor Transport Battalion, or attached to a task organized element providing heavy motor transport support. The Company is capable of continuous operations on a 24-hour-per-day basis.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Organizational (2d echelon) maintenance on assigned motor transport, engineering and ordnance equipment is provided by H&S Company, Motor Transport Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Motor Transport Battalion, FSSG.

3 Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

4 Transportation. The Company has the organic transportation capability necessary to provide required support and fulfill the primary mission of the Company.

5 Messing. None organic. Support is provided by H&S Battalion, FSSG.

(g) The major items of equipment are shown below.

TRANSPORT COMPANY, MOTOR TRANSPORT BATTALION

Dolly, Trailer, 8T, M198A1	49
Machine Gun, Cal.50, M2	6
Machine Gun, 7.62mm, M60	4
Pistol, Automatic, Cal .45, M1911A1	13
Rifle, 5.56mm, M16A2	259
Semi-trailer, Refueler, 5000 gal, M-970	20
Semi-trailer, Lowbed, 40T, M870	4
Semi-trailer, Stake, 12T, M127A2C	120
Semi-trailer, Van, Refrigerator, M349A4	7
Semi-trailer, Lowbed, 25T, M172A1	3
Truck, Tractor, 5T, M52A2	46
Truck, Tractor, 5T, M931	81
Truck, Tractor, 10T, 6x6, M123A1C	6
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	3
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	4
Truck, Cargo, 5T, M923	1
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	3
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Utility, Cargo/Troop Carrier, M998	4

(9) Truck Company

(a) Mission. To provide general support and medium motor transport capability in support of the organic land transport capability of the major elements of a MAF during the amphibious assault and subsequent operations ashore.

(b) Concept of Organization. The Company is organized into a Company Headquarters and six Truck Platoons containing five Truck Sections each.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistics support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Possesses organic capability to accomplish displacement.

4 Communications. None organic. Internal mission radio communication support is provided by H&S Company, Motor Transport Battalion, FSSG. Other support is provided by Communications Company, H&S Battalion, FSSG.

(c) Concept of Employment. The Company is equipped with 5-ton tactical cargo-type vehicles, which may be task organized and attached in direct support of a tactical or service organization of MAF or MAGTFs of less than MAF size. The Company may be employed in general support as part of the Motor Transport Battalion, or attached to a task organized element providing medium motor transport support. The Company, or elements of the Company, may be employed in general support of a CSSA in the amphibious assault or in subsequent operations ashore. The Company is capable of continuous operations on a 24- hour-per-day basis.

(d) Administrative Capability. Administrative support is provided at battalion level.

(e) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Organizational (2d echelon) maintenance on assigned motor transport, engineering and ordnance equipment is provided by H&S Company, Motor Transport Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Motor Transport Battalion, FSSG.

3 Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

4 Transportation. The Company has the organic transportation capability necessary to provide required support and fulfill the primary mission of the Company.

5 Messing. None organic. Support is provided by H&S Company, Motor Transport Battalion, FSSG.

(f) The major items of equipment are shown below.

TRUCK COMPANY, MOTOR TRANSPORT BATTALION

Machine Gun, Cal.50, M2	33
Machine Gun, 7.62mm, M60	4
Night Vision Sight, Crew Served Weapon, AN/TVS-5	8
Pistol, Automatic, Cal .45, M1911A1	17
Rifle, 5.56mm, M16A2	304
Trailer, Amphib. Cargo, 1/4T, M416	6
Trailer, Cargo, 1-1/2T, M105A2	72
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	6
Truck, Cargo, 1-1/4T, 4x4T, M880	2
Truck, Cargo, 1-1/4T, M1008	2
Truck, Cargo, 5T, 6x6, M54A2C	89
Truck, Cargo, 5T, M923	100
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49*a2*c	1
Truck, Utility, 1/4T, 4x4, M151A2	12
Truck, Utility, Cargo/Troop Carrier, M998	8

(10) Marginal Terrain Vehicle Company

(a) Mission. To provide adverse terrain transportation support in augmentation and reinforcement of the organic land transport capability of the major elements of a MAF, in the ashore phase of assault amphibious operations and other operations ashore, over marginal terrain or inland waters.

(b) Concept of Organization. The Company is organized into a Company Headquarters, two Amphibious Transport Platoons consisting of three Amphibious Transport Sections and an Armored Amphibious Transport Platoon consisting of two Armored Amphibious Transport Sections.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistics support.

2 Firepower. Organic firepower capability is limited to individual weapons for personal security.

3 Mobility. Possesses organic capability to accomplish displacement.

4 Communications. Limited organic capability. Internal radio communication support is provided by H&S Company, Motor Transport Battalion, FSSG. Other support is provided by Communications Company, H&S Battalion, FSSG.

(c) Concept of Employment. The Company is equipped with cargo carriers and may be employed to transport personnel, cargo, and/or supplies over marginal and/or adverse terrain during

the ashore phase of assault amphibious operations. : is capable of providing mobility for logistic support during special operations where organic motor transport equipment is not environmentally adequate or suitable. The Company may be employed in general support as part of the Motor Transport Battalion, or attached to the major ground elements of a MAF in direct support of tactical and service support organizations. The Company is capable of continuous operations on a 24-hour-per-day basis.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment. Organizational (2d echelon) maintenance on assigned motor transport, engineering and ordnance equipment is provided by H&S Company, Motor Transport Battalion, FSSG. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Motor Transport Battalion, FSSG.

3 Medical. None organic. Support is provided by the Group Medical Section, H&S Battalion, FSSG.

4 Transportation. The Company has the organic transportation capability necessary to provide required support and fulfill the primary mission of the Company.

5 Messing. None organic. Support is provided by H&S Company, Motor Transport Battalion.

(f) The major items of equipment are shown below.

MARGINAL TERRAIN VEHICLE COMPANY, MOTOR TRANSPORT BATTALION

Machine Gun, Cal.50, M2	26
Machine Gun, 7.62mm, M60D	9
Pistol, Automatic, Cal .45, M1911A1	10
Rifle, 5.56mm, M16A2	105
Radio Set, Control Group, AN/GRA-39B	2
Radio Set, AN/MRC-110	1
Radio Set, AN/PRC-77	5
Radio Set, AN/PRC-104	1
Switchboard, Telephone, Manual, SB-22A/PT	1
Trailer, Cargo, 1-1/2T, M105A2	1
Truck, Cargo, 5T, M923	4

MARGINAL TERRAIN VEHICLE COMPANY, MOTOR TRANSPORT BATTALION (Cont'd)

Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Truck, Utility, 1/4T, 4x4, M151A2	2
Truck, Utility, Cargo/Troop Carrier, M998	2

h. Landing Support Battalion

(1) Mission. To provide landing support to the landing force during the amphibious assault and subsequent operations ashore. (See Figure 4-9.)

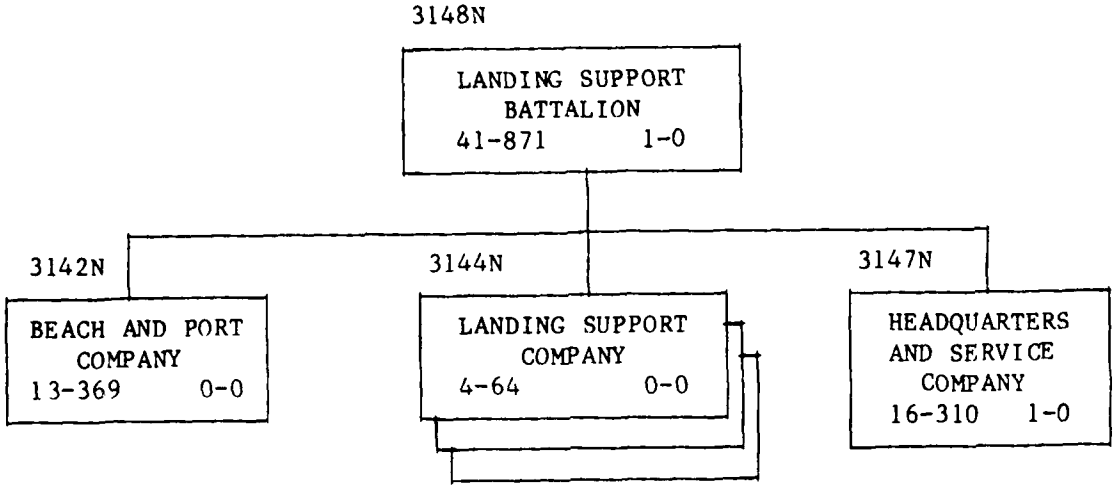


Figure 4-9 -- Landing Support Battalion

(2) Tasks

(a) Provide the command structure and nucleus of control, administrative, and operational personnel and equipment to support landing force operations (Shore Party, Helicopter Support Teams, Air Delivery, Departure Airfield Control Groups, and Arrival Airfield Control Groups).

(b) During the conduct of amphibious operations, provide the nucleus of personnel and equipment to which other elements of the MAGTF may be attached to task organize the landing force support party to provide combat service support to units up to MAF size.

(c) Provide a nucleus of specialized material-handling equipment and personnel expertise for management of break bulk cargo/container throughput during terminal operations at ports, railheads, airheads, and beaches.

(d) Provide air-delivery support equipment and expertise during extended operations ashore.

(e) Provide material-handling equipment support for the MAF.

(f) Perform limited combat engineer tasks commensurate with organizational capabilities.

(g) Establish routes of egress from the beach.

(3) Concept of Organization. The Battalion is organized to provide for three command and control agencies (the three Landing Support Companies) for the operation of colored beaches or helicopter support areas during an amphibious assault. The Battalion has the capability to consolidate the management of cargo throughout operations of the MAF under a single agency, the Beach and Port Company.

(a) Command and Control. The battalion commander directs and controls all matters pertaining to administration and logistics support through the battalion headquarters within the H&S Company.

(b) Firepower. Organic firepower capability is limited to individual and crew-served weapons for security.

(c) Communications. The battalion is organized to provide internal communications support among all levels of command for continual control of subordinate units as required.

(d) Mobility. Organizational vehicles of the Battalion provide limited mobility. The Battalion is not considered a mobile unit due to the extent and complexity of resident equipment.

(4) Concept of Employment. Elements of the Landing Support Companies of the Battalion are augmented with other elements of the FSSG through task organization to provide the initial combat service support for amphibious/helicopterborne operations requiring substantial logistics support in excess of the supported unit's organic capability. The Beach and Port Company is augmented with other elements of the FSSG, through task organization, to provide for management and operation of ports, railheads, airheads, and other cargo terminal operations as required. The battalion headquarters provides augmentation for the initial centralization of logistic management for MAF-size operations.

(5) Administrative Capability. Capable of self-administration.

(6) Logistic Capabilities

(a) Maintenance

1 Organic. Capable of organizational (1st and 2d echelons) maintenance on communications, motor transport, engineering, and ordnance equipment. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion. Capable of 1st through 4th echelons maintenance on all air-delivery equipment.

2 Support. None.

(b) Supply. Capable of providing organic supply support to elements of the Battalion.

(c) Medical. None organic. Support is provided by Medical Battalion.

(d) Transportation. The Battalion has minimum essential motor transport for command and administrative purposes. Augmentation from Motor Transport Battalion, FSSG, or from the supported unit will be necessary for displacement requirements.

(e) Messing. The H&S Company is capable of operating a battalion mess in garrison or in the field.

(7) Headquarters and Service Company

(a) Mission. To provide command, control, administrative, internal supply functions, equipment, and maintenance support for the Battalion.

(b) Tasks

1 To provide the nucleus of the command and control organization upon which Landing Force Support Party Headquarters is formed.

2 To provide communications, material-handling equipment, motor transport, and dining necessary for internal operation and support of task organized landing support parties.

3 To provide heavy material-handling equipment support to meet Landing Support Battalion requirements and to augment the MAF as required.

(c) Concept of Organization. The Company consists of a Battalion Headquarters, Heavy Equipment/Motor Transport Platoon, Communications Platoon, and a Company Headquarters. The Heavy Equipment/Motor Transport Platoon is organized to provide engineering equipment support and minimal essential transportation to the Landing Support Companies.

1 Command and Control. Responsibilities are discharged through a Battalion Headquarters consisting of a Command Section and a Supply/Dining Section. The Battalion Headquarters is capable of providing both primary and alternate command groups.

2 Communications. The Communications Platoon is capable of providing internal communications support for the Battalion and providing ammunitions support for detachments of the Landing Support Battalion in support of isolated units.

3 Firepower. Firepower is limited to light infantry weapons. The Company has a limited capability for providing local security and assisting in defense against an organized attack.

4 Mobility. Certain elements of the Company are helicopter transportable. Organic ground mobility is limited. Motor transport support, as required, is furnished from the Motor Transport Battalion, FSSG, or augmented when required from other units in the landing force.

(d) Concept of Employment. The Battalion Headquarters conducts operational planning and has the capability to exercise command and control of the Landing Force Support Party. Service and communication elements provide support for detachments of the Battalion, as required. The Company Headquarters is employed to direct and control all internal administration, logistics, and security matters of the Company.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance. Capable of performing organizational maintenance (1st and 2d echelons) on communications, motor transport, engineering and ordnance equipment.

2 Medical. None organic. Medical support is provided by the Medical Battalion, FSSG.

3 Transportation. The Company has minimum essential motor transport for command and administrative purposes.

4 Supply. Capable of performing supply functions for the Battalion.

5 Messing. Capable of operating a battalion mess in garrison or in the field.

(g) The major items of equipment are shown below.

HEADQUARTERS AND SERVICE COMPANY, LANDING SUPPORT BATTALION

Crane, Rough Terrain, RT, DROH-2500	18
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	6
Decontamination Apparatus, M12A1	5
Grader, Road, 5R4040	3
Machine Gun, Cal.50, M2	6
Machine Gun, 7.62mm, M60	2
Night Vision Goggles, Individual, AN/PVS-5A	10
Night Vision Sight, Individual Served Weapon, AN/PVS-4	2
Pistol, Automatic, Cal .45, M1911A1	46
Radio Terminal, AN/MRC-134	2
Rifle, 5.56mm, M16A2	277
Radio Terminal, AN/TRC-166	6
Radio Set, Control Group, AN/GRA-39B	14
Radio Set, AN/GRC-160	6
Radio Set, AN/MRC-138	3
Radio Set, AN/MRC-110	4
Radio Set, AN/PRC-77	35
Radio Set, AN/PRC-75B	4
Radio Set, AN/PRC-104	11
Radio Terminal, AN/MRC-135	2
Receiving Set, AN/GRR-17	1
Switchboard, Telephone, Manual SB-3082(V)2/GT	3
Switchboard, Telephone, Manual, SB-22A/PT	8
Switchboard, Telephone, Automatic, SB-3614(V)TT	3
Truck, Dump, 5T, M51A2	3
Trailer, Utility, 2-1/2T, F-2A	32
Tractor, FT w/Multi-purpose Bucket Case, MC-1150	6
Truck, Forklift, MC-6000RTL	12
Truck, Cargo, 1-1/4T, M561	5
Tractor, Medium, FT-D7G Caterpillar	6
Tractor, RT, Articulated Steer, 72-31MP	24
Truck, Forklift, RT, MC-4000	12
Telephone Set, TA-838/TT	48
Teletypewriter, AN/GGC-3A	1
Terminal, Telephone-Telegraph, TH-85A/GCC	3
Trailer, Amphib. Cargo, 1/4T, M416	10
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	9
Truck, Ambulance, 1/4T, 4x4, M718A1	3
Truck, Cargo, 5T, 6x6, M54A2C	10
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Truck, Utility, 1/4T, 4x4, M151A2	7
Truck, Wrecker, 5T, 6x6, M543A2	1
Truck, Wrecker, 5T, 6x6, M936	1
Truck, Cargo, 5T, 6x6, M923	10
Truck, Utility, Cargo/Troop Carrier, M998	12

(8) Landing Support Company

(a) Mission. To provide the command, control, administrative, and operational personnel required to form a

nucleus for task organized support of landing support operations during either surface or helicopter amphibious assault and subsequent operations ashore.

1 Facilitate the waterborne landing and movement of troops, equipment, and supplies across the beach; evacuate casualties and POWs from the beach; beach, retract, and salvage landing ships, craft, and amphibious vehicles.

2 Facilitate the landing and movement of helicopterborne forces, equipment, and supplies within the landing zone and evacuate casualties and POWs from the landing zone.

3 Facilitate the control and coordination of loading and unloading units for deployment or redeployment by fixed-wing aircraft during DACG/AACG operations.

4 Provide limited close combat engineering support to meet essential requirements during operations ashore.

(b) Tasks. The Company is organized to provide the nucleus of personnel required to task organize the Shore Party Group/Helicopter Support Group, or subordinate elements thereof.

1 Provide shore party and/or helicopter support teams as required.

2 Prepare, mark, and control the landing beaches or zones.

3 Locate and establish interim multiclass dumps.

4 Unload supplies from the landing craft, ships, and helicopters. (The Landing Support Company cannot totally perform this task unless reinforced with appropriate personnel and equipment).

5 Provide emergency maintenance (the Landing Support Company must be reinforced with augmentation personnel and equipment capable of performing 2d and 3d echelons maintenance).

6 Provide for evacuation of casualties and POWs. Augmentation of medical personnel from Medical Battalion, FSSG, and MP Company, H&S Battalion, FSSG, as required.

7 Perform limited combat engineer tasks commensurate with organizational capabilities.

(c) Concept of Organization. The Company consists of a Company Headquarters and two Landing Support Platoons. The Company is organized to provide the basic structure necessary to accomplish the primary mission, and provides the nucleus of personnel required to task organize a Shore Party Group/Helicopter

Support Group, and subordinate elements thereof. The Shore Party Group, composed of landing force and naval units, is organized into teams to provide logistic support to the landing force during the surface assault phase of amphibious operations.

1 Command and Control. The company commander directs and controls all matters pertaining to company administration and logistics support. A company headquarters is provided to command and control organic and attached elements.

2 Firepower. Firepower is limited to light infantry weapons. The Company has a limited capability for providing local security and assisting in defense against organized attack. The Company is capable of coordinating the defense of a colored beach.

3 Communications. None organic. Support is provided by H&S Company, Landing Support Battalion.

(d) Concept of Employment. The Company, augmented as required by elements of other Marine units and by elements of the Naval Beach Group, can be task organized into a Shore Party Group consisting of Shore Party Teams, or a Helicopter Support Group consisting of two Helicopter Support Teams. This task organization provides for the operation of two separate numbered beaches, one colored beach, or two helicopter landing zones. The functioning and capabilities of landing support organizations are dedicated to the management of personnel and materials in the initial phases of the assault and subsequent inland movement. The Marine elements of the Shore Party Group will prepare, mark and control the landing beach or zone; locate and establish interim multiclass dumps; unload supplies from landing craft, ships and helicopters; provide emergency maintenance; and evacuate casualties and POWs. The Shore Party Group will operate in the Beach Support Area in a progressively diminishing degree as the scope of logistic operations extends inland. Elements of the Shore Party Group are attached to the assault forces for embarkation and landing. As the logistic support system develops ashore, the Shore Party Group organizations will be modified. When no longer required for landing support functions, attachments will revert to parent control, or otherwise be assigned as appropriate. Upon establishment ashore of the MSSG/BSSG, selected command and control elements of the Shore Party Group will pass to operational control of the MSSG/BSSG for continuation of landing support as required.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of providing organizational (1st echelon) maintenance on all organic equipment.

Organizational (2d echelon) maintenance on assigned equipment is provided by H&S Company, Landing Support Battalion. Intermediate (3d and 4th echelons) maintenance is provided by Maintenance Battalion, FSSG.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Landing Support Battalion.

3 Medical. None organic. Support is provided by the Medical Battalion, FSSG.

4 Transportation. Limited organic motor transport. Augmentation by H&S Company, Landing Support Battalion, required to accomplish the Company's primary mission.

5 Messing. None organic. Support is provided by H&S Company, Landing Force Battalion.

(g) The major items of equipment are shown below.

LANDING SUPPORT COMPANY, LANDING SUPPORT BATTALION

Detecting Set, Mine, Portable, Non-metallic, PRS-8	2
Detecting Set, Mine, Portable, Metallic, PSS-12	2
Machine Gun, 7.62mm, M60	4
Pistol, Automatic, Cal .45, M1911A1	10
Rifle, 5.56mm, M16A2	58
Radio Set, AN/PRC-68A	5
Truck, Cargo, 1-1/4T, M561	1
Trailer, Amphib. Cargo, 1/4T, M416	1
Truck, Utility, 1/4T, 4x4, M151A2	3
Truck, Utility, Cargo/Troop Carrier	3

(9) Beach and Port Company

(a) Mission. To direct designated beach/port, railhead, airhead, and cargo terminal operations.

(b) Tasks

1 Provide personnel and equipment for the loading, unloading, and movement of supplies at a port, railhead, airhead, beach, and in dumps or depots.

2 Develop and maintain skills in cargo-handling operations, to include container handling and management.

3 Provide air-delivery support in support of the MAF as required.

4 Provide air freight operational capability.

(c) Concept of Organization. The Company consists of a Company Headquarters, four Longshoreman Platoons, a Shipping and Receiving Platoon, and an Air-Delivery Platoon. The Company is organized to provide the basic structure necessary to accomplish the primary mission.

1 Command and Control. The operations officer performs the staff functions necessary to effect coordination and control of functionally assigned sections in the accomplishment of the primary mission. The company commander directs and controls all matters pertaining to company administration and logistic support.

2 Firepower. Organic firepower is limited to individual weapons for personal security.

3 Communications. None organic. Support is provided by the Communications Platoon, H&S Company, Landing Support Battalion.

4 Mobility. The Company is not considered mobile due to the extent and complexity of resident equipment.

(d) Concept of Employment. The Company, when directed, assumes the beach/port operation functions after control has been passed to the FSSG. The Company provides air-delivery support, and, when augmented by other elements of the FSSG, an air terminal can be provided for the MAF. In addition, the Company is capable of conducting Departure/Arrival Airfield Control Group operations.

(e) Administrative Capability. Administrative support is provided at battalion level.

(f) Logistic Capabilities

1 Maintenance

a Organic. Capable of organizational (1st echelon) maintenance on all assigned equipment and organizational/intermediate (2d through 4th echelons) maintenance on all air-delivery equipment. Organizational (2d echelon) maintenance on all other equipment will be provided by H&S Company, Landing Support Battalion.

b Support. None.

2 Supply. None organic. Support is provided by H&S Company, Landing Support Battalion.

3 Medical. None organic. Support is provided by the Medical Battalion, FSSG.

4 Transportation. None organic. Support is provided by H&S Company, Landing Support Battalion, FSSG, and/or augmentation from the Motor Transport Battalion, FSSG.

5 Messing. None organic. Support is provided by H&S Company, Landing Force Battalion.

(g) The major items of equipment are shown below.

BEACH AND PORT COMPANY, LANDING SUPPORT BATTALION

Generator, Tracking, HP-844-3A	2
Machine Gun, Cal.50, M2	2
Parachute, Cargo, 100 ft., Type G11A	200
Pistol, Automatic, Cal .45, M1911A1	27
Rifle, 5.56mm, M16A2	355
Trailer, Amphib. Cargo, 1/4T, M416	1
Truck, Cargo, 1-1/4T, M1008	3
Truck, Utility, 1/4T, 4x4, M151A2	2
Truck, Utility, Cargo/Troop Carrier	2

SECTION 4B
FORCE SERVICE SUPPORT GROUP
NEW EQUIPMENT DEVELOPMENT (1986-1995)

408. GENERAL

a. The basic mission of the Force Service Support Group (FSSG) should remain unaltered for the period 1986-1995. However, the organizational combat service support (CCS) structure and concepts of employment will require some changes. CSS requirements are as dynamic as combat elements and require an appropriate level of command and control to keep pace with developing doctrine and tactics. New systems have emerged, such as the LAV, M198 howitzer, Squad Automatic Weapon, SMAW, and AV-8B; the completely new Field Logistics System with its new family of equipment; the CH-53E; and the developing MV-22A (OSPREY). The CSS structure, which was designed to support amphibious assault operations, must also support heavily mechanized operations of the MPS Brigade. The great increase in infantry firepower and mechanization, coupled with the support requirements associated with MPS equipment offload and air movement of personnel and equipment, has created a quantum increase in Landing Support Battalion throughput requirements, both over the beach and at the airfield. The Marine Corps occupational analysis group is conducting a study entitled the Logistics System and Combat Service Support Structure Study to develop and evaluate MAF CSS and logistics system structures for supporting Marine Corps operations from the present through the 1990-2000 time frame.

b. The introduction into the FMF of MTACCS and other sophisticated electronic systems and subsystems described throughout LFOSS will have a significant impact on the organization, equipment, and facilities required for maintenance and repair.

c. The Tactical Vehicle Fleet modernization program is already underway, as described in Section 1D, with the light fleet of HMMWV and the CUCV; the medium fleet composed of the 5-ton M939 and M809; and the heavy logistics vehicle system (LVS), with the MK48 front power unit and four interchangeable rear body units. The TVF is sized to support the offloading and movement over the beach of 4,300 tons of supplies per day from the MAF amphibious follow-on echelon, and it will also support the day-to-day requirements of ground CSS and aviation elements throughout the amphibious objective area.

d. During 1986 and 1987, CSS units will see the completion of an integrated fleet logistic system of standard-size modular shelters, containers, and their corresponding compatible trailers and prime movers as discussed in Section 1D. This system integrates a conceptual vehicle fleet mix of prime movers and trailers with various shelters (MCESS), an environmentally controlled medical system, Marine Corps liquid transporting, a storage and handling system (SIXCON/PALCON), and other standard-

size containers. Improved handling equipment will be compatible for loading and offloading operations.

e. The items of equipment and systems listed above and many of those to follow will be found throughout the FMF, but because of their basic CSS nature, they are included in the FSSG portion of LFOSS.

f. The Engineer Support Battalion will see many new equipment developments during the 1986-1995 time frame with the addition of improved bridging, material-handling equipment, and heavy engineer equipment such as the 1200 GPH reverse osmosis purification unit and the well drilling rig.

g. There are no new items of communications equipment described in Section 1B that are unique to the FSSG; however, many new or improved items will be used within the command. For a tabular display of these communications items, see Figure 4-10.

h. Figure 4-11 at the conclusion of this section provides a summary of FSSG developments, less communication equipment, as well as common equipment already discussed in previous sections.

409. FSSG ORGANIZATION

a. Headquarters and Service Battalion

(1) Extendable Boom Forklift (EBFL). The EBFL will feature an extendable boom that will support at least 4,000 pounds at a substantial standoff distance from the load. This capability will allow for the stuffing/unstuffing of ISO containers and the loading/unloading of both fixed-wing and rotary-wing aircraft. The EBFL will replace related quantities of the RT 6000 forklift and will also be found in the Engineer Support Battalion, Combat Engineer Battalion, and Wing Engineer Squadron. The IOC is FY 90.

(2) Tractor, Rubber-Tired Articulated Steering, Multiple Purpose (TRAM). This is a diesel powered, four-wheel drive tractor that will provide a 10,000-pound lifting capacity, rough terrain forklift for use in both material-handling and construction engineering. A 2.5 cubic yard bucket attachment provides an earth-loading capability. The TRAM will be introduced in FY 89 and will be located in all FMF engineer units.

b. Maintenance Battalion

(1) Electronic Maintenance Complex (EMC). The EMC will utilize a standard ISO shelter to provide facility, internal furnishings/appointments, environmental conditioning, and protection for the complete range of activities required for responsive, efficient electronics maintenance support for FMF ground communication and electronics equipment. The EMC will also be employed at the Headquarters and Service Battalion, FSSG, within the wing Marine Air Control Group, and at the division Headquarters

Battalion and Artillery Regiment for the conduct of intermediate maintenance. The IOC is FY 87.

(2) Electronics Calibration Facility (ECF). The ECF is an extension and application of the electronics maintenance complex. It is designed to provide the facilities, equipment, and standards for the FMF ground electronics test, measurement, and diagnostic equipment. The ECF will be employed at 4th echelon maintenance units to include the Marine Wing Communications Squadron. The IOC for the ECF is FY 87.

c. Engineer Support Battalion.

(1) Wet Gap Bridging System (WGBS). The FMF currently possesses an obsolete WGBS - the M4-T6 Floating Highway Bridge. A multipurpose bridge container flotation system designed for use with the medium grider bridge (MGB) was tested and considered to be inadequate to meet Marine Corps requirements and was not recommended for approval for service use or procurement. Another variation, the MGB Pontoon System, is more survivable but does not offer a rapidly emplaceable ferry capability. The U.S. Army's Ribbon Bridge System, in service since 1976, is currently undergoing an improvement program and may meet our wet gap requirements. The Improved Ribbon Bridge program will result in a system which has better hydrodynamic efficiency, integral positive buoyancy (reserve) ramps that can operate on higher banks, and an integral propulsion system. The IOC for the WGBS is FY 89.

(2) The Engineer Support Battalion will also receive the towed assault bridge which was described in Section 2B.

(3) 1200 GPH Reverse Osmosis Water Purification Unit (ROWPU). A ROWPU fitting the same transport dimensions of the current 600 GPH system and providing double the output capacity is under development. The 1200 GPH ROWPU will incorporate technological advances in prefiltration and energy recovery. With utilization of the 8'x 8'x 20' ISO shipping frame as a housing for the 1200 GPH system, the production capability can be doubled without increasing operator, maintenance, or logistic support. The IOC for the 1200 GPH ROWPU is FY 90. It will also be found in the division and wing engineer units.

(4) Well Drilling Rig. A 1500-foot capacity water well drilling rig with a skid base meeting 8'x20'x20' ISO requirements is under development for introduction to the FMF by FY 90. The rig will be lightweight, compatible with the rear cargo variant of the LVS system, and air transportable by C-130 aircraft with no disassembly.

d. Landing Support Battalion

(1) Rough Terrain Crane (RTC). The RTC is a heavy lift, rubber-tired rough terrain hydraulic crane with telescopic boom for surfline loading/unloading operations; clamshell bucket operations;

diesel pile-driving operations; bridge/raft/ prefabricated building/control tower erection; salvage and crash-rescue operations; as well as handling containers weighing up to 22.5 tons. The RTC will also be located in the Engineer Support, Maintenance, and Supply Battalions of the FSSG, as well as in the division and wing engineer units. The RTC will reach IOC in FY 89.

(2) 10-Ton Crane. The current 7-1/2-ton crane has an insufficient lifting capacity and does not meet flyaway requirements for air-contingency operations. By FY 90, a replacement diesel-drawn 10-ton crane with increased lift capacity will be fielded on a one-for-one basis. It will be a drive on/drive off air transportable crane that will be used for handling ammunition, communication vans, shelters, and other material-handling requirements at remote, barebone sites in the objective area. The 10-ton crane will feature 4-wheel steering, an expandable boom, towing, and a water-fording capability.

(3) Mobile Container Handler. The recently introduced lightweight amphibious container handler and 50,000-pound rough terrain container handler will be replaced by FY 95 with a self-propelled, straddle lift, single operator mobile container handler. It will perform beach extraction of ISO containers from small landing craft for offloading onto LVS trailers for movement inland, as well as marshalling tasks at CSS activities.

e. Motor Transport Battalion. By FY 88, the Motor Transport Battalion will have completed a dramatic transformation equipment-wise with the introduction of the new TVF, most particularly with the medium (5 ton) and heavy (LVS) fleets described in Section 1D.

f. Medical Battalion

(1) Controlled Environment Medical System. The Controlled Environment Medical System will provide medical and dental personnel with the equipment and facilities to fully utilize their professional skills and also provide an environment that will nearly balance the chances of survival of the seriously injured patient. Adopting the MCESS as the basic shelter of the medical system enabled the use of instruments and sophisticated equipment that was incompatible with tents. The Controlled Environment Medical System provides, for the first time, a truly sterile environment in close proximity to the battlefield for the treatment of casualties. Housing the medical system in ISO-configured shelters allows for orderly improvement and/or expansion of the system. It is compatible with amphibious and commercial ships, transport aircraft, and the TVF. An IOC is planned for FY 87.

g. Dental Battalion. The Controlled Environment Medical System program will also provide shelter-sized components to the dental platoons to replace tents.

		FSSG	H&S BN	SUPPLY BN	MAINT BN	LOG SPT BN	ENGR SPT BN	MT BN	MED BN	DENT BN	IOC
SWITCHING EQUIPMENT	AN/TTC-42 (AUTOMATIC TELEPHONE CENTRAL (ULCS))		◆								9[illegible]
	SB-3865 (AUTOMATIC SWITCHBOARD (ULCS))		◆			◆					90
	AN/GYC-7 (ULMS)		◆								90
MULTICHANNEL TRANSMISSION EQUIPMENT	AN/TSC-60 (COMMUNICATIONS CENTRAL)		◆								89
	AN/MRC-134(XN-1) (UHF DIGITAL WIDEBAND TRANS SYSTEM)		◆								91
	AN/TRC-170 (SHF MULTIPLEX RADIO EQUIPMENT)										91
	TD-1234 (MULTIPLEXER)		◆								89
SINGLE CHANNEL TRANS EQUIPT.	AN/VRC-83 (VEHICULAR MOUNT VHF RADIO)				◆						87
	AN/PRC-113 (HANDHELD VHF/UHF RADIO)		◆		◆	◆	◆				87
	AN/GRC-( ) (SINCGARS RADIO FAMILY)		◆	◆	◆	◆	◆	◆	◆	◆	90
TERMINAL DEVICES	AN/PSC-2 (DIGITAL COMMUNICATIONS TERMINAL)		◆								86
	AN/UXC-/ (FACSIMILE)		◆								87
	AN/UGC-/4A (TACTICAL REPRO/DIST. FACILITY)		◆								87
	AN/MSC-63A (COMMUNICATIONS CENTRAL)		◆								89
	TA-954 (TELEPHONE (DNVT))		◆								88
	FIBER OPTIC CABLE SYSTEM		◆			◆					88
	AUPE-CMP (COMM MESSAGE PROCESSOR)		◆								86
SATCOM EQUIPMENT	AN/PSC-3 (MANPACK SATCOM RADIO)										86
	AN/TSC-93A (SHELTER MOUNTED SATCOM RADIO)		◆								86
	SCOTT (EHF SINGLE CHANNEL TACTICAL TERMINAL)		◆								91
COMSEC DEVICES	TSEC/KYV-5 (COMSEC FOR CV-3591 (ANDVT))		◆		◆	◆	◆	◆	◆		86
	TSEC/KY-99 (COMSEC FOR ANDVT)					◆					89
	TSEC/KG-84A (DLED)		◆			◆					87
	TSEC/KGX-95 (TRUNK ENCRYPTION DEVICE)		◆			◆					88
	TSEC/KY-68/78 (DSVT)		◆								90
	TSEC/KY-9[illegible] (SINCGARS)		◆	◆	◆	◆	◆	◆	◆	◆	8[illegible]

Figure 4-10 -- Communications Equipment, Force Service Support Group (1986-1995)

	FSSG	H&S BN	SUPPLY BN	MAINT BN	LDG SPT BN	ENGR SPT BN	MT BN	MED BN	DENT BN	IOC
EBFL		●			●	●				90
TRAM		●		●	●	●				89
ELECTRONIC MAINTENANCE COMPLEX		●		●						87
ELECTRONICS CALIBRATION FACILITY				●						87
WET GAP BRIDGING SYSTEM						●				89
TOWED ASSAULT BRIDGE						●				89
CMLS						●				88
COLD WEATHER CLOTHING AND EQUIPMENT			●							88-89
1200 GPH ROWPU						●				90
WELL DRILLING RIG						●				90
ROUGH TERRAIN CRANE					●	●				89
10-TON CRANE						●				90
MOBILE CONTAINER HANDLER		●			●	●				95
CONTROLLED ENVIRONMENT MEDICAL SYSTEM								●	●	87
PERSONAL DEFENSE WEAPON		●	●	●	●	●	●	●	●	86
POMINS						●				90
CHEMICAL AGENT MONITOR		●	●	●	●	●	●	●	●	88
NBC PROTECTIVE MASK		●	●	●	●	●	●	●	●	88
LTWT DECON. SYSTEM						●				89
PORT. DECON. APPARATUS M13		●	●	●	●	●	●	●	●	87
FAMILY OF SOFT SHELTERS		●	●	●	●	●	●	●	●	90
MOTORCYCLE		●								86
MCESS		●		●						87
QUADCON/PALCON		●	●	●	●	●	●	●	●	86
SIXCON (WATER)		●	●	●		●	●	●		86
SIXCON (FUEL)		●		●		●	●			87
SIXCON FIREFIGHTING MODULE		●				●				90

Figure 4-11 -- Weapons and Equipment, Force Service Support Group (1986-1995)

SECTION 5A
SPECIALIZED FORCE UNITS, FMF
1986 BASELINE

501. GENERAL

Specialized force units in the Fleet Marine Force (FMF) are not organic to the Marine divisions, Marine aircraft wings, or the force service support groups. These types of units are in support of FMF organizations. (See Figure 5-1.)

502. SPECIALIZED FORCE UNIT ORGANIZATIONS

The force-level organizations in the FMF consist of the following:

- o Radio Battalion
- o Topographic Platoon
- o Force Reconnaissance Company
- o Civil Affairs Group
- o Communication Battalion
- o Counterintelligence Team
- o Special Security Communication Team
- o Air/Naval Gunfire Liaison Company
- o Separate Brigade Platoon, ANGLICO

a. Radio Battalion

(1) Mission. To conduct tactical signals intelligence, ground electronic warfare (EW), and communications security monitoring in direct support of the MAGTF.

(2) Tasks

(a) To provide task organized direct support elements to the MAGTF that are capable of providing signals intelligence, electronic warfare, and communication security (COMSEC) monitoring support.

(b) To conduct tactical signals intelligence (SIGINT) support operations.

(c) To conduct electronic countermeasures (ECM) against enemy communications.

(d) To conduct COMSEC monitoring and reporting on friendly force communications.

(e) To assist in signals intelligence/ electronic warfare coordination center (S/EWCC) operations at the force headquarters.

(f) To provide special intelligence communication support for the force headquarters.

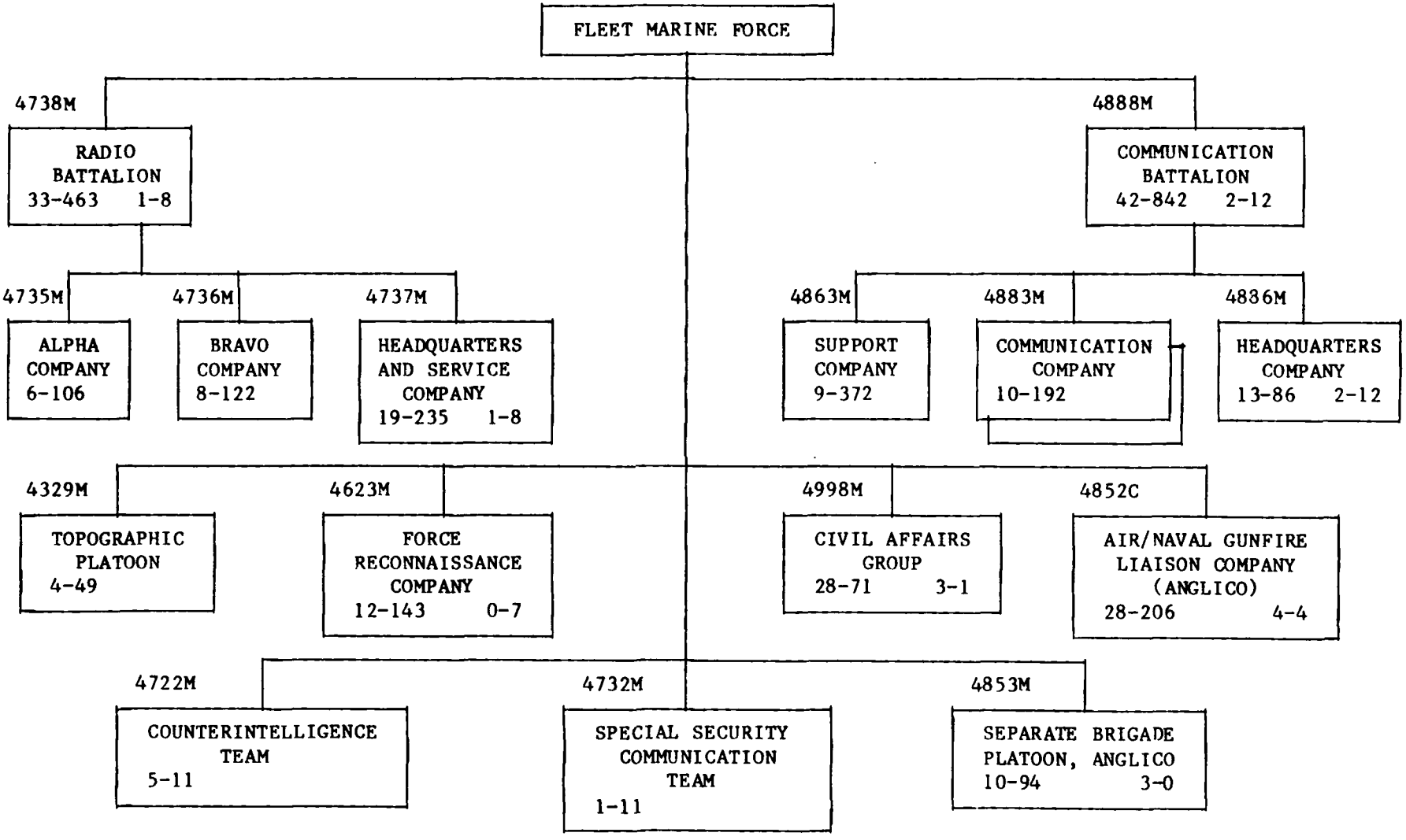


Figure 5-1. -- Specialized Force Units

(3) Concept of Organization. The Battalion is organized into three companies: Headquarters and Service Company, which contains the battalion headquarters, operations control/analysis platoon, communications resources, and battalion logistic support elements; Alpha Company, which contains direction finding (DF), ECM, and COMSEC surveillance resources; and Bravo Company, which provides all SIGINT collection capabilities. The T/O companies of the Battalion are not tactical organizations, but serve as training and administrative units from which personnel and equipment are drawn to form direct support units (DSUs). Even if the entire battalion were deployed, it would task organize for the mission. The authorized peacetime strength of the Battalion is designed to meet limited war/contingency requirements of the FMF and provide the basic structure to be augmented for sustained operations, special requirements, training, and total war. By agreement between the Commandant of the Marine Corps and the Chief of Naval Operations, augmentation is provided from Marine Support Battalion resources (T/O 5200 series).

(a) Command and Control. Command functions are discharged through a compact headquarters consisting of the commanding officer, executive officer, and executive staff. The executive staff provides the required personnel, intelligence, operations, and logistics functions.

(b) Firepower. Organic firepower capability is limited to individual weapons and machine guns.

(c) Communications. The Battalion has the capability to establish intra-battalion voice circuits and terminal facilities for battalion record communications. Communication paths for all record communications must be provided by the supported force. The battalion DSU also provides terminal equipment for special intelligence circuits external to the MAGTF, but the force must provide the communication path.

(d) Mobility. The Battalion is capable of vehicular movement using organic equipment. External support is required to move the entire battalion in one echelon. All battalion mission equipment is helicopter transportable.

(4) Concept of Employment. The battalion is the sole source of ground-based SIGINT and EW support within the FMF and conducts operations in direct support of MAGTFs and other designated Marine Corps combat organizations. The location and employment of the task organized DSUs is based in part upon the enemy signal environment. The allocation of resources is based upon optimum exploitation of this signal environment in response to a supported unit's requirements.

(5) Administrative Capability. Capable of self-administration at battalion or task organized unit level.

(6) Logistic Capabilities. Logistic capability is compatible with the mobility and operations of the Battalion as the sole ground-based SIGINT/EW support element of the force. Special organic logistic capability is available at the battalion level to provide support of low-density electronic and material items peculiar to the battalion.

(a) Maintenance and Supply. The Battalion is authorized and capable of performing 1st and 2d echelon maintenance of all organic equipment, 3d echelon maintenance of all Marine Corps-furnished communication and electronics equipment, and 4th echelon maintenance of Marine Corps-furnished electronic equipment peculiar to the operations of the battalion. The Battalion is capable of performing organic supply functions. Logistic support for all companies of the Battalion is performed at battalion level.

(b) Medical. Capable of administering emergency treatment and preparation for evacuation of casualties requiring hospitalization.

(c) Transportation. Capable of transporting all command, control, and operational elements of the Battalion with organic vehicular transportation. Dependent upon external motor transport for total lift when required in one echelon.

(d) Messing. Capable of operating a battalion mess in the field.

(7) Headquarters and Service (H&S) Company

(a) Mission. Provide the facilities with which the battalion commander directs, controls, and coordinates battalion operations and provide service and support for subordinate elements of the Battalion.

(b) Tasks

1 Provide command, control, operations, administrative, and logistic support for the Battalion.

2 Analyze, process, and report enemy electromagnetic emissions.

3 Integrate collected data into combat intelligence information.

4 Provide SIGINT product and SIGINT/EW information as required.

5 Function as special intelligence/ special security communication office and cryptoguard for the MAGTF headquarters.

6 Exercise technical direction over all special intelligence communications within the landing force and employ special intelligence communication facilities and personnel to operate special intelligence/ special security office terminals as required.

7 Provide personnel/facilities for the administration of the battalion special security program.

8 Provide SIGINT/EW control personnel both for liaison and to augment operations of the S/EWCC.

(c) Concept of Organization. The Company is organized, trained, and equipped to provide the support required by the Battalion and/or task organized DSUs thereof.

1 The company is organized into functional groupings to provide for:

a A Battalion Headquarters which directs, controls, and coordinates the operations of the battalion and provides augmentation to the MAGTF S/EWCC if established.

b A Company Headquarters which provides administrative and logistical support for the company.

c A Communication Platoon which provides the record communications support for operating elements of the battalion.

d An Operations Control and Analysis Platoon which provides technical control, coordination, tasking, analysis, and reporting functions.

e A Supply Platoon which provides the supply and dining support for operating elements of the battalion.

f A Motor Transport/Engineer Platoon which provides the transportation, automotive and engineer equipment maintenance, and electrical power support for operating elements of the battalion.

g An Electronic Maintenance Platoon which provides electronic maintenance support for operating elements of the battalion.

h A Medical Section which provides medical support for the battalion.

2 Command and Control

a Command and Staff. The company commander and a small staff direct and control all matters pertinent to administration and logistic support of the company.

b Communications. Internal communications are limited to telephone and messenger service.

3 Firepower. Limited to individual weapons and machine guns for local and internal security.

4 Mobility. The Company is vehicular transportable using organic vehicular transportation means and is helicopter transportable.

(d) Concept of Employment. The company headquarters provides internal administration, logistics, security, and working space facilities for the battalion headquarters. The battalion headquarters is normally located in the vicinity of the MAGTF command post to facilitate coordination. The Communication Platoon, Operations Control and Analysis Platoon, Supply Platoon, Motor Transport/Engineer Platoon, and Electronic Maintenance Platoon provide support for the entire battalion. The company commander acts as headquarters commandant for the Radio Battalion command post. When support requirements do not dictate the employment of the entire battalion, selected resources of the Company can be rapidly grouped to form a part of a task organized detachment.

(e) Administrative Capability. Capable of self-administration at battalion or task organized unit level.

(f) Logistic Capabilities

1 Maintenance. Capable of performing 1st and 2d echelon maintenance of all organic equipment; 3d echelon maintenance of all Marine Corps-furnished communication and electronics equipment; and 2d, 3d, and 4th echelon maintenance of Marine Corps-furnished communication and electronics equipment peculiar to the operation of the Battalion.

2 Medical. Capable of administering emergency treatment of casualties requiring hospitalization for elements located with the battalion command post. Capable of providing limited medical assistance to DSUs.

3 Transportation. Capable of transporting all command, control, and operational elements of the company and battalion with organic vehicular transportation. Dependent upon external motor transport from force assets for total lift of battalion when required in one echelon.

4 Supply. Capable of organic supply functions for the entire battalion.

5 Messing. Capable of operating a mess in the field.

(g) The major items of equipment are shown below:

HEADQUARTERS AND SERVICE COMPANY, RADIO BATTALION

Chassis, Trailer, GP, 3-1/2T, M353	19
Decontamination Apparatus, M12A1	2
Machine Gun, Cal.50, M2	2
Machine Gun, 7.62mm, M60	6
Pistol, Automatic, Cal .45, M1911A1	126
Rifle, 5.56mm, M16A2	266
Radio Set, AN/VRC-12	4
Radio Set, Control Group, AN/GRA-39B	5
Radio Set, AN/MRC-138	10
Radio Set, AN/MRC-110	6
Radio Set, AN/PRC-77	18
Radio Set, AN/PRC-75B	2
Radio Set, AN/PRC-104	6
Shop, Electronic, AN/GRM-94	2
Shelter, Electronics Maint. Spt., AN/GRM-86X	4
Switchboard, Telephone, Manual, SB-22A/PT	1
Switchboard, Telephone, Automatic, SB-3614(V)TT	1
Telephone Set, TA-838/TT	10
Teletypewriter, AN/GGC-3A	5
Terminal, Telephone-Telegraph, TH-85A/GCC	21
Trailer, Amphib. Cargo, 1/4T, M416	3
Trailer, Flatbed, 3/4T, M762	11
Trailer, Cargo, 3/4T, M101A1	5
Trailer, Cargo, 1-1/2T, M105A2	5
Trailer, Tank, Water, 1-1/2T, 400 Gal, M149A2	4
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 1-1/4T, 4x4T, M880	4
Truck, Cargo, 1-1/4T, M1008	4
Truck, Cargo, 5T, 6x6, M923	16
Truck, Cargo, 5T, 6x6, M54A2C	5
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal, M49A2C	1
Truck, Utility, 1/4T, 4x4, M151A2	8
Truck, Wrecker, 5T, 6x6, M543A2	1
Truck, Wrecker, 5T, 6x6, M936	1

(8) ALPHA Company

(a) Mission. Conduct short-range DF, ECM, and COMSEC surveillance in direct support of the MAGTF.

(b) Tasks

1 Intercept, perform DF, and report locations of enemy communication transmitter sites.

2 Jam or otherwise interfere electronically with selected enemy communications.

3 Assist in the protection of friendly force communications from enemy exploitation.

4 Provide COMSEC surveillance operations to the commander.

(c) Concept of Organization

1 The Company is organized and equipped along functional lines to facilitate peacetime training and provide the structure for rapid task organization for specific missions. The Company consists of:

a A Company Headquarters which furnishes command and logistic support for the company.

b A Direction Finding Platoon which performs DF functions.

c An ECM/COMSEC Surveillance Platoon which performs ECM/COMSEC monitoring functions.

2 Command and Control

a Command and Staff. Command functions are exercised through a small command group in the company headquarters and through the platoon commanders and the section leaders.

b Communications. Capable of providing functional communications for control and coordination of subordinate elements. Dependent on the Communications Platoon of H&S Company for record communications.

3 Firepower. Limited firepower capability provided by individual weapons.

4 Mobility. The Company is vehicular transportable using organic battalion vehicles, and is helicopter transportable.

(d) Concept of Employment. Elements of the Company are normally dispersed throughout the landing force area of operations. These elements are capable of decentralized operations as part of a task organized DSU, or by operating under centralized control of the battalion. Tactical and technical considerations determine precise locations, and operating elements are normally deployed on an area basis to obtain maximum surveillance and coverage.

(e) Administrative Capability. Capable of self-administration at battalion or task organized unit level.

(f) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance of all organic equipment. Battalion provides:

a 2d echelon maintenance of motor transport equipment.

b 2d and 3d echelon maintenance of Marine Corps-furnished communication and electronics equipment.

c 2d, 3d, and 4th echelon maintenance of Marine Corps-furnished communication and electronics equipment peculiar to the operation of the company.

2 Medical. Dependent upon battalion or supported unit(s) for medical support.

3 Transportation. Capable of transporting all command, control, and operational elements of the company with organic vehicular transportation. Dependent upon battalion and/or external motor transport for total lift of the company when required in one echelon.

4 Supply. Dependent upon battalion for all supply functions.

5 Messing. No organic messes. Messing support provided by battalion or supported unit(s).

(g) The major items of equipment are shown below.

ALPHA COMPANY, RADIO BATTALION

Pistol, Automatic, Cal .45, M1911A1	18
Receiving Set, AN/GRR-8(V)	20
Rifle, 5.56mm, M16A2	76
Radio Set, Control Group, AN/GRA-39B	8
Radio Set, AN/MRC-138	4
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	25
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Cargo, 1-1/4T, M561	5
Truck, Cargo, 5T, 6x6, M923	8
Truck, Utility, 1/4T, 4x4, M151A2	16
Trailer, Amphib. Cargo, 1/4T, M416	5
Trailer, Utility, Cargo/Troop Carrier	25

(9) BRAVO Company

(a) Mission. To conduct SIGINT collection operations in direct support of the MAGTF.

(b) Tasks

1 Intercept and record enemy manual Morse, non-Morse, and radiotelephone communication signals.

2 Intercept, record, and analyze enemy noncommunication signals.

3 Report intercept results to analysis, processing, and reporting elements of the Radio Battalion.

4 Conduct military, special, and technical training as required to develop and maintain combat readiness in support of FMF contingency plans.

(c) Concept of Organization

1 The Company is functionally organized and equipped to provide the structure for rapidly task organizing for specific missions and to facilitate training. The Company consists of:

a A Company Headquarters which furnishes command and logistic support for the company.

b A Morse Collection Platoon which performs manual Morse collection functions.

c A Radiotelephone Collection Platoon which performs radiotelephone collection functions.

d A Non-Morse/ELINT Collection Platoon which conducts non-Morse collection and electronic intelligence (ELINT) collection and analysis operations.

2 Command and Control

a Command and Staff. Command functions are exercised through a small command group in the company headquarters and through the platoon commanders and the section leaders.

b Communications. Capable of providing functional communications for control and coordination of subordinate elements. Dependent on the Communications Platoon of H&S Company for record communications.

3 Firepower. Limited firepower capability provided by individual weapons.

4 Mobility. The Company is vehicular transportable using organic battalion vehicles, and is helicopter transportable.

(d) Concept of Employment. Elements of the Company are normally dispersed throughout the landing force area of operations. Technical considerations determine precise locations, and operating elements are normally deployed on an area basis to obtain maximum surveillance and coverage. The Company has the flexibility of providing SIGINT collection assets as part of a task organized, forward-deployed DSU and/or of centralizing all or a portion of its collection resources at the battalion headquarters. Operational tasking control of the company is normally effected by the battalion commander through the Operations Control and Analysis Platoon of H&S Company. When employed as part of an independent task organized DSU, operational tasking control is vested in the DSU commander.

(e) Administrative Capability. Capable of self-administration at battalion or task organized unit level.

(f) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance of all organic equipment. Battalion provides:

a 2d echelon maintenance of motor transport equipment.

b 2d and 3d echelon maintenance of Marine Corps-furnished communication and electronics equipment.

c 2d, 3d, and 4th echelon maintenance of Marine Corps-furnished communication and electronics equipment peculiar to the operation of the Company.

2 Medical. Dependent upon battalion or supported unit(s) for medical support.

3 Transportation. Capable of transporting all command, control, and operational elements of the company with organic vehicular transportation. Dependent upon battalion and/or external motor transport for total lift of the company when required in one echelon.

4 Supply. Dependent upon battalion for all supply functions.

5 Messing. No organic messes. Messing support provided by battalion or supported unit(s).

(g) The major items of equipment are shown below.

Pistol, Automatic, Cal .45, M1911A1	26
Receiving Set, AN/GRR-8(V)	20
Radio Receiving Set, AN/TRQ-30(V1)	6
Radio Receiving Set, AN/TRQ-30(V2)	6
Rifle, 5.56mm, M16A2	102
Radio Set, Control Group, AN/GRA-39B	2
Radio Set, AN/MRC-110	2
Radio Set, AN/PRC-77	5
Radio Set, AN/PRC-75B	2
Switchboard, Telephone, Manual, SB-22A/PT	1
Truck, Cargo, 1-1/4T, M561	12
Trailer, Cargo, 3/4T, M101A1	8
Truck, Cargo, 2-5T, 6x6, M923	16
Truck, Cargo, 5T, 6x6, M54A2C	4
Truck, Utility, 1/4T, 4x4, M151A2	2
Truck, Utility, Cargo/Troop Carrier	18

b. Topographic Platoon

(1) Mission, Tasks, and Functions. The Platoon provides operational and training support to the Marine Corps and other services and agencies as prescribed by the Department of Defense. This support includes the provision of mapping products as well as geodetic, topographic, and coastal hydrographic surveys.

(a) Mapping. The Platoon supplements normal mapping sources by preparing map substitutes, overlays, overprints, photomosaics, map revisions, and multicolor products. Combat charts, coastal charts, port charts, and harbor charts are revised or produced in small quantities. Multisource terrain information is analyzed, photography is annotated, and terrain studies and related products are provided for the tactical commander.

(b) Geodetic/Topographic Survey. The Platoon conducts timely and precise second-order horizontal and vertical surveys, which encompass astronomic, geodetic, satellite positioning, and geodetic and magnetic azimuth surveys. Survey procedures include traversing, triangulation, trilateration, and precise leveling and distance measuring. Primary geodetic control stations are established for use by artillery, missile, air, and communication units, and by positions systems that require geodetic control. These surveys and computations support the mission objective.

(c) Coastal Hydrographic Survey. The Platoon conducts coastal hydrographic surveys from the six-fathom depth curve, or from where the Navy ocean survey ends, to the highwater line. The survey is extended beyond the beach to the first line of communication that allows lateral movement behind the beach. Coastal data for hydrographic charts is collected for imminent and future amphibious operations. This data includes beach type,

gradients, wave and tidal conditions, trafficability, routes of egress, and hydrographic data on inland water bodies.

(2) Concept of Organization. The Platoon is organized to provide control over the sections organic to the platoon.

(a) Command and Control

1 The Platoon is under the operational control of Commanding General, Fleet Marine Force, Atlantic, Norfolk, Virginia, and under the administrative control of Commanding General, 2d Force Service Support Group (Rein), Fleet Marine Force, Atlantic.

2 The Platoon commander, acting as a special staff officer, provides expertise to the supported commander concerning employment and operations of the topographic platoon, and provides for planning, direction, and supervision of the Platoon in accomplishing assigned missions.

3 The Platoon has organic communication equipment to support shortrange communication requirements during survey operations, including hydrographic surveys, but must be supported for long-range communication requirements.

(b) Firepower. The Platoon has only individual weapons capable of providing local security and assisting in the defense of its installation against infiltration.

(c) Mobility. The Platoon has only the motor transport required for movement of the command element, the survey teams, and its own internal supplies. Heavy motor transport from external sources is required to move its topographic mapping van, hydrographic survey platform, and operational and supporting equipment.

(d) Logistics. The Platoon requires additional support from the unit to which attached in order to meet logistics requirements.

(3) Concept of Employment

(a) In support of a Marine Amphibious Force (MAF), the Platoon is normally attached to the landing force and operates under the control of the landing force commander. In addition, hydrographic/geodetic survey teams and map compiling/terrain analysis teams may be employed with smaller MAGTFs or as separate hydrographic coastal and beach data collecting teams. When directed, task organized teams may deploy as elements of joint service teams.

(b) To ensure quality products, the Platoon should be in close proximity to the reproduction unit of FMF headquarters.

(4) Administrative Capability. Not capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance. Capable of 1st echelon maintenance on all equipment assigned to the unit; 2d echelon maintenance on organic topographic peculiar items, motor transport equipment, and generators; and 3d echelon maintenance on optical surveying instruments.

(b) Supply. Not capable of sustained operations. Requires external supply support when employed in support of the landing force.

(c) The major items of equipment are shown below.

TOPOGRAPHIC PLATOON, FMF

Chassis, Trailer, GP, 3-1/2T, M353	3
Dolly, Trailer, 6T, M197A1	4
Mapping Set	2
Plotting and Computing Set	2
Pistol, Automatic, Cal .45, M1911A1	18
Rifle, 5.56mm, M16A2	35
Receiving Set, AN/GRR-17	1
Surveying Set	6
Truck, Cargo, 1-1/4T, M561	4
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Flatbed, 3/4T, M762	3
Truck, Utility, 1/4T, 4x4, M151A2	4
Truck, Cargo, 5T, 6x6, M923	1
Truck, Utility, Cargo/Troop Carrier	8

c. Force Reconnaissance Company

(1) Mission. To conduct preassault and distant assault reconnaissance in support of a landing force.

(2) Concept of Organization. The Company is organized primarily to provide the force commander with individual operational reconnaissance teams to execute specific reconnaissance missions. In normal situations, the Company does not function as a tactical unit and is not assigned tactical missions, objectives, or tactical areas of responsibility. However, it has a limited capability to conduct smallscale operations such as limited scale raids, rescues of noncombatants or hostages, and evacuations.

(a) Command and Control

1 Command and Staff. The company commander with his functional executive-type staff performs command and staff functions necessary for efficient planning, direction, and supervision in execution of assigned missions.

2 Communications

a Company headquarters possesses a capability to enter and guard landing force command, control, and intelligence nets appropriate to a task element of the force.

b Reconnaissance team patrols are capable of reporting findings to force headquarters via aerial relay using UHF radios and via submarine relay using underwater sound equipment.

3 Intelligence. The Company is primarily concerned with the collection of intelligence information. Information collected is processed into intelligence by the staff of the force commander. The Intelligence Section of the Company has the capability of limited intelligence production to serve the company commander. In addition, the Intelligence Section briefs and debriefs patrols and prepares patrol reports.

4 Firepower. Weapons issued to operating personnel are primarily for individual protection and to facilitate breaking contact and withdrawal; thus, they are limited to lightweight, high-volume fire weapons. Support personnel carry the basic infantry weapon.

5 Mobility

a The Company possesses adequate organic vehicular mobility to provide nontactical support of sub-elements. The Company is helicopter transportable except for the heavier tactical vehicles used for logistic support in secure areas.

b The reconnaissance elements possess great strategic mobility. Stragetic movement is by air transport/parachute or submarine/swimmer-boat. Due to the limitations imposed by necessity for stealth, protection, and survival, tactical mobility of reconnaissance elements is limited to foot movement.

6 Logistics. Logistic support of the Company is provided through internal distribution of supplies, simple supply procedures, and limited organizational maintenance. Company Supply/Service Platoon carries authorized allowances only. Additional supplies, maintenance, medical support, and transportation are provided by service support units of the force.

(3) Concept of Employment

(a) The Force Reconnaissance Company, as part of the task organization of a landing force, is employed to acquire information on the enemy, weather, and terrain for that force. It accomplishes these tasks by introducing small scout teams oriented

to specific collection missions or by establishing observation posts at selected vantage points.

(b) The Company may be employed to conduct small-scale operations such as limited scale raids, rescues of noncombatants or hostages, and evacuations.

(c) Introduced by aircraft and dropped by parachute into a small, unprepared drop zone or landed covertly from a submarine, each reconnaissance team, utilizing standard techniques of small-unit scouting and individual movement, observes and physically reconnoiters the area or object of intelligence interest and reports either by radio directly to the force commander or to that commander via a relay station or relay aircraft. Upon recovery, the team is debriefed and a detailed supplementary report is prepared and forwarded together with any documentary, physical, or photographic data acquired.

(d) The support performed by the Company is not in the form of a direct service or support of a subordinate element of the landing force, but consists of the acquisition of raw information for the force commander. The Company does not produce intelligence. The unit headquarters plans, coordinates, and supervises the introduction of, communications with, and recovery of its subordinate reconnaissance teams.

(e) Reconnaissance teams have the inherent capability to provide terminal guidance to initial helicopter waves in landing zones. This capability is equally possessed by force and division reconnaissance elements, differing only in the exclusive parachute entry available in the force unit. To a lesser degree, infantry and other ground units can provide terminal guidance commensurate with the less complex routine helicopter operations conducted within the division zone of action. Pathfinder missions are usually executed by reconnaissance teams assigned prelanding reconnaissance tasks within the general landing area. This pathfinder terminal guidance capability does not include landing zone traffic control functions.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance. Performs organizational maintenance (2d echelon) of all equipment authorized to the Company, less photographic equipment; performs 1st echelon maintenance on all photographic equipment. All maintenance short of fabrication is performed on parachutes. Performs intermediate maintenance (3d and 4th echelons) on all amphibious equipment held by this organization.

(b) Medical. Capable of administering emergency treatment only.

(c) Transportation. Transportation means organic to the Company consist of small, multipurpose helicopter-transportable vehicles for communications, and vehicles for resupply and support for the Company in a secure area.

(d) Supply. Capable of maintaining and distributing a 30-day operational level of replenishment of parachutes. Capable in the field of maintaining and distributing a 5-day operational level of replenishment supplies and equipment. Capable of preparing supplies for aerial delivery resupply of deeply emplaced teams.

(e) Messing. Capable of operating a company mess.

(6) The major items of equipment are shown below.

FORCE RECONNAISSANCE COMPANY, FMF

Chassis, Trailer, GP, 3-1/2T, M353	1
Inflatable Boat, Small	18
Launcher, Grenade, 40mm, M203	18
Machine Gun, 7.62mm, M60	6
Night Vision Goggles, Individual, AN/PVS-5A	20
Night Vision Sight, Individual Served Weapon, AN/PVS-4	15
Outboard Motor, Silent Run, 35HP	18
Pistol, Automatic, Cal .45, M1911A1	35
Rifle, 5.56mm, M16A2	126
Radio Set, AN/VRC-85	1
Radio Set, Control Group, AN/GRA-39B	8
Radio Set, AN/MRC-138	1
Radio Set, AN/PRC-68A	30
Radio Set, AN/PRC-77	26
Radio Set, AN/PRC-75B	15
Radio Set, AN/PRC-104	12
Receiving Set, AN/GRR-17	1
Truck, Cargo, 1-1/4T, M561	2
Trailer, Amphib. Cargo, 1/4T, M416	4
Trailer, Flatbed, 3/4T, M762	1
Trailer, Cargo, 1-1/2T, M105A2	2
Trailer, Tank, Water, 1-1/2T, 400 Gal., M149A2	1
Truck, Cargo, 5T, 6x6, M923	3
Truck, Utility, 1/4T, 4x4, M151A2	6
Truck, Utility, Cargo/Troop Carrier	9

d. Civil Affairs Group

(1) Mission. To plan and conduct civil affairs operations which prevent indigenous civilian interference with landing force tactical and logistic operations and which, to the extent practicable, secure local acceptance and support for the landing force mission.

(2) Concept of Organization

(a) The Civil Affairs Group (CAG) is organized with a Group Headquarters and two Civil Affairs (CA) Detachments. Each Detachment consists of a Detachment Headquarters with functional specialty teams and three CA Teams.

(b) The CAG supports a MAF. Each Detachment is capable of supporting an independent MAB and each CA Team is capable of supporting a subordinate MAB component, e.g., RLT/BLT, LSG/LSU, MAG. In a MAF deployed with MAW and division(s) as separate commands, each Detachment supports a MAW or division.

(c) Interpreters appropriate to the area of operations are assigned to CAG from other FMF resources.

(d) In the absence of an established G-5 section, the CAG Commander may be designated Landing Force Civil Affairs Officer in addition to his command of the CAG. Subordinate detachment and team commanders are not assigned to act as unit S-5 officers, but they may assist supported unit S-1/S-3 staff.

(3) Concept of Employment

(a) Landing force civil affairs activities conducted by the CAG are limited to those minimum essential civil-military operations either necessary for the accomplishment of the primary mission or required by international law, treaties, and policy. They are confined where possible to supervision over existing or reestablished civilian authorities and institutions. Normally, these operations do not include sustained military government or nation-building advisory operations. The landing force commander looks to U.S. civilian agencies or other military services to conduct these latter-type operations.

(b) The CAG prepares, plans, and conducts the reconnaissance, survey, and liaison necessary for the initiation and continuation of actions required to control the civil populace and to locate, safeguard, and utilize civilian labor, resources, and facilities in the force beachhead.

(c) The CAG and its operational detachments and teams provide the command and control elements for the conduct of these operations. Technical and functional specialist support may be attached from other landing force commands (e.g., military police, medical, engineer battalions) as required.

(d) Primary tasks undertaken by the CAG are the planning for and conduct or supervision of operations relating to:

1 Public Health and Welfare

a The collection, care, disposition, and channelling of refugees, evacuees, and displaced persons to prevent or reduce interference with landing force operations.

b Public health and sanitation actions by civilian personnel and facilities to prevent or control outbreak of disease or epidemic harmful to landing force personnel.

c The emergency evacuation and temporary hospitalization of seriously sick, wounded, and injured civilians and their return to civilian hospitalization as soon as practicable.

d The distribution of supplies and equipment to meet minimum civilian needs and the activation of relief measures to alleviate public distress and unrest.

2 Legal and Public Safety

a The imposition of essential population and resource controls and measures necessary for the maintenance of law and order and the elimination of distrust and unrest.

b The preparation, issuance, and enforcement of proclamations, directives, and instructions governing the conduct of local officials, agencies, and installations and the populace.

c The development of emergency civilian administrative organizations, where required, and the coordination of support to self-help projects by indigenous resources to rapidly reestablish and rehabilitate local institutions and facilities, both private and public.

d Within the limits of international law, the negotiation, contracting, procurement, and administration of local labor, land, and other civilian resources to assist the military effort and for civil rehabilitation and reconstruction.

e Enforcement measures to ensure that civilian personal, cultural, and property rights are safeguarded.

f The processing and payment of solatia, claims, or other appropriate compensation for injury, death, or damage to property caused by the landing force.

3 Civic Action and Information. The development and coordination of an overall landing force civic action program and its psychological exploitation.

4 Liaison. The establishment and maintenance of liaison with appropriate U.S., indigenous, and third-country organizations conducting or concerned with civil operations in the beachhead area, and with other landing force elements to coordinate and assist civil affairs activities throughout the command.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities. Capable of logistic self-support. Capable of organizational maintenance and 1st and 2d echelon maintenance on all organic equipment is authorized.

(6) The major items of equipment are shown below.

CIVIL AFFAIRS GROUP, FMF

Pistol, Automatic, Cal .45, M1911A1	49
Rifle, 5.56mm, M16A2	54
Radiac Set AN/PDR-56G	1
Radio Set, AN/GRC-160	4
Radio Set, AN/PRC-77	8
Trailer, Amphib. Cargo, 1/4T, M416	19
Trailer, Flatbed, 3/4T, M762	1
Trailer, Cargo, 1-1/2T, M105A2	3
Trailer, Tank, Water, 1-1/2T, 400 Gal., M149A2	1
Truck, Cargo, 5T, 6x6, M923	4
Truck, Utility, 1/4T, 4x4, M151A2	12
Truck, Utility, Cargo/Troop Carrier	12

e. Communication Battalion

(1) Mission. To provide communication support to a MAF or MAB headquarters, or two MAB headquarters simultaneously deployed. To provide multichannel radio or wire links between a MAB or MAF headquarters and subordinate elements.

(2) Concept of Organization

(a) Command and Control

1 Command and Staff. Command staff functions are exercised through an operational command group consisting of the commander and his executive staff. The staff, utilizing the sequence of command and staff action, assists the commander in the decision making process.

2 Communications. Communication means are provided to maintain reliable and continuous communication channels when the Battalion is employed as an entity. When employed as separate elements of a MAB or MAF, communication is via the senior headquarters. Internal means are by single channel radio, wire, messenger, or visual, as appropriate.

3 Intelligence. The Battalion employs no organic intelligence process. Information collected by subordinate units as a part of their normal activities, including signal intelligence, is passed by appropriate means to the supported headquarters.

(b) Firepower. In addition to individual weapons, the Battalion consists of medium machine guns for limited self-defense.

(c) Mobility. The 2-1/2-ton and 5-ton truck provides the primary means of mobility for battalion troops and limited amounts of supplies and equipment. All equipment is transportable by helicopter, amphibious, and tactical and strategic air transportation means.

(3) Concept of Employment

(a) Upon notification and prior to deployment of a MAB, a Communication Company will be assigned to support the deployment. Determination of unique requirements will dictate additional support attachments from the Support Company. The Battalion can support two separate MAB deployments simultaneously.

(b) Upon notification and prior to deployment of a MAF, or upon notification that a deployed MAB will be elevated to a MAF, a Communication Company will be reinforced, as required, from elements of the Support Company.

(c) Assets from the Headquarters Company can be employed, as required, to support MAB or MAF headquarters deployments.

(d) Operational control of the Communication Company deployed in support of a MAB or MAF headquarters or of any task organized elements will be exercised through the communication-electronics office of the supported headquarters. Administrative control will either be retained by the Battalion or delegated to the supported headquarters, depending on the length of commitment.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance. Capable of organizational (1st and 2d echelons) maintenance on all equipment organic to the Battalion. Capable of intermediate (3d echelon) maintenance on all communication and electronics equipment and limited 4th echelon on low-density Marine Corps peculiar equipment. Capable of limited maintenance on all assigned communication security equipment.

Capable of intermediate-level maintenance of assigned micro-miniature electronic communication security equipment.

(b) Medical. The Battalion medical section provides preventive medicine, treatment for minor illnesses and injuries, and emergency lifesaving for battle and nonbattle casualties. Injured and sick persons requiring hospitalization are readied and evacuated to the rear. One battalion aid station can be formed. Units deployed in support of the MAB or MAF headquarters are provided limited organic medical support. Full medical support for supporting elements is provided by the supported headquarters.

(c) Transportation. Organic motor transport assets provide transportation for administrative and logistic functions.

(d) Supply. Capable of organic supply functions to include repair parts stockage and issue for maintenance activities.

(e) Messing. The Battalion is capable of operating a battalion mess hall in garrison or in the field. Food services personnel may be deployed with elements in support of MAB or MAF headquarters.

(6) The major items of equipment are shown below. The allocation of equipment to each company in this reorganized battalion has not been determined as of September 1985.

COMMUNICATION BATTALION, FMF

Chassis, Trailer, GP, 3-1/2T, M353	15
Crane, Wheel-Mounted, 7-1/2T, RT-48MC	0 *
Decontamination Apparatus, M12A1	2
Fleet Satellite, AN/TSC-96	3
Machine Gun, Cal.50, M2	8
Pistol, Automatic, Cal .45, M1911A1	143
Radio Set, AN/TRC-97E	8
Rifle, 5.56mm, M16A2	753
Radio Set, AN/VRC-85	5
Radio Set, Control Group, AN/GRA-39A	30
Radio Set, Control Group, AN/GRA-39B	36
Radio Set, AN/GRC-160	3
Radio Set, AN/MRC-138	30
Radio Set, AN/MRC-110	12
Radio Set, AN/PRC-77	30
Radio Set, AN/PRC-75B	7
Radio Set, AN/PRC-104	30
Radio Set, AN/VRC-47	13
Radio Terminal, AN/MRC-135	26
Receiving Set, AN/GRR-17	10
Switchboard, Telephone, Manual, SB-3082(V)2/GT	2
Shop, Electronic, AN/GRM-94	6
Shelter, Electronics Maint. Spt., AN/GRM-86X	2
Switchboard, Telephone, Manual, SB-22A/PT	7

COMMUNICATION BATTALION, FMF (Cont'd)

Switchboard, Telephone, Automatic, SB-3614(V)TT	12
Teletype Center, AN/TGC-46	4
Terminal Set, AN/VCC-1	1
Truck, Maint., Telephone/Utilities, M876	6
Truck, Shelter Carrier, M1028	21
Truck, Cargo, 1-1/4T, M561	8
Telephone Set, TA-838/TT	185
Teletypewriter, AN/GGC-3A	14
Terminal, Telephone-Telegraph, TH-85A/GCC	44
Trailer, Amphib. Cargo, 1/4T, M416	23
Trailer, Flatbed, 3/4T, M762	34
Trailer, Cargo, 1-1/2T, M105A2	28*
Trailer, Tank, Water, 1-1/2T, 400 Gal., M149A2	4
Truck, Ambulance, 1/4T, 4x4, M718A1	1
Truck, Cargo, 5T, M923	34*
Truck, Tank, Fuel Servicing, 2-1/2T, 1200 Gal., M49A2C	2
Truck, Utility, 1/4T, 4x4, M151A2	29
Truck, Wrecker, 5T, 6x6, M543A2	5
Truck, Utility, Cargo/Troop Carrier, M998	47*

* Figures reflect authorizations for the Battalion prior to reorganization. Final quantities had not been determined at the time this manual was revised.

(7) Support Company

(a) Mission. To provide attachments to deploying communication companies. Such attachments will install, operate, and maintain electronic switching terminals, SHF and satellite communications links, longhaul wire links, and provide electronics maintenance, utilities support, and motor transport support to the Communication Battalion and deploying communication companies. Communication support is provided between the MAB or MAF headquarters and senior subordinate and adjacent units as required.

(b) Concept of Organization

1 Command and Control

a Command and Staff. The company headquarters exercises command and control over the entire company in garrison or when deployed as an entity. Command and control of elements deployed in support of deploying communication companies may be delegated to the deploying company or retained by the Support Company, depending upon the length and nature of deployment.

b Communications. Communication means are provided to maintain reliable and continuous communications by single-channel radio, wire, messenger, or visual means. When

deployed in support of communication companies attached to a MAB or MAF headquarters, communications means are through the senior headquarters.

2 Firepower. Organic firepower is provided by individual weapons and medium machine guns.

3 Mobility. The 2-1/2-ton and 5-ton truck provides the primary means of mobility for company troops and limited amounts of supplies and equipment. All equipment is transportable by helicopter, amphibious, and tactical and strategic air transportation means.

(c) Concept of Employment. Support Company operates under the direct control of the Communication Battalion. During MAB or MAF deployment, an element from the Support Company will be task organized to provide motor transport, electronics maintenance, utility and construction support, and communications utilizing low-density equipment best suited to the known operational environment.

(d) Administrative Capability. Not capable of self-administration. Provided by the S-1/Adjutant Section, Headquarters Company, Communication Battalion.

(e) Logistic Capabilities

1 Maintenance. Capable of 1st and 2d echelon organizational maintenance on all equipment organic to the Company. Capable of intermediate (3d echelon) maintenance on all assigned communication and electronics equipment, motor transport equipment, and generator and air conditioning equipment; limited 4th echelon maintenance on low-density Marine Corps peculiar equipment. Capable of limited maintenance on all assigned communication security equipment. Capable of intermediate-level maintenance of assigned micro-miniature electronic communication security equipment.

2 Medical. Not capable of medical support. Provided by Medical Section, Headquarters Company, Communication Battalion.

3 Transportation. Organic motor transport assets provide transportation for administrative and logistic functions.

4 Supply. Not capable of supply functions. Organic supply functions to include repair parts stockage and issue for maintenance activities provided by the Supply Section, Headquarters Company, Communication Battalion.

5 Messing. Not capable of food services functions. Food services support provided by the Food Services Section, Headquarters Company, Communication Battalion.

3 Transportation. Not capable of transportation support. Provided by the Motor Transport Platoon, Support Company, Communication Battalion.

4 Supply. Not capable of organic supply functions. Provided by the Supply Section, Headquarters Company, Communication Battalion.

5 Messing. Not capable of food services functions. Provided by the Food Services Section, Headquarters Company, Communication Battalion.

(9) Headquarters Company

(a) Mission. To provide command, administration, logistics, messing, medical, and religious services support for a communication battalion.

(b) Concept of Organization

1 Command and Staff. Command of the headquarters company is exercised through a compact company staff consisting of a company commander, first sergeant, property NCO, and messenger driver.

2 Firepower. Organic firepower is provided by individual weapons.

3 Other command and control elements are provided from other elements of the Communication Battalion.

(c) Concept of Employment. The Headquarters Company will provide housekeeping functions for the communication battalion headquarters in garrison and in the field. The company provides local security, command post site selection, and preparation in the field. The company headquarters deploys as a part of the battalion command group in the field. As required, the various sections can be task organized to provide augmentation support to deployed elements of the battalion.

(d) Administrative Capability. Administration is provided by the battalion S-1/Adjutant Section.

(e) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance on all assigned equipment. Capable of 2d echelon maintenance on all assigned weapons.

2 Medical. The Medical Section provides preventive medicine, treatment for minor illnesses and injuries, and emergency lifesaving for battle and nonbattle casualties. Injured and sick persons requiring hospitalization are readied and evacuated to the rear. One battalion aid station can be formed.

(8) Communication Company

(a) Mission. To install, operate, and maintain the communications system for a MAB, or, with augmentation, a MAF headquarters.

(b) Concept of Organization

1 Command and Control

a Command and Staff. The company headquarters exercises command and control over the entire company in the field and in garrison and provides operational communication control over all communication elements when deployed. When deployed in support of a MAB or MAF headquarters, the Communication Company may exercise communication control over subordinate elements to the MAB or MAF.

b Communications. Communications means are provided to maintain reliable and continuous communications to all elements of the Company and attachments. Capable of providing supported headquarters with communications to senior, subordinate, and adjacent units as required.

2 Firepower. Organic firepower is provided by individual weapons and medium machine guns.

(c) Concept of Employment. The Company is capable of deploying as a separate unit in support of a MAB headquarters with maintenance and motor transport and utility support from Support Company and administrative and food services support from Headquarters Company. With additional augmentation of low-density communication equipment, either communication company of the Communication Battalion is capable of providing support for a MAF headquarters.

(d) Administrative Capability. Not capable of self-administration. Provided by the S-1/Adjutant Section, Headquarters Company, Communication Battalion.

(e) Logistic Capabilities

1 Maintenance. Capable of 1st echelon maintenance on all assigned equipment, 2d echelon and above maintenance on communication and electronics equipment provided by Support Company, and 2d echelon and above maintenance on ordnance equipment provided by Headquarters Company.

2 Medical. Not capable of medical support. Provided by Medical Section, Headquarters Company, Communication Battalion.

Provides medical personnel to deployed communications companies as required.

3 Transportation. Transportation support is provided by the Support Company of the Communication Battalion.

4 Supply. Organic supply functions, to include repair parts stockage and issue for maintenance activities, are provided for the Company by the Supply Section.

5 Messing. The Company is capable of operating a company mess in garrison or in the field and provides a battalion mess in garrison or the field.

f. Counterintelligence Team

(1) Mission. To provide counterintelligence support, both passive and active, for the FMF in accomplishment of its assigned mission.

(2) Tasks

(a) Conduct active and passive counterintelligence operations, including counterespionage, countersubversion, and countersabotage, in support of tactical units during combat operations.

(b) Conduct intelligence collection operations, utilizing human intelligence sources when the situation permits, during combat operations.

(c) Conduct counterintelligence investigations pertaining to espionage, sabotage, and subversion, including defection, as required during combat operations. During peacetime, such activities are coordinated with the local Naval Investigative Service.

(d) Conduct counterintelligence surveys of commands and installations to determine security measures necessary to provide protection against espionage, sabotage, and subversion and the unauthorized disclosure of, or access to, classified material.

(e) Conduct counterintelligence evaluations and inspection of areas containing classified material.

(f) Collect and maintain information designed to identify, locate, and recover friendly personnel captured and missing in action during combat operations.

(3) Counterintelligence teams are attached to major FMF commands. Detachment of teams or subteams to subordinate commands is as required.

(4) Control and coordination of counterintelligence teams are maintained at the MAF level.

(5) Organization. A counterintelligence team is organized into a team headquarters and four subteams. Task organization within a team, based on a modular concept, permits the attachment or detachment of subteams to subordinate commands.

(6) Administrative Capability. Teams are not capable of self-administration. Administrative support will be provided by the command to which attached.

(7) Logistic Capabilities. Teams are capable of organizational maintenance (1st echelon) on all assigned equipment. All other logistical support will be provided by the command to which attached. However, equipment authorized by the counterintelligence team's table of equipment remains organic to the counterintelligence team, irrespective of supply and maintenance assistance and support provided by the command to which attached or its supporting agencies.

(8) The major items of equipment are shown below.

COUNTERINTELLIGENCE TEAM, FMF

Launcher, Grenade, 40mm, M203	2
Pistol, Automatic, Cal .45, M1911A1	14
Rifle, 5.56mm, M16A2	16
Radio Set, Control Group, AN/GRA-39B	2
Radio Set, AN/GRC-160	5
Radio Set, AN/PRC-68A	5
Radio Set, AN/PRC-77	2
Trailer, Amphib. Cargo, 1/4T, M416	5
Trailer, Cargo, 3/4T, M101A1	1
Truck, Cargo, 1-1/4T, 4x4T, M880	1
Truck, Cargo, 1-1/4T, M1008	1
Truck, Utility, 1/4T, 4x4, M151A2	5
Truck, Utility, Cargo/Troop Carrier, M998	5

g. Special Security Communication Team

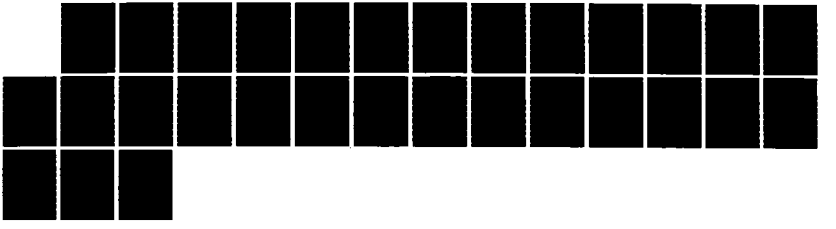
(1) Mission. Provide special intelligence record communications support to the commanding generals of each Marine division and Marine aircraft wing and designated elements thereof.

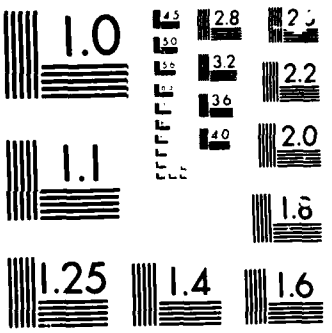
(2) Tasks. Under the staff cognizance of the Assistant Chief of Staff, G-2/Special Security Office (SSO) at the division/MAW headquarters to which attached:

(a) Provide special intelligence/special security office (SI/SSO) record communications and cryptographic guard for the division and MAW headquarters.

AD-A165 268 US MARINE CORPS LANDING FORCE ORGANIZATIONAL SYSTEMS STUDY (LFOSS)(U) CACI INC-FEDERAL ARLINGTON VA D R LEISTEN DEC 85 M00027-84-D-0037 5/5

UNCLASSIFIED F/G 15/7 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.8
3.2
3.6
4.0

(b) Coordinate all matters pertaining to SI/SSO communications circuit path and equipment maintenance (less 1st echelon) with the Division or MAW Communication and Electronics Officer.

(c) Perform (1st echelon) maintenance on all assigned fixed plant and tactical equipment.

(d) Receive, process, and stow SI/SSO materials.

(e) While in garrison, operate a fixed-plant, full-duplex, on-line, secure record SI/SSO communications terminal facility as provided by the host base station.

(f) Provide off-line cryptographic SI/SSO communications support for the supported commander.

(g) Maintain and exercise ground-mobile, tactical on-line and off-line record SI/SSO communications terminal facilities.

(h) Be prepared to deploy, install, operate, and maintain ground-based tactical SI/SSO record communications facilities in support of the tactical commander.

(i) Identify requirements for access to SI/SSO terminal facilities in ships' signals exploitation spaces (SSES), as necessary.

(j) Provide personnel to man SSES communications facilities while afloat.

(k) Assist the Special Intelligence Support Section within the Division/MAW G-2 Section as directed by the Assistant Chief of Staff, G-2.

(l) Conduct military, special, and technical training as required.

(3) Concept of Organization. The Special Security Communication Team (SSCT), FMF, is organized, trained, and equipped to provide the headquarters of a Marine division or a Marine aircraft wing with a special intelligence communications capability.

(a) Command and Control

1 Command and Staff. The SSCT is under the staff cognizance of the Assistant Chief of Staff, G-2/Command SSO. The team commander performs these command functions relative to planning, directing, and supervising the activities of the team.

2 Communications. The SSCT is capable of establishing a terminal facility for record SI/SSO communications.

The communications path for the SSCT is furnished by the supported command.

(b) Firepower. Individual weapons.

(c) Mobility. The Team is vehicular transportable using organic equipment and can be lifted by helicopter.

(4) Concept of Employment

(a) The SSCT is normally attached to the headquarters of a Marine division or Marine aircraft wing and is employed to provide services for transmitting and receiving special intelligence electrical traffic.

(b) When deployed, the SSCT operates as a point-to-point subscriber in the landing force special intelligence communication system in accordance with the landing force communications plan. During afloat operations, the SSCT, or a subelement thereof, is embarked with the division or MAW commander to provide service as required.

(5) Administrative Capability. Provided by the supported command.

(6) Logistic Capabilities. The Team is capable of organizational maintenance (1st echelon) on all assigned equipment. All other logistical support will be provided by the command to which attached. However, equipment authorized by the team's table of equipment remains organic to the team irrespective of supply and maintenance assistance and support provided by the command to which attached or its supporting agencies.

(7) The major items of equipment are shown below.

SPECIAL SECURITY COMMUNICATION TEAM, FMF

Chassis, Trailer, GP, 3-1/2T, M353	1
Dolly Set, M832	1
Pistol, Automatic, Cal .45, M1911A1	2
Rifle, 5.56mm, M16A2	6
Truck, Cargo, 2-1/2T, M36A2	1
Terminal, Telephone-Telegraph, TH-85A/GCC	2
Trailer, Amphib. Cargo, 1/4T, M416	1
Trailer, Cargo, 3/4T, M101A1	1
Truck, Cargo, 1-1/4T, M1008	1
Truck, Utility, 1/4T, 4x4, M151A2	1
Truck, Cargo, 5T, 6x6, M923	1
Truck, Cargo, 5T, XLWB, M928	1
Truck, Utility, Cargo/Troop Carrier, M998	1

h. Air/Naval Gunfire Liaison Company (ANGLICO)

(1) Mission. To provide ground control and liaison agencies for the planning and employment of naval gunfire and USN/USMC air support for allied or U.S. Army forces of division size or less operating alongside a Marine Air-Ground Task Force in joint or combined operations; or in other operations where forces other than FMF are provided U.S. Fleet naval gunfire (NGF) and naval air support, or for such other supporting arms control and liaison functions as the FMF commander may direct. This includes the provision of support to U.S. airborne units, and parachute qualification of personnel as determined by the FMF commander and as approved by the Commandant of the Marine Corps.

(2) Concept of Organization

(a) The wide range of employment options for which ANGLICO may be employed demands a high degree of organizational flexibility. In addition to a basic structure adopted for administration, training, and initial readiness for deployment, ANGLICO's organization must permit rapid task organization depending on the following considerations: size, mobility, (e.g., foot, airmobile, mechanized), and concept of operations of the supported unit; availability of NGF/air support; communication operating ranges; estimated duration of employment; and provisions for administrative and logistic support.

(b) Deploying ANGLICO forces will comprise a command element, an operational element (air/NGF teams), and a support element (e.g., administrative, supply, maintenance). The basic organizational options for meeting the emplcyment concept are:

1 Detachment (non-self-administering) deployed, ANGLICO (-) in support from garrison for short-term operations.

2 Sub-unit (self-administering) deployed, ANGLICO (-) in support from garrison for extended operations in support of an allied/U.S. Army force of brigade or less size.

3 ANGLICO (-) deployed, sub-unit in support from garrison for extended operations in support of an allied/U.S. Army force larger than one brigade, but less than a full division.

4 Full ANGLICO deployed for extended operations in support of allied/U.S. Army forces requiring the full assets of ANGLICO.

(c) ANGLICO's basic structure of a company headquarters, and, division platoon, if fully committed, can support a full airborne division with all three brigades committed to a 360 degree airhead line, the normal doctrinal approach. While not necessarily the most probable, attachment to U.S. airborne forces would be the most demanding, since those forces must be prepared for short-notice deployment anywhere in the world. This

is the protective commitment which determines ANGLICO's day-to-day organization and readiness posture.

(d) Command and Control

1 Command and Staff. A company commander and a small headquarters section direct and control all matters pertaining to the administration and training of the Company.

2 Communications. Communications are limited to that required to enter functional nets for the control and employment of naval air and gunfire.

(e) Firepower. Organic firepower capability is limited to individual weapons for local security.

(f) Mobility. The Company is vehicularly mobile using organic transportation. The air/naval gunfire teams at each echelon are equipped so as to be transportable by amphibian and armored vehicles, motor transport, helicopter, fixed wing aircraft, and landing craft. In addition, certain teams and parties are qualified to enter combat by means of parachute delivery when augmented with such equipment from the supported unit.

(g) Logistics. Logistic support is provided by the Service Support Section in the company headquarters. These sections are capable of carrying authorized allowances, internal distribution of supplies, simple supply procedures, and organizational maintenance. Additional supply, maintenance, transport, medical, and messing support are provided by the supported unit or by logistic facilities supporting the supported unit.

(3) Concept of Employment

(a) Attachment to MAGTF (MAF/MAB/MAU) for further attachment to adjacent allied or U.S. Army units for combined/joint amphibious operations or in preparation for subsequent MAGTF collaboration with an ongoing land campaign.

(b) Attachment to allied or U.S. Army units for all phases of amphibious operations supported by U.S. Fleet elements.

(c) Attachment to a U.S. Army airborne unit for expeditionary service within range of U.S. Fleet support. In the event of concurrent introduction of both amphibious and airborne forces, attachment of ANGLICO elements facilitate the mutual supportability of the two forces, and the U.S. Fleet firepower they bring to bear offsets the lack of heavy combat support initially available to airborne forces.

(d) Attachment to a U.S. Army or allied unit involved in an ongoing land campaign, but within range of U.S.

Fleet support or land-based U.S. Marine Corps expeditionary air support.

(e) Attachment to a U.S. or allied unit for the defense of advanced naval bases where reinforcement with combat power from carrier-based air or naval gunfire is required.

(f) Special operations, such as evacuation or disaster relief, where communication and/or helicopter landing zone control teams are required and MAU ground elements are otherwise committed or not desired because of political restrictions on introduction of combat forces.

(g) Reinforcement of MAF/MAB/MAU combat elements. In those cases where MAGTF air and NGF control elements require replacement or augmentation, ANGLICO assets can be used. However, this option detracts from the ability to perform the primary mission.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance

1 All elements of the Company are capable of providing organizational maintenance (1st echelon) on all assigned equipment.

2 Organizational maintenance (2d echelon) is provided by the service sections in company headquarters. These sections are also capable of 3d echelon maintenance on organic electronic equipment and supplies.

3 When attached to a U.S. Army division, field maintenance (3d echelon) on Marine Corps peculiar equipment is provided by company headquarters, and, on all other common equipment, by the logistic facilities available to the supported division. When attached to an allied or Marine Corps unit, field maintenance (3d echelon) is provided by company headquarters on Marine Corps peculiar equipment, and, on all other equipment, by the logistic facilities supporting the U.S. Army or Marine Corps units. When attached to an allied division, and no other U.S. Army or Marine Corps units are present, field maintenance (3d echelon) is provided by the company headquarters on Marine Corps peculiar equipment and by augmentation on all other equipment.

(b) Medical. None organic. When attached to a U.S. Army division or an allied division that is part of a larger force which contains U.S. Army or Marine Corps units, medical support is provided by the U.S. forces. When attached to an allied division without an adequate capability and no other U.S. Army or Marine Corps units are present, medical support is provided by the

Naval Regional Medical Center or the camp at which the company is based.

(c) Transportation. Adequate transportation means, consisting of general and special purpose vehicles, are organic to and maintained with the Company.

(d) Supply. The Supply Section of company headquarters provides the organic supply service for the Company by receiving supplies from the supporting supply source and accomplishing internal distribution within the Company.

(e) Messing. None organic. This service is provided by the camp at which the Company is based in garrison, or by the U.S. Army division to which attached. In case of attachment to an allied division which does not have an adequate capability, messing is provided by augmentation or through utilization of combat rations as appropriate to the situation.

(6) The major items of equipment are shown below.

AIR/NAVAL GUNFIRE LIAISON COMPANY

Chassis, Trailer, GP, 3-1/2T, M353	2
Launcher, Grenade, 40mm, M203	12
Night Vision Goggles, Individual, AN/PVS-5A	36
Night Vision Sight, Individual Served Weapon, AN/PVS-4	12
Pistol, Automatic, Cal .45, M1911A1	111
Rifle, 5.56mm, M16A2	158
Radio Set, AN/VRC-85	12
Radio Set, Control Group, AN/GRA-39B	80
Radio Set, AN/MRC-138	24
Radio Set, AN/MRC-110	10
Radio Set, AN/PRC-77	39
Radio Set, AN/PRC-75B	35
Radio Set, AN/PRC-104	64
Shop, Electronic, AN/GRM-94	1
Shelter, Electronics Maint. Spt., AN/GRM-86X	1
Trailer, Amphib. Cargo, 1/4T, M416	41
Trailer, Flatbed, 3/4T, M762	1
Trailer, Cargo, 1-1/2T, M105A2	7
Trailer, Tank, Water, 1-1/2T, 400 Gal., M149A2	2
Truck, Cargo, 5T, 6x6, M923	8
Truck, Utility, 1/4T, 4x4, M151A2	29
Truck, Utility, Cargo/Troop Carrier, M998	56

i. Separate Brigade Platoon, ANGLICO

(1) Mission. To support a U.S. Army or allied brigade, or elements thereof, by providing the control and liaison agencies associated with the ground elements of the landing force in the control and employment of naval gunfire and naval close air support

in the amphibious assault, or in other types of operations when support is provided by naval gunfire and/or naval air. This includes the provision of support to U.S. airborne units and parachute qualification of the needed teams and parties as determined by the FMF commander and approved by the Commandant of the Marine Corps. This platoon also forms the nucleus for expansion to an ANGLICO if required to provide support to a U.S. Army or allied division.

(2) Concept of Organization

(a) The Platoon is organized to provide the inherent capability to be task organized to meet the needs of the supported brigade, or elements thereof, by providing a combination of control and liaison teams and parties commensurate both with the echelon and size of the supported unit and with the type and amount of fire support to be provided. It is organized to provide a personnel and communication package for the control and employment of naval air and gunfire at the brigade and battalion echelons.

(b) Command and Control

1 Command and Staff. The platoon commander and a small platoon headquarters direct and control all matters pertaining to the administration and training of the Platoon.

2 Communications. Communications are limited to those required to enter functional nets for the control and employment of naval air and gunfire.

3 Intelligence. Not applicable.

(c) Firepower. Organic firepower capability is limited to individual weapons for local security.

(d) Mobility. The Platoon is vehicular mobile utilizing organic transportation means. The air/naval gunfire teams at each echelon are equipped so as to be transportable by amphibian and armored vehicles, motor transport, helicopter, fixed-wing aircraft, and landing craft. In addition, teams and parties are qualified to enter combat by means of parachute delivery.

(e) Logistics. Logistic support is provided by the logistic and communication sections of the Platoon. These sections are capable of carrying authorized allowances, internal distribution of supplies, simple supply procedures, and organizational and 2d echelon maintenance. Additional supply, maintenance, and transport support as well as all medical and messing support are provided by the supported unit, logistic facilities supporting the supported unit or augmentation, as appropriate.

(3) Concept of Employment. The Platoon is attached to a U.S. Army or allied brigade for the amphibious assault, or in other types of operations when fire support is provided by naval gunfire and/or naval air. Task organized control and liaison teams and parties are further assigned to battalion echelons to advise on the capabilities, limitations, and employment of naval gunfire and/or naval air support and to provide the necessary personnel and communications required to request, direct, and control the support. Operating procedures and communication nets are similar to those contained in NWP22(A)/FM31-11/LFM-01 (Doctrine for Amphibious Operations) and associated publications.

(4) Administrative Capability. Capable of self-administration.

(5) Logistic Capabilities

(a) Maintenance

1 All elements of the Platoon are capable of providing organizational maintenance (1st echelon) on all assigned equipment.

2 Organizational maintenance (2d echelon) is provided by the service sections of the Platoon. These sections are also capable of 3d echelon maintenance on organic communication equipment and supplies. Only 1st echelon maintenance is authorized on the AN/UPN-32.

3 When attached to a U.S. Army brigade or an allied brigade which is part of a force containing U.S. Army or Marine Corps units, field maintenance (3d echelon) capability is provided by platoon headquarters on Marine Corps peculiar equipment, and by U.S. Army or Marine Corps logistic support units on all other items. When attached to an allied brigade and no other U.S. Army or Marine Corps units are present, field maintenance (3d echelon) will be provided by organic means for Marine Corps peculiar equipment, and by augmentation for all other equipment; 2d and 3d echelon maintenance on the AN/UPN-32 will require Marine Corps augmentation.

(b) Medical. None organic. When attached to a U.S. Army brigade or an allied brigade that is part of a larger force which contains U.S. Army or Marine Corps units, medical support is provided by the U.S. forces. When attached to an allied brigade without an adequate capability and no other U.S. Army or Marine Corps units are present, medical support is provided by augmentation. In garrison, medical support will be provided by the camp at which the Platoon is based.

(c) Transportation. Adequate transportation means, consisting of general and special purpose vehicles, are organic to and maintained with the Platoon.

(d) Supply. The supply personnel of the Platoon provide the organic supply service for the Platoon by requisitioning and receiving supplies from the supporting supply source and accomplishing internal distribution within the Platoon.

(e) Messing. None organic. This service is provided by the camp at which the Platoon is based in garrison, or by the U.S. Army brigade to which attached. In case of attachment to an allied brigade that does not have an adequate capability, messing is provided by augmentation or through utilization of combat rations as appropriate to the situation.

(6) The major items of equipment are shown below.

SEPARATE BRIGADE PLATOON, ANGLICO

Chassis, Trailer, GP, 3-1/2T, M353	2
Launcher, Grenade, 40mm, M203	6
Night Vision Goggles, Individual, AN/PVS-5A	8
Pistol, Automatic, Cal .45, M1911A1	20
Rifle, 5.56mm, M16A2	87
Radiac Set, AN/PDR-63	2
Radio Set, AN/MRC-110	4
Radio Set, AN/VRC-85	8
Radio Set, Control Group, AN/GRA-39B	27
Radio Set, AN/MRC-138	8
Radio Set, AN/PRC-77	22
Radio Set, AN/PRC-75B	10
Radio Set, AN/PRC-104	14
Receiving Set, AN/GRR-17	2
Shop, Electronic, AN/GRM-94	1
Shelter, Electronics Maint. Spt., AN/GRM-86X	1
Truck, Cargo, 5T, XLWB, M928	1
Trailer, Amphib. Cargo, 1/4T, M416	9
Trailer, Flatbed, 3/4T, M762	1
Trailer, Cargo, 1-1/2T, M105A2	3
Trailer, Tank, Water, 1-1/2T, 400 Gal., M149A2	1
Truck, Cargo, 5T, 6x6, M923	4
Truck, Utility, 1/4T, 4x4, M151A2	10
Truck, Utility, Cargo/Troop Carrier, M998	13
Transponder Set, AN/UPN-32	4

SECTION 5B
SPECIALIZED FORCE UNITS, FMF
NEW EQUIPMENT DEVELOPMENTS (1986-1995)

503. GENERAL

a. Many of the systems and equipment previously described throughout LFOSS, such as personal defense weapon, communication items, NBC gear, reconnaissance equipment, and the tactical vehicle fleet (HMMWVs), are shown in Figures 5-2 and 5-3, as applicable for each of the specialized force units.

b. Most of the unique and significant developments described in this section will be found in the Radio Battalion. By 1995, the signals intelligence and electronic warfare systems will be modular, transportable, and semiautomated. They will intercept, identify, locate, and jam threat signals from both airborne and ground based platforms, as well as analyze and report intelligence information from tactical and national sources. New systems described in this section include the Mobile Electronic Warfare Support System, the Electronic Intelligence Support System, the Expendable Jamming Drone, and Communications Electronic Countermeasures.

504. ORGANIZATIONS

a. Communication Battalion. Notable developments described in Section 1B impacting upon the Communication Battalion include the communications control (AN/TSC-60) that will provide communications from the MAGTF command post to its major subordinate commanders in 1989, the troposcatter radio set (AN/TRC-170) for SHF transmission in 1991, and the SATCOM multichannel SHF systems AN/TSC-930 and AN/TSC-85A. SATCOM terminals include the UHF AN/TSC-96 and UHF vehicular/manpack AN/VSC-7.

b. Radio Battalion

(1) Mobile Electronic Warfare Support System (MEWSS). The MEWSS is lightly-armored, mobile, and provides a real time electronic warfare support measure, direction finding, and electronic countermeasures capability to the frontline or mobile battalion commander. Currently it takes two to three vehicles and six to seven Marines to provide the same information that four Marines and one MEWSS can provide in less time. The vehicle is a derivative LAV that is capable of rapid mobility over all types of terrain. Using current electronic equipment, MEWSS will provide an increased capability for detecting, locating, and degrading enemy tactical AM and FM radio communications in the UHF and VHF frequency spectrums. Formal training for vehicle operation will be required and a net increase of six personnel for each radio battalion will be required to maintain the system. The MEWSS will reach IOC in FY 88.

		COMM BN	RADIO BN	FORCE RECON	TOPO PLT	CAG	CIT	SSCT	ANGLICO	SEP BDE PLT	
SWITCHING EQUIPMENT	AN/TTC-42 (AUTOMATIC TELEPHONE CENTRAL (ULCS))	◆									
	SB-3865 (AUTOMATIC SWITCHBOARD (ULCS))	◆									
	AN/GYC-7 (ULMS)	◆									
MULTICHANNEL TRANSMISSION EQUIPMENT	AN/TSC-60 (COMMUNICATIONS CENTRAL)	◆									
	AN/MRC-159(XN-1) (UHF DIGITAL WIDEBAND TRANS SYSTEM)	◆									
	AN/TRC-170 (SHF MULTIPLEX RADIO EQUIPMENT)	◆									
	TD-1234 (MULTIPLEXER)	◆									
	JTIDS-DTMA	◆									
SINGLE CHANNEL TRANS EQUIPT.	AN/VRC-83 (VEHICULAR MOUNT VHF RADIO)	◆	◆								
	AN/PRC-113 (HANDHELD VHF/UHF RADIO)	◆	◆						◆	◆	
	AN/GRC-( ) (SINCGARS RADIO FAMILY)	◆	◆	◆		◆	◆		◆	◆	
TERMINAL DEVICES	AN/PSC-2 (DIGITAL COMMUNICATIONS TERMINAL)	◆		◆					◆		
	AN/UXC-7 (FACSIMILE)	◆	◆								
	AN/UGC-74A (TACTICAL REMOTE/DIST. FACILITY)	◆									
	AN/MSC-63 A/B (COMMUNICATIONS CENTRA/SSCC)	◆									
	TA-954 (TELEPHONE (DNVT))	◆	◆								
	FIBER OPTIC CABLE SYSTEM	◆	◆								
	ADPE-CMP (COMM MESSAGE PROCESSOR)	◆									
SATCOM EQUIPMENT	AN/PSC-3 (MANPACK SATCOM RADIO)	◆		◆							
	AN/TSC-93A (SHELTER MOUNTED SATCOM RADIO)	◆									
	AN/TSC-85A (SHELTER MOUNTED SATCOM RADIO)	◆									
	SCOTT (EHF SINGLE CHANNEL TACTICAL TERMINAL)	◆									
COMSEC DEVICES	TSEC/KYV-5 (COMSEC FOR CV-3591 (ANDVT))	◆									
	TSEC/KY-38 (COMSEC FOR ANDVT)	◆									
	TSEC/KG-84A (DLED)	◆	◆								
	TSEC/KGX-93 (TRUNK ENCRYPTION DEVICE)							◆			
	TSEC/KY-68/78 (PSVT)	◆	◆					◆			
	TSEC/KY-( ) (SUNBURST)	◆	◆						◆		

FIGURE 5-11. COMMUNICATIONS EQUIPMENT, SPECIALIZED UNITS, FMF (1900-1999)

	COMM BN	RADIO BN	RECON CO	TOPO PLT	CAG	CIT	SSCT	ANGLICO	SBCE PLT	IOC
NAVSTAR GPS			●	●						8-
MEWSS		●								88
ESS		●								9-
EXDRONE		●								8-
COMMUNICATIONS ECM		●								8-
ACOUSTIC DETECTION SYSTEM			●							8-
SUNS			●							8-
HALO PARACHUTE			●							86
INFLATABLE BOAT, SMALL			●							88
SHELTERIZED TOPO/SURVEY EQUIPMENT				●						88
STANDARD DRAFTING SET				●						88
PERSONAL DEFENSE WEAPON	●	●	●	●	●	●	●	●	●	86
CHEMICAL AGENT MONITOR	●	●								88
NBC PROTECTIVE MASK	●	●	●	●	●	●	●	●	●	8-
PORTABLE DECON. APPARATUS	●	●	●	●	●	●	●	●	●	87
FAMILY OF SOFT SHELTERS	●	●	●	●	●	●	●	●	●	9-
MOTORCYCLE	●									86
MCESS	●	●								8-
QUADCON/HACON	●	●								8-

Figure 5-3 -- Weapons and Equipment, Specialized Units, FMF (1986-1995)

(2) Electronic Intelligence Support System (ESS). The Radio Battalion has not had an electronic intelligence (ELINT) capability since 1975. The ESS is an integrated ground and airborne semiautomated, transportable, tactical ELINT system capable of intercepting, locating, analyzing, and identifying enemy ground-based, noncommunications emitters. The system will be modular to permit four Marines to quickly and easily install or reconfigure the system under tactical conditions. The ground-based configuration consists of an ELINT Collection Outstation in an S-250 shelter, mounted on the HMMWV. The airborne collection package will be a slide in/out unit to be installed on the OV-10 aircraft. An ESS section requires 16 additional billets for each radio battalion to operate and maintain the system. The Battalion presently does not have the technical MOS 5977 capability for the maintenance and repair of digital/microcircuitry that will be required for ESS. The ESS will reach IOC by FY 92.

(3) Expendable Jamming Drone (EXDRONE). The Radio Battalion will be able to extend the range of its electronic countermeasure capability with the development of a lowcost expendable air-emplaced communications jammer combined with an inexpensive expendable microdrone. The simple-to-operate EXDRONE

could be flown from the vicinity of enemy communications centers and effectively jam on-station until it runs out of fuel and crashes. No special manpower, maintenance, training, or logistic requirements are necessary. The EXDRONE IOC is FY 89.

(4) Communications Electronic Countermeasures. A vehicle (HMMWV) mounted communications countermeasure HF and UHF/VHF capability tailored to meet future battlefield electronic threats will be available for the MAGTF commander. The HF version will replace the AN/TLQ-17A and the UHF/VHF version will replace the AN/VLQ-19. The IOC for both versions is FY 89.

c. Force Reconnaissance Company. The ability of the Force Reconnaissance Company to perform its assigned mission of conducting pre-assault and distant assault reconnaissance in support of a landing force will be materially enhanced with the introduction of the same equipment items being developed for use with the division Reconnaissance Battalion. These include the Acoustic Detection System, Small Unit Navigation System, HALO parachute, and the improved Inflatable Boat System. (See Section 2B for a description of each.)

d. Topographic Platoon. The following improvements to existing equipment will enable the Topographic Platoon to perform assigned missions related to mapping and geodetic/topographic survey:

(1) Shelterized Topographic Mapping and Geodetic Survey Equipment. Present equipment was fielded during the 1960s and has been outdated by current state-of-the-art commercially available items that do not conform to the expeditionary shelter concept. The sets require product-improved equipment in dedicated MCESS shelters to provide adequate mobility and working and storage space in a controlled environment. The IOC will be FY 88.

(2) Standardized Drafting Equipment Set. In FY 88, the set will replace or improve the following table of equipment items:

(a) Template Set, military symbols.

(b) Drafting Equipment Set, supplementary.

(c) Drafting Equipment Set, individual.

(d) Drafting Instrument Set.

(e) Lettering Set.

ANNEX A

GLOSSARY OF TERMS

Acquisition:

The process of planning, designing, producing, and distributing a weapon system/equipment. Acquisition includes the conceptual, validation, full-scale development, production and development/operational phases of the weapon system/equipment project.

Acquisition Coordinating Group (ACG):

A group of key project officers of HQMC staff principals and the Commanding General (CG), MCDEC, who have distinct responsibilities related to system acquisition management. The ACG consists of the Acquisition Sponsor Project Officer (ASPO) who chairs the ACG, Acquisition Project Officer (APO), Development Project Officer (DPO), Development Coordinator (DC), Manpower Point of Contact (MPOC), and Training Review Officer (TRO). The ACG meets to plan, review, and monitor the overall direction and progress of an acquisition program and to facilitate coordination between the Marine Corps and the developing military service or agency.

Acquisition Phases:

The four distinct phases through which a normal acquisition program passes are:

o the concept exploration phase includes exploratory and limited advanced development and begins with Program Initiation, which is based upon an approved mission need,

o the demonstration-validation phase (Milestone I),

o the full-scale development phase (Milestone II),

o and the production-development phase (Milestone III).

Acquisition Program Sponsor (APS):

A deputy chief of staff or director of a major staff office within HQMC, who, by mission, has primary responsibility for maintaining and/or identifying,

justifying and achieving required operational capabilities (ROCs) in specialized mission areas.

Acquisition Project Officer (APO:

A designated staff officer in the Installations and Logistics or Aviation Departments at HQMC who is responsible for the progress of an acquisition program in relation to logistics, technical, engineering, and system performance matters.

Acquisition Sponsor Project Officer (ASPO):

A designated staff officer from the office of the APS who assists in the execution of the APS's responsibilities. The ASPO is the principal point of contact at HQMC for matters related to mission area responsibilities of the APS and the overall status of an individual acquisition program and its progress toward the goals established in the acquisition plan.

Advanced Development (Feasibility):

Development efforts oriented towards demonstrating the feasibility of the concept and technology to develop and acquire systems within resources available to the Marine Corps.

Advanced Development (Validation):

More formalized development efforts directed generally towards development of a system. The development effort is intended to validate through development of hardware or prototypes and simulation modeling the concept and technology feasibility of the candidate system.

Analog:

A continuously variable signal which conveys information by the change in the value or magnitude of the signal. The signal can change in either amplitude phase, frequency or duration.

Approval for Service Use:

Indicates that a determination has been made by the Commandant of the Marine Corps, or other delegated authority, that a proposed new acquisition has demonstrated reliable performance in accordance with design specifications in the intended or existing operational environment; ability to be operated and

maintained by personnel with the level of skill anticipated to be available in the normal operating environment; and logistic supportability in a deployed status.

Commonality:

Tactical command and control systems are common when the systems have the quality of one entity processing like and interchangeable characteristics with another. Tactical communications equipment and systems are common when they are compatible; each can be operated and maintained by personnel trained on the others without additional specialized training.

Compatibility:

The capability of two or more items, components of equipment, or material to exist or function in the same system or environment without mutual interference.

Concept Exploration Phase:

The first phase in a weapons systems/equipment life cycle which encompasses the areas of exploratory development and advanced development (feasibility).

Development Coordinator (DC):

A project officer assigned by the Deputy Chief of Staff for Research, Development, and Studies to assist in the overall HQMC administration and coordination of the research, development, test and evaluation (RDT&E) effort for systems acquisition programs, including programming, commitment of funds, program process monitoring, and processing of related RDT&E correspondence.

Development Project Officer (DPO):

A project officer assigned by the CG, MCDEC (Director, Development Center) to manage, coordinate, or monitor the day-to-day activity of a systems acquisition program, including technical management of allocated research and development (R&D) funds. The DPO's responsibilities include the preparation of R&D funding estimates and other essential requirements and program data required by the acquisition and appropriation sponsors.

Development Test and Evaluation:

Test and evaluation (T&E) which focuses on the technological and engineering aspects of the system, subsystem or equipment items -- normally conducted under controlled or laboratory-type conditions.

Digital

A signal having discrete states, usually two, such as the presence or absence of a voltage. The signal is given meaning by assigning numerical values or other information to the various possible combinations of the discrete states of the signal.

Engineering Development:

Development programs which are being engineered for military service use, but which have not yet been approved for procurement or operation.

Exploratory Development:

Includes all effort directed toward the solution of specific military problems, short of major development projects. This type of effort may vary from fairly fundamental applied research to sophisticated breadboard hardware, study, programming, and planning work. The dominant characteristic of this category is that the effort is directed towards developing and evaluating the feasibility and practicability of proposed solutions and determining their parameters.

Follow-On Operational Test and Evaluation:

The operational test and evaluation (OT&E) performed after the Milestone III decision. Using units are employed to validate the operational suitability and effectiveness of the production items, including reliability, maintainability, and supportability and to develop optimum tactics, techniques, procedures, and concepts for the employment of the systems and equipment.

Full Operational Capability:

The completed procurement and fielding of a fully supported system or equipment to all FMF units planned to receive them.

Full-Scale Development Phase:

The full-scale development phase is the phase during which the weapons system, including all of the items

necessary for its logistic and operational support (training equipment, support equipment, handbooks for operation and maintenance, etc.) is designed, fabricated, and tested. The intended output is a hardware model, a defined logistic support system, and the documentation needed to produce the system for service use.

Integrated Logistic Support (ILS):

A unified and iterative approach to the management and technical activities necessary to cause support considerations to influence requirements and design, define support requirements which are optimally related to the design and to each other, acquire the required support, and provide the required support during the operational phase at minimum cost.

Interoperability:

The condition achieved among communication-electronics systems, or items of communication-electronics equipment, when information or services can be exchanged directly and satisfactorily between them and/or their users.

Intraoperability:

Interoperability between Marine Corps systems; may be used when internal Marine Corps information exchange requirements are being differentiated from external or joint/combined requirements.

Initial Operational Capability (IOC):

The first attainment of the capability to employ effectively a weapon, item of equipment, or system of approved specific characteristics, and which is manned or operated by an adequately trained, equipped, and supported military unit or force.

In-Progress Review Committee (IPR):

A board of general officers who review designated less than major programs at each major decision milestone to approve initiation, continuation, re-orientation, or termination of a system acquisition program.

Life-Cycle Cost:

The total cost to the government for the development, acquisition, and logistic support of a system, or equipment, over a defined life span. It includes the cost of development, acquisition, operation, support, and disposal.

Marine Corps
Systems Acquisition
Council (MSARC):

A board of principal staff general officers who review each major acquisition program at major decision milestones to recommend initiation, review continuation, reorientation, or termination of the program to the Commandant of the Marine Corps.

Milestones:

There are three major decision milestones in the systems acquisition program. An MSARC or IPR Committee decision is reached at each of these milestones for a program to be initiated, or to progress into the next phase of the acquisition cycle.

- o Milestone I. The decision approving program initiation or advanced development (validation).

- o Milestone II. The decision approving full-scale or operational systems development.

- o Milestone III. The decision approving major production/procurements.

Module:

A hardware system portion treated as a separate logical entity for purposes of design, fabrication, implementation, and replacement or modification.

Operational Test
and Evaluation
(OT&E):

Test and evaluation which focuses on the effectiveness and suitability of systems and equipment under realistic operational conditions.

Production Phase:

The production phase begins at the end of the full-scale development phase with the establishment of the production baseline. Although some production may commence before, and some minor development may continue after, the establishment of the product baseline will mark the beginning of the production phase.

Program Initiation:

The formal initiation of a program vis-a-vis the systems acquisition process to acquire a new or modified system through advanced, full-scale, or operational systems development, and/or through

direct procurement from other service programs or assets.

Required Operational Capability (ROC) Statement:

A brief document which includes a statement of need, a description of the threat or operational deficiency to be overcome, minimum essential performance bounds, concept of employment, technical assessment, and initial broadbased estimates of funds and personnel resources. Approval of the ROC by the Assistant Commandant of the Marine Corps, in effect, constitutes the Milestone I decision.

ANNEX B

INDEX OF MAJOR DEVELOPMENTS

ANNEX C

BIBLIOGRAPHY

Department of Defense Dictionary of Military and Associated Terms, Joint Chiefs of Staff Publication 1, 1 June 1979.

Fleet Marine Force, U.S. Marine Corps Instructional Publication (IP) 1-4, January 1984.

Headquarters, U.S. Marine Corps, Field Logistics System Status Report, December 1983.

Headquarters, U.S. Marine Corps (LMO) Item Data File, 28 August 1985.

Landing Force Integrated Communication System (LFICS), Chapter V (Draft Revision), 1 July 1985 to U.S. Marine Corps C2 Master Plan (1983).

Landing Force Organizational Systems Study, 1979, Marine Corps Development and Education Command, 8 August 1980

Logistics Planning Data Reference Book, Vol. III, Marine Amphibious Force Headquarters, AY 1985-1986, Education Center, Marine Corps Development and Education Command.

Marine Air-Ground Task Forces (MAGTFs), NAVMC 2710, 28 May 1985.

Maritime Prepositioned Deployment, U.S. Marine Corps Operational Handbook (OH) 4-11, June 1984.

Search, Marine Corps Development and Education Command, 28 January 1985.

Style Manual, United States Government Printing Office, March 1984.

Systems Acquisition Management Manual, MCO P5000.10A.

"Tentative Concept for Forming a Composite MAGTF," U.S. Marine Corps Advanced Amphibious Study Group Concept Paper, 10 November 1984.

The Marine Corps Directives System, MCO P5215.1, 8 March 1985.

The Marine Corps Long Range Plan (MARCORPS 2000).

The Marine Corps Mid-Range Objectives Plan (MMROP).

"The Permanent MAGTF Headquarters Concept and How It Applies in the Formation of a Composite MAGTF," U.S. Marine Corps Advanced Amphibious Study Group Background Paper, 1 October 1984.

The Naval Aviation Maintenance Program (NAMP), Vol. I and II, OPNAVINST 4790.2b, 1 October 1983.

U.S. Marine Corps Advanced Amphibious Study Group, Draft Planner's Reference Manual, Vol. III, August 1983.

U.S. Marine Corps Command and Control (C2) Master Plan, March 1983.

United States Marine Corps Field Logistics System Equipment Distribution, 30 December 1983.

U.S. Marine Corps Tables of Equipment (T/E) Cost Report (microfiche), 2 January 1985.

U.S. Marine Corps Table of Manpower Requirements (T/MR) Multiple Composition Report, 15 August 1985.

U.S. Marine Corps Tables of Organization (T/O) Checklist (microfiche), 27 August 1985.

U.S. Marine Corps Tables of Organization (T/O) Mission and Task Statements.

United States Marine Corps Technical Interface Concepts, December 1984.

United States Marine Corps Mid-Range Information Systems Plan (FY 86-92) (Draft), Vol. I and III.

U.S. Marine Corps Program Initiation and Operational Requirements, MCO 3900.4.C.

U.S. Marine Corps Research and Development Management Information Paper, FY 87 POM Supporting Documentation, undated.

United States Marine Corps RDT&E, N Program Element Descriptive Summaries, FY 1986 President's Budget, undated.

"Marine Aviation Now to 1995 and Beyond," The Gold Book of Naval Aviation, 1985.

"CMC FY-86 Posture Statement," Marine Corps Gazette, April 1985.

"Maritime Prepositioning Enhances Marine Capabilities," Amphibious Warfare Review, November 1985.

"Meeting the Challenge of Computers," Marine Corps Gazette, October 1984.

"MPS: Aviation Combat and TAVB," Marine Corps Gazette, February 1985.

"MPS: Combat Capability in the Objective Area," Marine Corps Gazette, July 1985.

"MPS: Logistic Operations," Marine Corps Gazette, June 1985.

"MPS: The Navy's Critical Role," Marine Corps Gazette, March 1985.

"The Composite MAGTF Concept," Marine Corps Gazette, August 1984.

END

DTIC

8-86