

# **FLEET MARINE FORCE**



## **STUDY GUIDE**

## 102 MARINE CORPS HISTORY, RANK STRUCTURE, AND COURTESIES FUNDAMENTALS

References:

[a] Marine Corps Common Skills Handbook, Book 1A (PCN 50600000900)

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102.1 Discuss what significant events occurred during the following years in Marine Corps history: [pp. 1-2-3 thru 1-2-5]

**1775** - The Marine Corps was created on 10 November 1775 in Philadelphia, Pennsylvania at Tun Tavern by a resolution of the Continental Congress, which "raised two battalions of Marines." Captain Samuel Nicholas became the commander of these two battalions and is traditionally considered the first Commandant of the Marine Corps.

**1776** - The first Marine landing took place during the Revolutionary War. Marines invaded New Providence Island in the Bahamas and seized guns and supplies. The uniform of the day had a stiff leather stock that was worn around the neck, thus the nickname "Leatherneck."

**1805** - Marines stormed the Barbary pirates' stronghold at Derna on the "Shores of Tripoli." Marines raised the "Stars and Stripes" for the first time in the Eastern Hemisphere.

**1847** - During the Mexican War, Marines occupied the "Halls of Montezuma" during the Battle of Chapultepec in Mexico City. The royal palace fell to invading Marines, who were among the first United States troops to enter the capital.

**1859** - Under the command of Colonel Robert E. Lee, U.S. Army, Marines stormed the United States arsenal at Harper's Ferry to put down an attempted slave revolt lead by abolitionist John Brown.

**1868** - The Marine Corps adopted an emblem that consisted of an eagle, a globe, and an anchor. Brigadier General Jacob Zeilin, 7th Commandant, modified the British (Royal) Marine emblem to depict the Marines as both American and maritime. The globe and anchor signify worldwide service and sea traditions. The spread eagle is a symbol of the Nation itself.

**1883** - The official motto of the Marine Corps, "*Semper Fidelis*," (Latin for "Always Faithful") was adopted.

**1900** - In support of foreign policy, Marines from ships on the Asiatic station defended the American Legation in Peking, China during the Boxer Rebellion. The Marines were part of a multinational defense force that protected the Legation Quarter against attack.

**1913** - The Marine Corps established its aviation unit. Marine Major Alfred A. Cunningham was the first pilot.

**1917-** Marines landed as part of the American force in France. Marines, participating in eight distinct operations, distinguished themselves and were awarded a number of decorations, among them the French Fourragere still worn by members of the 5th and 6th Marines.

**1933** - The Marine Corps was reorganized into the Fleet Marine Force, formally establishing the "command and administrative relations" between the Fleet and the Marine Corps.

**1965** - Marines landed in South Vietnam, which committed the Marine Corps to the longest war in its history. Marines conducted numerous large-scale offensive operations throughout the course of the war, as well as participating in the pacification program designed to win the support of the local populace.

**1982** - Marines deployed to Lebanon as part of a multinational peacekeeping force in an effort to restore peace and order to this war-torn country. This action further displayed the Marine concept of a "Force in Readiness." On 23 October 1983, a suicide truck bomb attack on the headquarters building killed 241 Americans and wounded 70 others. The last Marine unit withdrew in July of 1984.

**1991** - Operation Desert Storm was launched after the Iraqi government refused to comply with United Nations resolutions. Marine aviation was heavily used when the air phase commenced in January of 1991. When massive bombing failed to dislodge Iraqi forces, Marine ground forces swept into Kuwait and liberated the country, causing severe damage to the Iraqi military capability

102.2 Describe the importance of the following conflicts as they relate to Marine Corps history: [pp. 1-2-5, 1-2-6]

**The Battle of Belleau Wood** - Marines fought one of their greatest battles in history at Belleau Wood, France during World War I. Marines helped to crush a German offensive at Belleau Wood that threatened Paris. In reference to the Marine's ferocious fighting ability, German troops called their new enemy "Teufelhunden" or "Devil dogs," a nickname in which Marines share pride.

**The Battle of Guadalcanal** - On 7 August 1942, the 1st Marine Division landed on the beaches of Guadalcanal in the Solomon Islands and launched the first United States land offensive of World War II. This battle marked the first combat test of the new amphibious doctrine, and also provided a crucial turning point of the war in the Pacific by providing a base to launch further invasions of Japanese-held islands.

**The Battle of Tarawa** -The Gilbert Islands were the first in the line of advance for the offensive in the Central Pacific. On 20 November 1943, Marines landed and secured the island within 76 hours, but paid a heavy price in doing so. Because of an extended reef, landing craft could not cross it and Marines were offloaded hundreds of yards from the beaches. This led to heavy losses from enemy fire. Additionally, many Marines drowned while attempting to wade ashore.

**The Battle of Mariana Islands** - Due to the need for airfields by the Air Force and advanced bases for the Navy, the Marianas were invaded. Landings on the islands of Saipan, Guam, and Tinian accomplished this. During June and July of 1943, Lieutenant General Holland M. Smith led a combined invasion force of Marines and soldiers that totaled over 136,000. This was the greatest number of troops up to that time to operate in the field under Marine command.

**The Battle of Iwo Jima** - On 19 February 1945, Marines landed on Iwo Jima in what was the largest all-Marine battle in history. It was also the bloodiest in Marine Corps history. The Marine Corps suffered over 23,300 casualties. Of the savage battle, Admiral Chester W. Nimitz said, "Among the Americans who served on Iwo Island, uncommon valor was a common virtue."

**The Battle of Chosin Reservoir** - After pushing far into North Korea during November of 1950, Marines were cut off after the Chinese Communist Forces entered the war. The major significance of this retrograde movement was that Marines brought out all operable equipment, properly evacuated their wounded and dead, and maintained tactical integrity.

**The Battle of Hue City** - During the Vietnamese holiday of Tet in January of 1968, Communist forces launched a surprise offensive by infiltrating large numbers of their troops into the major population centers of Hue City, South Vietnam. Marines fought in built-up areas for the first time since the Korean War foregoing the application of heavy arms to minimize civilian casualties.

102.3 Describe the accomplishments of the following noteworthy Marines as related to Marine Corps history: [pp. 1-2-6, 1-2-7]

**Archibald Henderson** - Brevet Brigadier General Archibald Henderson became Commandant in 1820 and held his command for 39 years until his death in 1859. The "Grand Old Man of the Marine Corps," as he is often called, introduced higher standards of personal appearance, training, discipline, and strived to have the Marine Corps known as a professional military force, capable of more than just sea and guard duties

**John Quick** - Sergeant Major Quick is remembered for his performance at Cuzco Well (Guantanamo Bay, Cuba) where he participated in an operation to seize an advanced base for the Atlantic Fleet battalion of Marines. The Sergeant Major won the Medal of Honor for semaphoring for an emergency lift of the naval bombardment while under Spanish and American shellfire. The landing at Guantanamo demonstrated the usefulness of Marines as assault troops. See Appendix A-1.

**Dan Daly** - Sergeant Major Daly is recognized for earning two Medals of Honor: (1) Chinese Boxer Rebellion and (2) First Caco War in Haiti. When his unit had been pinned down and their attack was stalled during the Battle of Belleau Wood, then Gunnery Sergeant Daly yelled to his men, "Come on, you sons of a b-----, do you want to live forever?" See Appendix A-1.

**Louis B. "Chesty" Puller** - Lieutenant General Puller served in Nicaragua through several periods of political unrest and rebellious activity. Puller and a force of about 32 Marines became famous for their ability to engage rebel groups and bandits

while scouring the jungles in a wide area of Nicaragua to the Honduran border. Puller became known as the "Tiger of the Mountains" (1930). See Appendix A-2.

**Gregory R. "Pappy" Boyington** - Major Boyington is recognized for Marine prowess in aerial dogfights. "Pappy" commanded VMH-214, the "Black Sheep," during World War II. By the end of the War, the Major was recognized as the Marine Corps' top ranking flying ace with 28 victories ("kills"). See Appendix A-2

**Ira H. Hayes** - Corporal Ira Hayes, a Pima Indian, was one of the Marines immortalized in the now famous photograph taken of the second flag-raising incident on Mount Suribachi (Iwo Jima) shortly after the Japanese stronghold was taken.

**Opha Mae Johnson** - Private Johnson became the Marine Corps' first enlisted woman on 13 August 1918.

**Margaret A. Brewer** - Brigadier General Brewer, then a Colonel, served as the seventh and last Director of Women Marines (WM), the only post-World War woman to hold the position. Margaret Brewer became the Marine Corps' first woman general officer on 11 May 1978. See Appendix A-3

102.4 Discuss the circumstances when a hand salute is rendered and when it is not. [pp 1-2-15 thru 1-2-19]

**When/how to salute:**

Begin your salute in ample time (at least six, but not more than 30 paces away).

Hold your salute until it is returned or acknowledged.

Accompany the salute with an appropriate greeting.

Look squarely at the person or colors being saluted.

Render the salute only once if a senior remains in the immediate vicinity.

Render the salute again if conversation takes place when a senior leaves or when you depart.

**NOTE:** Do not interrupt the conversation to salute another senior unless the officer to whom you are speaking salutes a senior.

Salute in a group:

**If** Your group is not in formation -**Then** the first person to notice an officer approaching calls the group to attention and Salutes for the group, or entire group salutes the officer.

**If** Your group is in formation - **Then** the Senior person calls the formation to attention and salutes for the group

Salute when passing an officer who is going in the same direction as you:

Come abreast of the officer, salute and say, "By your leave, sir (ma'am)."

Officer returns the salute, and say, "Carry on" or "Granted."

Terminate your salute and pass ahead.

Salute officers, regular and reserve, of the Navy, Army, Air Force, Marine Corps, Coast Guard, and foreign military and naval officers whose governments are formally recognized by the U.S. Government.

**Do not salute when:**

- At work indoors (except when under arms)
- A prisoner or guarding prisoners
- Under battle conditions
- In ranks, at games, or part of a working detail
- At crowded gatherings, in public conveyances, or in congested areas, unless you are addressing or are being directly addressed by a senior
- Doing so would physically interfere with your performance of an assigned duty. or would create a hazard
- While your blouse or coat is unbuttoned
- With a smoking device in your hand

102.5 Identify the Marine Corps rank and pay grade in order of seniority from E-1 to O-10. [pp. 1-2-21, 1-2-22]

**Enlisted Rank Structure:**

- -Private (E-1) No Chevron
- -Private First Class (E-2) 
- -Lance Corporal (E-3) 
- -Corporal (E-4) 
- -Sergeant (E-5) 
- -Staff Sergeant (E-6) 
- -Gunnery Sergeant (E-7) 
- -Master Sergeant/First Sergeant (E-8) 
- -Master Gunnery Sergeant / Sergeant Major (E-9) 
- -Sergeant Major of the Marine Corps 

**Warrant Officer Rank Structure:**

- -Warrant Officer (W-1) 
- -Chief Warrant Officer 2 (W-2) 
- -Chief Warrant Officer 3 (W-3) 
- -Chief Warrant Officer 4 (W-4) 
- -Chief Warrant Officer 5 (W-5) 

**Officer Rank Structure:**

- -Second Lieutenant (O-1) 
- -First Lieutenant (O-2) 
- -Captain (O-3) 
- -Major (O-4) 
- -Lieutenant Colonel (O-5) 
- -Colonel (O-6) 
- -Brigadier General (O-7) 
- -Major General (O-8) 
- -Lieutenant General (O-9) 
- -General (O-10) 

102.6 Discuss the procedures for rendering honors and the circumstances during which honors are rendered during colors, the national anthem, and boarding naval vessels. [pp. 1-2-23, 1-2-24]

- If** You are neither in formation nor in a vehicle - **Then** render the prescribed salute and hold the salute until the last note of music is sounded
- If** No flag is near - **Then** Face the music and salute
- If** You are in formation - **Then** Salute only on the command, “present arms”.
- If** You are outdoors and uncovered - **Then** Stand at attention face the direction of the flag or music
- If** You are indoors - **Then** stand at attention face the music and/or flag.
- If** You are in a vehicle - **Then** halt vehicle; passengers and driver remain seated at attention and do not salute.
- If** You are passing or being passed by an uncased color which is being paraded, presented, or is on formal display - **Then** Salute at six paces distance and hold the salute for six paces beyond or until it has passed your position by six paces.
- If** You are uncovered - **Then** Stand or march at attention when passing or being passed by an uncased color.

**NOTE:** When the flag is raised at morning colors or is lowered at evening colors, stand at attention at the first note of the National Anthem or “To the Colors” (standard), and render the prescribed salute. If you are engaged in some duty, which would become a safety hazard or risk to property, do not salute. Usually face the flag while saluting, but if your duty requires it, face in another direction. When the music sounds “Carry On,” resume regular duties.

**Render honors while boarding and departing ships:**

**Boarding a naval ship between 0800 to sunset.**

Face aft upon reaching the top of the gangway (brow).

Salute the National Ensign.

Salute the officer of the deck (OOD), who will be standing on the quarterdeck at the head of the gangway.

Request "Permission to come aboard."

**Departing a naval ship between 0800 and sunset.**

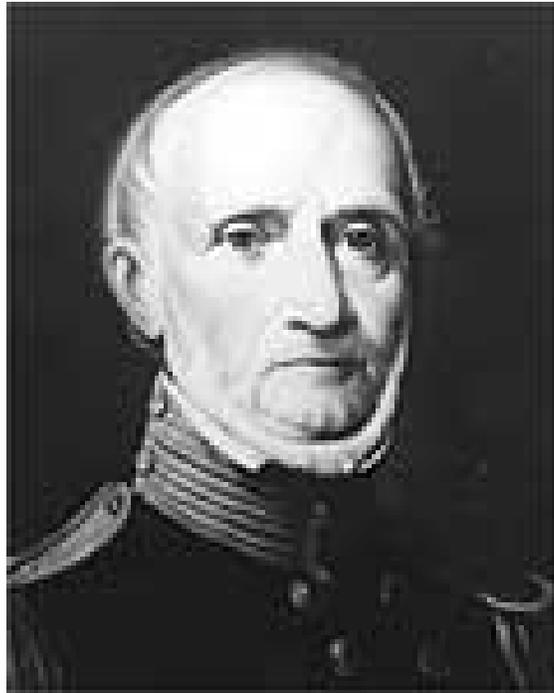
Salute the OOD and request "Permission to go ashore."

Go to the brow, turn aft, and salute the National Ensign.

**Board and depart a naval ship between sunset and 0800.**

Follow the above procedures but do not turn aft and do not salute the National Ensign.

**NOTE:** Board a small boat or ship by inverse order of rank; the junior goes first, and the others follow according to rank.



**Archibald Henderson**



**Dan Daly**

**A-1**



**Lewis B**

**(“Chesty”) Puller**



**Gregory R. “Pappy” Boyington**



**Margaret A.**

**Brewer**

## 103 UNITED STATES MARINE CORPS MISSION AND ORGANIZATION FUNDAMENTALS

### References:

- [a] Marine Corps Common Skills Handbook, Book 1A (PCN50600000900)  
[b] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)
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103.1 Discuss the seven elements of the Marine Corps mission. [ref. a, p. 1-2-1]

**Provide** Fleet Marine Forces with combined arms and supporting air components for service with the United States Fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the execution of a naval campaign.

**Provide** detachments and organizations for service on armed vessels of the Navy and security detachments for the protection of naval property at naval stations and bases.

**Develop**, in coordination with the Army, Navy, and Air Force, the doctrine, tactics, techniques, and equipment employed by landing forces in amphibious operations.

**Provide** Marine forces for airborne operations, in coordination with the Army, Navy, and Air Force, according to the doctrine established by the Joint Chiefs of Staff.

**Develop**, in coordination with the Army, Navy, and Air Force, the doctrine, procedures, and equipment for airborne operations.

**Expand** peacetime components to meet wartime needs according to the joint mobilization plans.

**Perform** such other duties as the President may direct.

103.2 Discuss the two parallel chains of command that exist within the Marine Corps. [ref. b, p. 1-1]

**Two parallel chains of command—Service and Operational**

**The Service chain** begins with the President, through the Secretary of Defense, and continues through the Secretary of the Navy and the Commandant of the Marine Corps

**The Operational chain** runs from the President, through the Secretary of Defense, directly to commanders of combatant commands for missions and forces assigned to their commands.

103.3 Identify and discuss the three Marine Corps operating forces. [ref. b, pp 1-1 thru 1-3]

**The Marine Corps' operating forces consist of:**

Marine Corps forces (MARFOR) are organized as MAGTFs and are either employed as part of naval expeditionary forces or separately as part of larger joint or combined forces. The commanders of MARFOR Atlantic and Pacific serve as Marine Corps component commanders to their respective combatant commanders and may also serve as commanding generals of Fleet Marine Forces (FMFs) Atlantic, Pacific, and Europe.

Marine Corps security forces (MCSF) at naval installations - The MCSF include approximately 3,400 Marines who protect key naval installations and facilities worldwide. Although not assigned to combatant commands, they are part of the operating forces of the Marine Corps.

Marine Security Guard detachments at embassies and consulates around the globe. The Marine security guard battalion provides forces to the Department of State for embassy security. These Marines are currently assigned to 121 diplomatic posts in 115 countries throughout the world

103.3 Discuss the purpose of the Headquarters Marine Corps (HQMC). [ref. b, p.1-6]

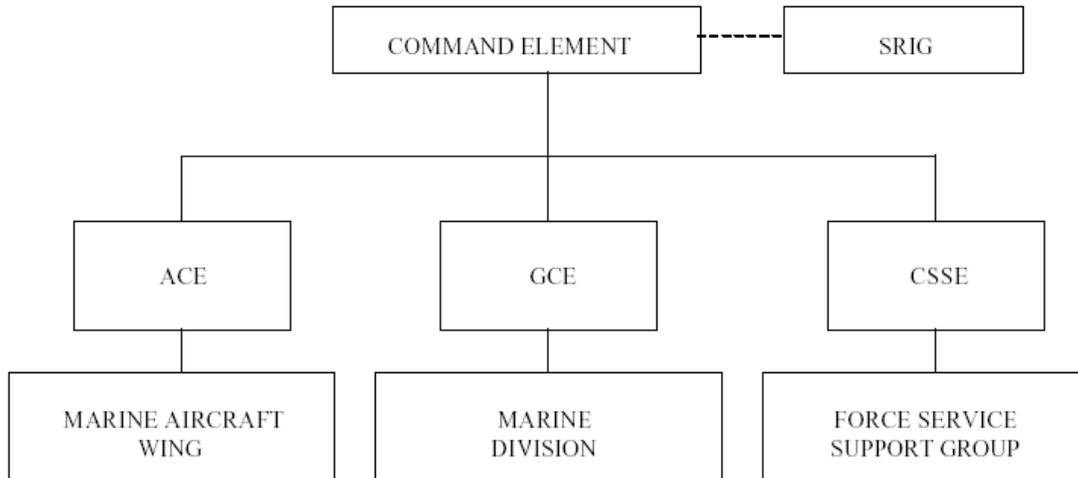
Headquarters, U.S. Marine Corps, consists of the Commandant of the Marine Corps and those staff agencies that advise and assist the Commandant in discharging those responsibilities prescribed by law and higher authority.

The Commandant of the Marine Corps is directly responsible to the Secretary of the Navy for the administration, discipline, internal organization, training, requirements, efficiency, and readiness of the Marine Corps; the operation of the Marine Corps materiel support system; and the total performance of the Marine Corps

103.4 Describe, in general, a Marine air-ground task force (MAGTF). [ref. b, p. 2-1]

The MAGTF is the Marine Corps' principle organization for the conduct of all missions across the range of military operations. MAGTFs are balanced, combined-arms forces with organic ground, aviation, and sustainment elements. They are flexible, task-organized forces that can respond rapidly to a contingency anywhere in the world and are able to conduct a variety of missions. Although organized and equipped to participate as part of naval expeditionary forces, MAGTFs also have the capability to conduct sustained operations ashore. MAGTFs are organized, trained, and equipped to perform missions ranging from humanitarian assistance to peacekeeping to intense combat and can operate in permissive, uncertain, and hostile environments. They may be shore-or sea-based in support of joint and multinational major operations and/or campaigns. MAGTFs deploy as amphibious, air-contingency, or maritime prepositioning forces (MPFs), either as part of a naval expeditionary force or via strategic lift.

103.5 Discuss the organization and mission of the following Marine Expeditionary Forces (MEF) elements and their components: [ref. b, pp. 2-2, 2-3, 6-1, 6-2]



**Command Element (CE)** - The CE is the MAGTF headquarters. It is task organized to provide command and control capabilities (including intelligence and communications) necessary for effective planning, direction, and execution of all operations.

The MEF CE consists of:

Command Section.

G-1 Division (personnel and administration).

G-2 Division (intelligence and counterintelligence).

G-3 Division (operations and training).

G-4 Division (logistics).

G-5 Division (plans).

G-6 Division (communications and information systems).

**Air Combat Element (ACE)** - The ACE of a MEF is a Marine Aircraft Wing. It is task-organized to support the MAGTF mission by performing some or all of the six functions of Marine aviation.

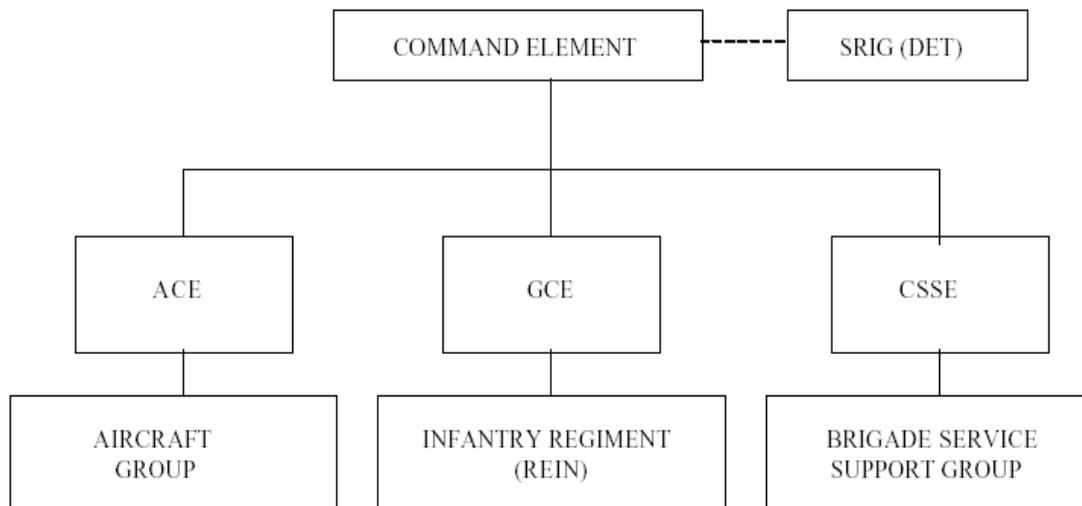
**Ground Combat Element (GCE)** - The GCE of a MEF is a Marine Division. It is task organized to conduct ground operations in support of the MAGTF mission. It is normally formed around an infantry organization reinforced with requisite artillery, reconnaissance, armor, and engineer forces.

**Combat Service Support Group (CSSE)** -The CSSE of a MEF is a Force Service Support Group. It is task organized to provide the full range of CSS functions and capabilities needed to support the continued readiness and sustainability of the MAGTF as a whole.

103.7 Identify the location of the three standing MEFs. [ref. b, p. 2-3]

- I MEF**, based in southern California and Arizona;
- II MEF**, based in North and South Carolina;
- III MEF**, based in Japan and Hawaii.

103.8 Discuss the organization and mission of the following Marine Expeditionary Brigades (MEB) elements and their components: [ref. a, p. 1-2-33]



**The MEB** is a MAGTF built around a reinforced infantry regiment, an aircraft group, and a Brigade Service Support Group (BSSG). A brigadier general normally commands the MEB.

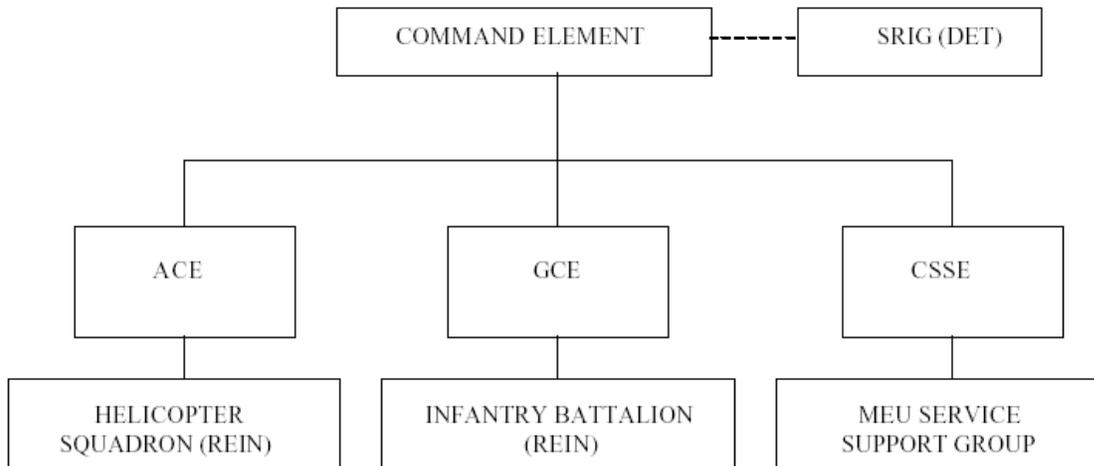
**Command Element (CE)**, - exercises command and control, is commanded by a general, and contains a SRIG detachment.

**Air Combat Element, (ACE)** - is a Marine aircraft group (MAG)

**Ground Combat Element, (GCE)** - is a reinforced infantry regiment

**Combat Service Support Group, (CSSE)** - is a Brigade Service Support Group (BSSG).

103.9 Discuss the organization and mission of the following Marine Expeditionary Units (MEUs) (Special Operations Capable(SOC)) elements and their components: [ref. b, pp. 2-4, 2-5, 6-3, 6-4]



**The Marine Expeditionary Unit (Special Operations Capable (MEU (SOC)))** is the standard forward-deployed Marine expeditionary organization. The MEU (SOC) can be thought of both as a self-contained operating force capable of missions of limited scope and duration and as a forward-deployed extension of the Marine expeditionary force. The MEU (SOC) mission is to provide a forward deployed, sea-based, rapid crisis response capability to execute a full range of military operations.

**Command Element** - A standing CE. The mission of the MEU (SOC) CE is to provide command and control to the MEU (SOC). The MEU (SOC) CE is responsible for the command and control, direction, planning, and coordination of air, ground, and logistic operations of assigned forces, consisting of a Marine battalion landing team, Marine composite squadron, MEU service support group, and other separate units.

**Air Combat Element (ACE)** - A reinforced helicopter squadron with transport, utility, and attack helicopters, a detachment of vertical/short takeoff and landing (V/STOL) fixed-wing attack aircraft, and other detachments as required.

**Ground Combat Element (GCE)** - An infantry battalion reinforced with artillery, reconnaissance, engineer, armor, assault amphibian units, and other detachments as required.

**Combat Service Support Element (CSSE)** - A task-organized MEU Service Support Group.

- 103.10 Identify the location of each of the seven MEUs (SOC) command elements and the MEFs in which it resides. [ref. b, p. 2-4]

**There are seven standing MEU (SOC) CEs.**

Residing within I MEF are the 11th, 13th, and 15th MEUs (SOC);  
Residing within II MEF are the 22nd, 24th, and 26th MEUs (SOC);  
Residing within III MEF is the 31st MEU (SOC).

- 103.11 Discuss the organization and mission of the following Special Purpose Marine Air Ground Task Force elements (SPMAGTF) components: [ref. a, p. 1-2-32]

Although not a basic MAGTF, a fourth type of MAGTF organization shall be designated as a Special Purpose MAGTF (SPMAGTF). It is normally used for a special purpose (e.g., disaster relief, humanitarian assistance, noncombatant evacuation operation, or security operations) or in unique instances (e.g., Exxon Valdez oil spill containment) where employment of one of the three basic MAGTFs would be inappropriate

**Command Element (CE)** - is structured to conduct command and control of operational functions and is tailored to the mission and task organization of the SPMAGTF.

**Air Combat Element (ACE)** - is a task-organized detachment of aircraft.

**Ground Combat Element (GCE)** - is composed of at least a platoon-sized element

**Combat Service Support Group, (CSSE)** - is task-organized to meet the specific service support requirements of the SPMAGTF and is centered on the unit designated to provide most of the service support.

## 104 ADMINISTRATIVE FUNDAMENTALS

### References:

- [a] BUPERSINST 1610.10, Navy Performance Evaluation and Counseling System
  - [b] SECNAVINST 5216.5, Correspondence Manual
  - [c] NAVPERS 15560C, Navy Military Personnel Manual
  - [d] Marine Corps Common Skills Handbook, Book 1A (PCN 50600000900)
  - [e] 10804UM-01, Enlisted Distribution Verification Report User's Manual
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- 104.1 Discuss the following as they apply to the Navy performance evaluation/fitness report and counseling system: [ref. a, encl. 1, pp. 1 thru 5]

**Reporting Senior** - Commanding officers are reporting seniors by virtue of their command authority. Commanding officers may submit properly authorized fitness and evaluation reports on any member who has reported to them for duty, whether junior or senior to them in grade. The term "commanding officer" includes commanding officers of all services, and their civilian equivalents within the U.S. federal government.

**Delegated Reporting Seniors** - Delegation of reporting senior authority is an actual transfer of that authority, and not merely an authorization to sign "by direction." For this reason, delegation is held to the highest level consistent with effective observation of performance, and commanding officers' oversight responsibilities are carefully defined. Reports on enlisted personnel may be delegated to that level of the command which can best observe and report on performance, subject to the following limitations:

(1) Reports on E5 through E9. Reports on members in the grade of E5 through E9, including members frocked to E5, may not be delegated below the grade of lieutenant commander (O4) or GS12 or equivalent.

(2) Reports on E4 and below. Reports on members in the grade of E4 and below may not be delegated below the grade of chief petty officer (E7) or GS11 or equivalent. Exceptions are not permitted.

**Immediate Superiors in Command (ISICs)** - ISICs are reporting seniors for assigned commanding officers, and are authorized to assume the reporting senior authority of subordinate commanding officers whose capacity to act as reporting seniors becomes impaired.

**Enlisted Reporting Seniors** - Chief petty officers (E7-E9) may act as reporting seniors for members in the grades of E4 and below only. The next senior officer in the chain of command having reporting authority for the members concerned must sign all other reports

**Raters and senior raters** - Evaluation reports on E6 and below require the signatures of a rater and senior rater as well as the reporting senior. This ensures that the Navy's senior enlisted and junior officer supervisors are properly included in the enlisted evaluation process. The rater should be a Navy chief petty officer whenever possible, but if none is available within the command, may be a military or civilian supervisor who is an E7 equivalent or higher. Typically, the senior rater will be the member's division officer or department head. The senior rater may be omitted where the reporting senior is the rater's immediate supervisor.

**Performance counseling** - Counseling methods are up to the commanding officer. It is the CO's program. Performance counseling must be provided at the mid-point of the periodic report cycle, and when the report is signed. The counselor will be a supervisor who participates in the member's EVAL or FITREP preparation. The objectives are to provide feedback to the member, and to motivate and assist improvement. Performance counseling starts with a fair assessment of the member's performance and capabilities, to which the member contributes. It identifies the member's strengths and motivates their further improvement. It also addresses important weaknesses, but should not dwell on unimportant ones. It should avoid personality and concentrate on performance. The FITREP and EVAL forms are used as counseling worksheets, and must be signed by the counselor and member. Counselors may use the tick marks next to each performance standard, and/or assign tentative trait grades, and may write comments. Under no circumstances should a future promotion recommendation be promised during counseling.

**Types of reports** – There are three types of reports.

Regular reports are the foundation of the performance record. Regular reports are submitted periodically according to the schedule below, and on other occasions specified in the EVAL Manual. They must cover, day-for-day, all Naval service on active duty or in drilling Reserve programs, except for enlisted initial entry training and other limited circumstances.

Concurrent reports provide a record of significant performance in an additional duty (ADDU) or temporary additional duty (TEMADD) status. They are optional unless directed by higher authority, and may not be submitted by anyone in the regular reporting senior's direct chain of command

Operational Commander reports are optional, and may only be submitted on commanding officers or officers in charge by operational commanders who are not also their regular reporting seniors.

(FITREP/EVAL ending dates are the last day of the month for officers and the 15th of the month for enlisted.)

	PERIODIC FITREP/EVAL			MID-TERM COUNSELING		
	Officers (Active)	Officers (TAR/Inac.)	Enlisted (All)	Officers (Active)	Officers (TAR/Inac.)	Enlisted (All)
January	O3			O6	O6	E3/2/1
February	O2			O5	O5(TAR)	
March	W4, W3	W4, W3, W2, W1	E5	W2, W1	O5(INAC) O4, O2, O1	E8, E7
April			E9	O4	O3	
May	O1					E6
June			E4			
July	O8, O7, O6	O8, O7, O6	E3/2/1	O3		
August	O5	O5(TAR)		O2		
September	W2, W1	O5(INAC) O4, O2, O1	E8, E7	W4, W3	W4, W3 W2, W1	E5
October	O4	O3				E9
November			E6	O1		
December						E4

**Administrative blocks** - The administrative blocks identify the report, define the context in which it was received, and make it more informative to detailers and selection boards. They also permit computerized BUPERS compliance audits to assure fairness to all members and reporting seniors.

**Guidance on trait grade** - The meanings of the trait grades are printed on the form, along with representative performance standards. The 5.0 grade is reserved for performance which is far above standards, and is notable for its exemplary or leadership quality. The 1.0 grade means generally poor performance, which is not improving, or unsatisfactory performance with respect to a single standard. For the majority of sailors and officers, most of the trait grades should be in the 2.0 to 4.0 range. Arbitrarily "two-blocking" the trait grades will be detrimental for two reasons. First, the reporting senior's average trait grade will be available to detailers and selection boards for comparison purposes. Second, it will be difficult for the reporting senior to allocate promotion recommendations if everyone's trait grades are the same.

**Comments block** - should be based on verifiable facts. Use input from the member and the member's immediate supervisor(s) as well as the raters' and reporting senior's personal observations. Handwritten comments or additions to comments are not allowed, except that reports on E4 and below may be entirely or partially handwritten. Continuation sheets and enclosures are not allowed, except an endorsed statement submitted by the member, a flag endorsement where required, a civilian or foreign letter report, a letter-extension of a Concurrent/Regular report, or a classified letter-supplement. Substantiate all 1.0 grades any promotion recommendation of "Significant Problems," and any recommendation against retention, and treat the report as adverse. Do not include classified matter in the report, and do not submit classified supplements unless absolutely necessary. Do not include any of the prohibited comments. Use direct, factual writing, which allows the performance to speak for itself. Bullet style is preferred. Give examples of performance and results. Quantify wherever possible, but don't stress quantity at the expense of quality. Avoid stock comments which make everyone sound alike. Be consistent with the trait marks. Comment on poor performance or misconduct where necessary, but be judicious. Remember that the report is a permanent official record.

**Promotion recommendation summary groups** - Promotion recommendations should be consistent with the performance trait grades, and with the Individual Trait Average displayed on E1-E6 evaluations. Do not make "Early Promote" and "Must Promote" recommendations merely because quotas are available, and do not recommend any member as "Promotable" who could not, if called on, currently perform the basic duties of the next higher grade. For enlisted personnel, a recommendation of "Promotable" or above is the commanding officer's official recommendation for advancement, even if made by a delegated reporting senior. The enlisted performance mark for the report period is taken directly from the promotion recommendation, and is 4.0 for "Early Promote," 3.8 for "Must Promote," 3.6 for "Promotable," 3.4 for "Progressing," and 2.0 for "Significant Problems"

**Misconduct reporting** - Adverse or downgraded fitness and evaluation reports may not be directed as punishment or used as an alternative to the proper disposition of misconduct under the Uniform Code of Military Justice (UCMJ). Reports may not

mention nonpunitive censure, or investigatory, judicial, or other proceedings which have not been concluded or which have exonerated the member. Subject to these limitations, fitness and evaluation reports should take into account misconduct which has been established through reliable evidence to the reporting senior's satisfaction.

**Responsibilities and rights of members** - Members shall sign all of their Regular reports, unless impossible to do so, and shall sign other reports where possible. Members shall receive a copy of every report from the reporting senior at the time it is signed. Members have the right to submit statements to the record concerning their reports, either at the time of the report or within 2 years thereafter. Such statements are endorsed by the reporting senior, but cannot be rejected. Members have the right to review their records, and the responsibility to ensure that their records are complete. Members have the right to communicate directly with selection boards, and have various avenues by which to appeal for change or removal of their reports.

104.2 Discuss the formats for the following types of naval correspondence:  
[ref. b, pp. 33 thru 82]

**Standard letter** - Use the standard letter or one of its variations to correspond officially with addressees in DOD. Also use it when writing to addressees outside DOD if you know they have adopted this format. Outside users include the Coast Guard and some contractors who deal widely with the Navy and Marine Corps. See Appendices B-1 and B-2 for examples.

**Endorsements** - When a letter is transmitted "Via:" your activity, use an endorsement to forward comments, recommendations, or information. While an endorsement is mostly used for transmitting correspondence through the chain of command, you may also use it to redirect a letter. Don't use it to reply to a routine letter. Many endorsements simply forward letters without substantive comment to the next "Via:" addressee (if any) or action addressee. An endorsement may comment on the basic letter or any preceding endorsements. It may return the basic letter with a final reply or a request for more information. A "Via:" addressee may alter the order of any remaining "Via:" addressees or add others. See Appendices B-3 and B-4 for examples.

**Memorandums** - a memorandum provides an informal way to correspond within an activity or between DON activities. Subordinates may use it to correspond directly with each other on routine official business. See Appendices B-5 and B-6 for examples.

104.3 Discuss the purpose of the following enlisted service record pages:  
[ref. c, pp. 1070-270 thru 1070-320]

**Page 2** - NAVPERS 1070/602, DEPENDENCY APPLICATION/RECORD OF EMERGENCY DATA AND DD 93, RECORD OF EMERGENCY DATA  
Part I serves as an application for dependency allowances and is used to capture military spouse data.  
Part II provides an immediately accessible, up-to-date record of emergency data and is the official document used to determine the following:

- Person(s) to be notified in case of emergency or death.
- Person(s) to receive the death gratuity when no spouse or child exists.
- Person(s) to receive unpaid pay and allowances (arrears of pay) including money accrued during a missing or captured status, unused leave, travel, per diem, transportation of family members, transportation of household goods, and savings deposits found due from Department of the Navy.
- Dependents of member to receive allotment of pay if member is missing or unable to transmit funds.
- Commercial insurance companies to be notified in case of death.
- National Service Life Insurance, Servicemen's Group Life Insurance, and Veterans Group Life Insurance in effect.

**Page 4** - NAVPERS 1070/604, ENLISTED QUALIFICATIONS HISTORY  
 NAVPERS 1070/604 is a chronological history of their occupational and training related qualifications and their awards and commendations. See Appendices B-7 through B-10 for an example.

**Page 5** - NAVPERS 1070/605, HISTORY OF ASSIGNMENTS  
 NAVPERS 1070/605 is a chronological record of duty assignments and is maintained throughout member's active and inactive duty career. See Appendix B-11 for an example.

**Page 13** - NAVPERS 1070/613, ADMINISTRATIVE REMARKS  
 NAVPERS 1070/613 services as a chronological record of significant miscellaneous entries which are not provided for elsewhere or where more detailed information may be required to clarify entries on other pages. Entries are required for civil misdemeanors and felonies that come to the command's attention, and for Non-Judicial Punishment that does not result in a loss of pay.

104.4 Explain the purpose of the Uniform Code of Military Justice, who is responsible for upholding it, and who is subject to it. [ref. d, pp. 1-1-1, 1-1-2]

**Purpose** - Promotes good order and discipline, and provides a basis for the administration of justice for the Armed Forces.

**Who is responsible for upholding the UCMJ** - All members of the Armed Forces.

**Who is subject to the UCMJ** –

- Members of a regular or reserve component of the Armed Forces
- Members of the Fleet Reserve and Fleet Marine Corps Reserve
- Members of a reserve component while on inactive-duty training

- Members of the Army National Guard and the Air National Guard only when federalized
- In time of war, all persons serving with or accompanying an Armed Force in the field
- Volunteers from the time of their muster or acceptance into the Armed Forces
- Inductees from the time of their actual induction into the Armed Forces
- Cadets, aviation cadets, and midshipmen
- Retired members of a regular component who are entitled to pay
- Retired members of a reserve component who are receiving hospitalization from an

Armed Force

104.5 Explain the differences in the following types of courts-martial [ref. d, pp. 1-1-7, 1-1-8]

**Summary** - A summary court-martial is composed of one active duty commissioned officer with the rank of captain or higher. A summary court-martial may adjudge any punishment not forbidden by the UCMJ, except confinement for more than 1 month with hard labor, without confinement for more than 45 days, restriction for more than 2 months, or forfeiture of more than 1 month's pay. In the case of E-5's and above, a summary court-martial may not award a reduction of more than one rank and hard labor without confinement. Except aboard ship, you may refuse a summary court-martial and may request a special or general court-martial. A summary court-martial may not try a commissioned officer, warrant officer, cadet, or midshipman for any capital offenses.

**Special court-martial** - A special court-martial can be composed of a military judge alone, or a military judge and not less than three active-duty armed service members. The impartial personnel can be commissioned officers, warrant officers, or enlisted personnel. If the accused is a commissioned officer, no member can be a warrant officer or enlisted person. If the accused is an enlisted person, they may request that at least one third of the members of the court be enlisted. A special court-martial may adjudge any punishment not forbidden by the UCMJ, including confinement for 6 months, hard labor without confinement for 3 months, or forfeiture of more than two-thirds pay for 6 months, a bad conduct discharge, and reduction in rank. Normally, a special court-martial may not try any capital offense when there is a mandatory punishment beyond the maximum power of a special court-martial.

**General** - A general court-martial can be composed of a military judge alone or a military judge and not less than five impartial active-duty armed services personnel. The impartial personnel can be commissioned officers, warrant officers, or enlisted personnel. If the accused is a commissioned officer, no member can be a warrant officer or enlisted person. If the accused is an enlisted person, they may request that at least one third of the court's members be enlisted. The lowest level of authority to convene a general court-martial is usually the commanding general of a division, wing, base, or the equivalent. A general court-martial may adjudge any punishment not forbidden by the UCMJ.

104.6 Explain the following in regards to Non-Judicial Punishment (NJP): [ref. d, p 1-1-11]

**The value of NJP to the commander and to the Marine** - The purpose of NJP is to give the commander the ability to maintain good order and discipline

**When NJP can be administered** - NJP is given for minor offenses of the UCMJ. A minor offense is one for which the maximum sentence, if tried by a general court-martial, does not include a dishonorable discharge or confinement of greater than one year.

**The right to refuse NJP** - Before the imposition of NJP proceedings, the accused may demand trial by court-martial in lieu of NJP

**The right and procedures to appeal** - The accused may appeal the punishment if he considers it unjust or disproportionate to the offense by submitting a written statement describing why he considers the punishment unjust or disproportionate within 5 days of imposition of punishment through the chain of command to the next superior authority.

104.7 Explain the Marine Corps position on the following policies:  
[ref. d, pp. 1-7-13 thru 1-7-21]

**Sexual harassment** - Sexual harassment is influencing, offering to influence, or threatening the career, pay, or job of another person in exchange for sexual favors; deliberate or repeated offensive comments, gestures, or physical contact of a (perceived) sexual nature in a work or work-related environment. It is unacceptable and unprofessional behavior for military or civilian personnel that is dealt with through the leadership and supervisory structure. Leaders and supervisors have a dual responsibility to create and maintain or defend an environment of mutual respect in which civilian and military men and women can function and conduct appropriate and continuous training to promote understanding and eliminate sexual harassment.

**Equal opportunity** – Equal opportunity means that every Marine is provided fair and equal treatment, having equal opportunity regardless of race, ethnicity, age, sex, or religious conviction.

The Marine Corps accomplishes this by:

- Providing equal opportunity for all military members without regard to race, color, creed, sex, age, or national origin consistent with the physical and mental capabilities of the individual.
- Promote Marines based on merit, not quotas.
- Promote Marines who meet the minimum eligibility service and grade criteria (TIS, TIG) for promotion and also
  - (1) Display the desire to advance.
  - (2) Show enthusiasm and potential for increased responsibility.
  - (3) Master the professional and technical requirements of the current grade.
  - (4) Demonstrate initiative, maturity, moral courage, self-discipline, and good judgment.
  - (5) Demonstrate the ability to lead and train Marines as a team.
- Promote equal opportunity for all Marines.
  - (1) Treat each Marine with respect.
  - (2) Recognize each individual's importance, dignity, aspirations, needs, and capabilities.
  - (3) Know your Marines and look out for their welfare.
  - (4) Respond to human needs.
  - (5) Encourage individual development and self-enhancement.
  - (6) Establish and ensure open channels of communication.

**Hazing** – Any conduct whereby one military member, regardless of service or rank, causes another military member, regardless of service or rank, to suffer or be exposed to an activity which is cruel, abusive, humiliating, or oppressive. Hazing includes:

- (1) Any form of initiation or congratulatory act that involves physically striking.
- (2) Piercing another's skin in any manner.
- (3) Verbally berating another.
- (4) Encouraging another to excessively consume alcohol.
- (5) Encouraging another to engage in illegal, harmful, demeaning, or dangerous acts.
- (6) Soliciting or coercing another to participate in any such activity.

No Marine or service member attached to a Marine command, including Marine detachments, may engage in hazing or consent to acts of hazing being committed upon them. No one in a supervisory position may, by act, word, or omission, condone or ignore hazing if he or she knows or reasonably should have known that hazing may occur. Consent to hazing is not a defense. Any violation, attempted violation, or solicitation of another to violate the MCO subjects involved members to disciplinary action under Article 92 of the Uniform Code of Military Justice (UCMJ).

**Fraternization** – Defined as duty relationships and social and business contacts between and among Marines of different grades. These relationships are inconsistent with the traditional standards of good order, discipline, and mutual respect that have always existed between Marines of senior and lesser grade. Marines will behave in a manner that is consistent with traditional standards of good order and discipline, mutual respect, and the customs of the Marine Corps Describe behavior that would be considered fraternization - Any behavior which would present the appearance of undue familiarity or informality between and among the ranks.

EXAMPLES: Calling seniors by their first name, officers dating enlisted personnel.

104.8 State the purpose and discuss the contents of the Enlisted Distribution Verification (EDVR). [ref. e, pp.1-1, 1-2]

**The EDVR is a monthly statement of an activity's enlisted personnel account.**

**Contents:**

**EDVR sections 1 through 3** contain information that has been extracted from the account because it requires special attention or action by the activity. Additionally, EDVR section 3 contains an alphabetic listing of all enlisted members assigned to the activity.

**EDVR section 4** contains the total personnel account of the activity, including those members reflected in sections 1 through 3.

**EDVR section 5** contains the Personnel Status Summary.

**EDVR section 6** contains Distribution Navy Enlisted Classification Code (DNEC) Management.

**EDVR section 7** contains NEC Billet and Personnel Inventory.

**EDVR section 8** contains a list of individuals who are qualified in Navy Enlisted Classification Codes (NECs).

**EDVR sections 9 and 10** contain the Diary Message Summary and Duty Preference Listing, respectively.

**EDVR section 11** contains individual security data, citizenship code, involuntary extension months, Pay Entry Base Date (PEBD), Time in Rate (TIR), Advancement Effective Date, and FORMAN Status and Action Date.

**EDVR section 12** contains a listing of both officer and enlisted personnel in an embarked or Temporary Additional Duty (TAD) status to augment normal manning. This listing also includes commands that are embarked onboard another command.

1 ①  
2  
3



4 **DEPARTMENT OF THE NAVY** ②  
NAME OF ACTIVITY  
ADDRESS  
CITY, STATE ZIP + 4

1 %

2 SSIC Code/Serial Date } ③

1 %

2 From: \*\*Title of activity head, name of activity, location when needed ④  
To: \*\*\*\*Title of activity, name of activity, location when needed (Code)  
Via: \*\*\*(1)\*Title of activity head, name of activity, location when needed (Code) } ⑤  
\*\*\*\*\* (2)\*Pattern of (1) repeated for next endorser

1 %

1" ← 1" → Subj: \*\*NORMAL WORD ORDER WITH ALL LETTERS CAPITALIZED ⑥

1 %

2 Ref: \*\*\*(a)\*Communication or document that gears directly on the subject at hand } ⑦

1 %

2 Encl: \*\*\*(1)\*Title of material enclosed with letter } ⑧  
\*\*\*\*\* (2)\*Title of material separately (sep cover)

1 % ← 1" →

2 1. \*\*This example shows the first page of a two page standard letter. We have used many of the elements that might appear on a standard letter. Mention reference (a) and enclosures (1) and (2) in the text. ⑨

1 %

2 2. \*\*Start the "From:" line on the second line below the date line. The date may be typed or stamped.

1 %

3. \*\*Arrange paragraphs as shown in figure 2-7 on page 56.

1 %

2 \*\*\*\*a. \*\*Don't start a paragraph at the bottom of the page unless you can carry at least two lines over to the next page.

1 %

2 \*\*\*\*b. \*\*Don't number the first page; number only second and later pages.

1 %

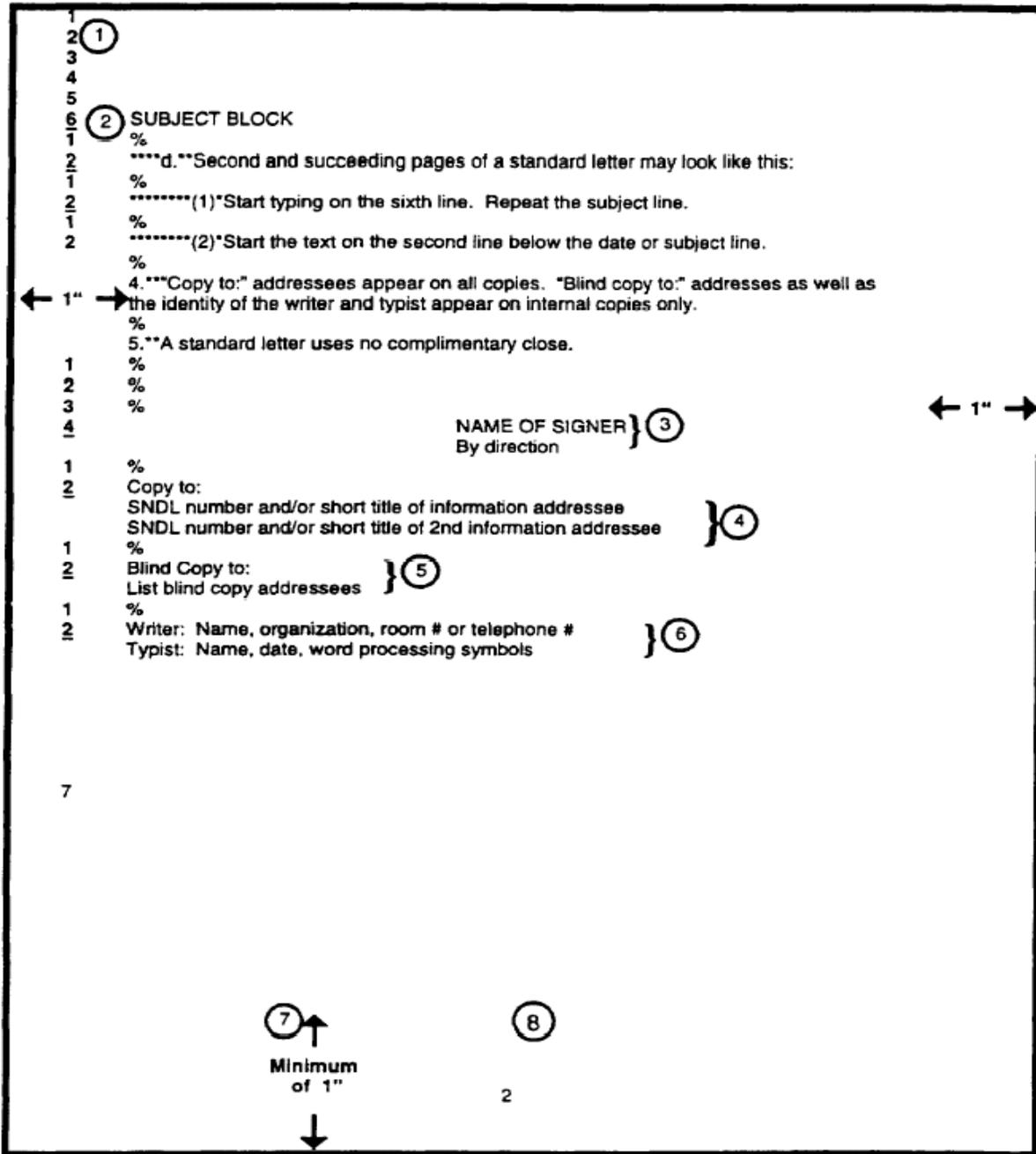
2 \*\*\*\*c. \*\*Other full-page examples in this chapter and later ones show the spacing to use for correspondence that variously omits "Via:," "Ref.," and "Encl:" lines.

**Note:**  
\* AN ASTERISK (\*) INDICATES A SINGLE BLANK SPACE.  
% A PERCENT SIGN (%) INDICATES A SINGLE BLANK LINE.

⑩  
↑  
Minimum  
of 1"  
↓

- |                                     |                             |
|-------------------------------------|-----------------------------|
| 1. Typewriter Lines                 | 6. Subject Line (page 38)   |
| 2. Letterhead Format (page 11)      | 7. Reference Line (page 38) |
| 3. Identification Symbols (page 33) | 8. Enclosure Line (page 42) |
| 4. From Line (page 36)              | 9. Text (page 44)           |
| 5. To & Via Lines (page 37)         | 10. Margins (page 33)       |

## Standard Letter – First Page



- |                                                                    |                                                                               |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 1. Typewriter Lines                                                | 6. Drafter's Identification Block. Appears on internal copies only (page 47). |
| 2. Subject Line (page 38)                                          | 7. Margins (page 33)                                                          |
| 3. Signature Block (page 44).                                      | 8. Page number (page 47)                                                      |
| 4. Copy-to Block (page 45)                                         |                                                                               |
| 5. Blind Copy-to Block. Appears only on internal copies (page 46). |                                                                               |

## Standard Letter – Second Page



DEPARTMENT OF THE NAVY  
NAVAL AIR STATION  
CECIL FIELD, FL 32215-6000

5216  
Ser 11/273  
9 Jul 98

1  
2

1  
2

From: Commanding Officer, Naval Air Station, Cecil Field  
To: Commander in Chief, U.S. Atlantic Fleet  
Via: (1) Commander, Sea Based ASW Wings, Atlantic  
(2) Commander, Naval Air Force, U.S. Atlantic Fleet

1  
2

Subj: HOW TO PREPARE ENDORSEMENTS

1  
2

Enc: (1) Example of New-Page Endorsement

1  
2

1. An endorsement may be added to the bottom of a basic letter, like this one, or to a previous endorsement if: (a) All of the endorsement will fit on the page, and (b) it is sure to be signed without revision.

1  
2

C. WORTHY

1  
2

3  
4

Ser 019/870  
17 Jul 98

1  
2

FIRST ENDORSEMENT

1  
2

From: Commander, Sea Based ASW Wings, Atlantic  
To: Commander in Chief, U.S. Atlantic Fleet  
Via: Commander, Naval Air Force, U.S. Atlantic Fleet

1  
2

1. A same-page endorsement may omit the SSIC, subject, and the basic letter's identification if the entire page will be photocopied. But these elements are required on all new-page endorsements, such as the one on the next page.

1  
2

3  
4

M. R. SAILORS

1  
2

Copy to: NAS Cecil Field (Code 11)

## Same-Page Endorsement



DEPARTMENT OF THE NAVY  
COMMANDER NAVAL AIR FORCE  
UNITED STATES ATLANTIC FLEET  
NORFOLK, VA 23511-5188

5216  
Ser N72/420  
24 Jul 98

1  
2

1  
2

SECOND ENDORSEMENT on NAS Cecil Field Itr 5216 Ser 11/273  
of 9 Jul 98

1  
2

From: Commander, Naval Air Force, U.S. Atlantic Fleet  
To: Commander in Chief, U.S. Atlantic Fleet

1  
2

Subj: HOW TO PREPARE ENDORSEMENTS

1  
2

Encl: (2) SECNAVINST 5216.5D

1  
2

1. Start an endorsement on a new page if all of your endorsement will not fit on the latest communication or your endorsement might not be signed without revision.

1  
2

2. Number every page and continue the sequence of numbers from the previous communication, as explained in enclosure (2).

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3. Every "new page" endorsement must:

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a. Repeat the basic letter's SSIC,

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b. Identify the basic letter in the "endorsement number" line, and

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c. Use the basic letter's subject as its own.

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H. H. MILLER  
By direction

1  
2

Copy to:  
NAS Cecil Field (Code 11)  
\*COMSEABASEDASWWINGLANT (Code 019)

\*Prior endorser included because second endorsement is significant.

New-Page Endorsement

B-4

1  
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3  
4  
5  
6

8 Jul 99

1

2

1

2

MEMORANDUM

From: Head, DON Records Management Branch (N161)

To: Head, Technical Library Branch (N21)

Head, Mail and Files Branch (N13)

Via: Head, Office Services Division (N1))

1

2

1

2

Subj: PLAIN-PAPER MEMORANDUM

1. The plain-paper "from-to" memorandum may be used within your activity. It is no more formal than the memorandum form, but it is more flexible when there are multiple addressees, via addressees, or both.

1

2

2. The only identification symbol you need is the date, unless local practice calls for more. Start typing the date on the sixth line, flush with the right margin.

3. Prepare a plain-paper memorandum on white bond.

1

2

3

4

J. C. JAY

## Plain-paper Memorandum

B-5



DEPARTMENT OF THE NAVY  
NAVAL AIR FACILITY  
DETROIT, MI 48045-5008

5216  
Memo 28/83  
5 Jan 99

1  
2

1  
2

MEMORANDUM

1  
2

From: Head, Management Services Department, Naval Air  
Facility, Detroit  
To: Operations Officer, Navy Regional Data Automation  
Center, San Francisco

1  
2

Subj: LETTERHEAD MEMORANDUM

1  
2

1. When used within an activity, the letterhead memorandum provides more formality than the printed memorandum form or the plain-paper memorandum.

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2. A letterhead memorandum may be sent outside your activity if:

- a. Direct liaison is authorized,
- b. The matter is routine,
- c. The memo neither makes a commitment nor takes an official stand.

1  
2

3. Generally follow the standard letter format, but type "MEMORANDUM" as shown here.

1  
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3  
4

E. F. GEE

## Letterhead Memorandum

B-6

ENLISTED QUALIFICATIONS HISTORY

1. EDUCATIONAL EXPERIENCE LEVEL													
GED (HS) EQUIVALENT TEST			COLLEGE LEVEL GENERAL EXAMS				PRESENT LEVEL OF EDUCATION						
DATE ISSUED	ISSUING STATE	INIT	DATE PASSED		INIT	12	13	14	15	16	17		
92JAN17	KENTUCKY	<i>HC</i> FJT											
2. CLASSIFICATION/ASVAB TESTING QUALIFICATIONS													
TEST FORM ID	DATE ADMIN.	AFQT	GS	AR	WK	PC	NO	CS	AS	MK	MC	EI	VE
A15	92APR25	35	47	45	38	54	45	49	52	52	50	59	45
ASVAB ADMINISTERED BY: MEPS, SEATTLE, WA													
SPECIAL TEST SCORES													
NAME		FORM		DATE		SCORE							
NFQT		F		92APR27		46							
DLAB				92MAY22		96							
CLASSIFIER'S SIGNATURE: <i>J. Q. Classifier</i> J. Q. CLASSIFIER, PN1, USN													
3. RECORD OF OFF-DUTY EDUCATION/VOC/TECH TRAINING AND NON-REQUIRED CORRESPONDENCE COURSES													
NUMBER/TITLE OF COURSE OR TEST	SCHOOL	DATE COMPLETED	GRADE	INIT	NUMBER/TITLE OF COURSE OR TEST	SCHOOL	DATE COMPLETED	GRADE	INIT				
Spanish 1	Univ. of Maryland	92Feb16	B	<i>JSR</i>									
English 101	VA State University	92Jul13	A	<i>AKL</i>									
4. OTHER TRAINING COURSES/INSTRUCTIONS COMPLETED													
DATE COMPLETED	TYPE OF COURSE AND/OR INSTRUCTION				DURATION	LOCATION				INIT			
92SEP30	General Shipboard Firefighting				2 days	Firefighting School, NORVA				<i>VM</i> VM			
NAME (Last, First, Middle)						SOCIAL SECURITY NUMBER		BRANCH AND CLASS					
DOE, JAMES JOHN						000-00-0000		USN					

NAVPERS 1070/604 (Rev. 7/91)  
S/N 0106-LF-01 2-2500



NAVPERS 1070/604 Part 1

B-7

5. NAVY SERVICE SCHOOLS/MILITARY TRAINING COURSES											
COURSE TITLE/SCHOOL Management and Supervision CRS SSC, NTC, Great Lakes, IL			NEC 7107	DATE ENROLLED/COMPLETED 93May07 / 93May18		COURSE TITLE/SCHOOL Central Air Data Computers NAS, North Island			NEC 7106	DATE ENROLLED/COMPLETED 94Jan07 / 94Feb15	
COURSE LENGTH 2 WKS	GRADE SAT	MANNER OF COMPLETION <input checked="" type="checkbox"/> GRADUATED <input type="checkbox"/> DROPPED		INIT ABS		COURSE LENGTH 6 WKS	GRADE 85.00	MANNER OF COMPLETION <input checked="" type="checkbox"/> GRADUATED <input type="checkbox"/> DROPPED		INIT EGH	
COURSE TITLE/SCHOOL SH "A" School FTC, Norfolk, VA			NEC 3112	DATE ENROLLED/COMPLETED 93Oct10 / 93Nov10		COURSE TITLE/SCHOOL AMFU "A" School			NEC	DATE ENROLLED/COMPLETED 94May02 / 94Jun20	
COURSE LENGTH 4 WKS	GRADE 79.00	MANNER OF COMPLETION <input checked="" type="checkbox"/> GRADUATED <input type="checkbox"/> DROPPED		INIT WTD		COURSE LENGTH 26 WKS	GRADE --	MANNER OF COMPLETION <input type="checkbox"/> GRADUATED <input checked="" type="checkbox"/> DROPPED		INIT ABK	
6. CORRESPONDENCE COURSES REQUIRED FOR ADVANCEMENT											
DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER				DATE COMPLETED	INIT	DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER				DATE COMPLETED	INIT
NTC AN				92JUN30	EFK						
AE3				92OCT25	WWB						
GTC PO				92NOV02	WWS						
NTC AE2				92DEC20	HAH						
7. NAVY ENLISTED CLASSIFICATIONS						8. PERSONNEL ADVANCEMENT REQUIREMENTS					
PRIMARY CODE	SECONDARY CODE	DATE		INIT		DESCRIPTION		DATE COMPLETED	INIT		
0000	0000	92JUN30		HAH/WH		PO3, M/L		93JAN15	MAK		
ETR-1510	0000	93NOV30		PSS/ao		PAR YN3		93APR30	NAJ/mj		
ST-0431	ST-0455	94MAR23		LRW		PAR YN2		94MAY30	JAK		
9. ENLISTED RATE/RATING						10. DESIGNATOR RECORD					
RATE	DATE	TIME IN RATE		INIT		DATE	DESIGNATOR	QUAL/REVOCAION	INIT		
MSSA-MSSN	92OCT16	92OCT16		KB KB		92MAR04	SS	QUAL	RAS		
MSSN-MS3	93JUL16	93JUL01		CN CN		93SEP15	SS	REV	HAS		
NAME (Last, First, Middle)						SOCIAL SECURITY NUMBER			BRANCH AND CLASS		
DOE, JAMES JOHN						000-00-0000			USN		

## NAVPERS 1070/604 Part 2

B-8

AWARD NAME	DATE OF AWARD	AUTHORITY	ADV PNTS	INIT
NAVY COMMENDATION MEDAL	90FEB20	NAVSTA, NORFOLK, VA	3.00	<i>KGH</i>
SEA SERVICE DEPLOYMENT RIBBON	90APR03	USS GLORY (CV-00)	N/A	<i>BBB</i>
NAVY ACHIEVEMENT MEDAL	91JUL07	ATKRON 115	3.00	<i>KGH</i>
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ELIGIBILITY RESTARTS FOR GOOD CONDUCT MEDAL	97SEP01	CONDUCT/PERFORMANCE	N/A	<i>iel</i>
NAME (Last, First, Middle)		SOCIAL SECURITY NUMBER	BRANCH AND CLASS	
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NAVPERS 1070/604 Part 3

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## 105 OPERATIONAL RISK MANAGEMENT AND OCCUPATIONAL SAFETY FUNDAMENTALS

### References:

- [a] MCO 3500.27A, Operational Risk Management (ORM)
  - [b] MCO P5100.8F, Marine Corps Occupational Safety and Health Program
  - [c] OPNAVINST 5100.19C, Navy Occupational Safety and Health Program Manual for Afloat
- 

105.1 Discuss the term ORM and the concept of the ORM process. [ref. a, encl. 1, pp. 1, 2]

**ORM** - is a decision making tool used by people at all levels to increase operational effectiveness by anticipating hazards and reducing the potential for loss, thereby increasing the probability of a successful mission.

**ORM** - Increases our ability to make informed decisions by providing the best baseline of knowledge and experience available.

**ORM** - Minimizes risks to acceptable levels, commensurate with mission accomplishment. The amount of risk we will take in war is much greater than that we should be willing to take in peace, but the process is the same. Applying the ORM process will reduce mishaps, lower costs, and provide for more efficient use of resources.

105.2 Discuss the following ORM terms: [ref. a, encl. 1, p. 2]

**Hazard** - A condition with the potential to cause personal injury or death, property damage or mission degradation

**Risk** - An expression of possible loss in terms of severity and probability

**Risk assessment** - The process of detecting hazards and assessing associated risks.

105.3 Explain the five-step process of ORM. [ref. a, encl. 1, pp. 2, 3]

**Identify Hazards** - Begin with an outline or chart of the major steps in the operation (operational analysis). Next, conduct a Preliminary Hazard Analysis by listing all of the hazards associated with each step in the operational analysis along with possible causes for those hazards.

**Assess Hazards** - For each hazard identified, determine the associated degree of risk in terms of probability and severity. Although not required, the use of a matrix may be helpful in assessing hazards.

**Make Risk Decisions** - First, develop risk control options. Start with the most serious risk first and select controls that will reduce the risk to a minimum consistent with mission accomplishment. With selected controls in place, decide if the benefit of the operation outweighs the risk. If risk outweighs benefit or if assistance is required to implement controls, communicate with higher authority in the chain of command.

**Implement Controls** - Measures that can be used to eliminate hazards or reduce the degree of risk. These are listed by order of preference:

(1) Administrative Controls - Controls that reduce risks through specific administrative actions, such as:

(a) providing suitable warnings, markings, placards, signs, and notices.

(b) establishing written policies, programs instructions and standard operating procedures (SOP).

(c) training personnel to recognize hazards and take appropriate precautionary measures.

(d) limiting the exposure to a hazard (either by reducing the number of personnel/assets or the length of time they are exposed).

(2) Engineering Controls - Controls that use engineering methods to reduce risks by design, material selection or substitution when technically or economically feasible.

(3) Personal Protective Equipment - Serves as a barrier between personnel and a hazard. It should be used when other controls do not reduce the hazard to an acceptable level.

**Supervise** - Conduct follow-up evaluations of the controls to ensure they remain in place and have the desired effect. Monitor for changes which may require further ORM. Take corrective action when necessary

105.4 Explain the four principles of ORM. [ref. a, encl. 1, pp. 4, 5]

**Accept risk when benefits outweigh the cost.** "Risk is inherent in war and is involved in every mission. Risk is also related to gain; normally greater potential gain requires greater risk." The goal of ORM is not to eliminate risk, but to manage the risk so that the mission can be accomplished with the minimum amount of loss.

**Accept no unnecessary risk.** "We should clearly understand that the acceptance of risk does not equate to the imprudent willingness to gamble. Take only risks, which are necessary to accomplish the mission"

**Anticipate and manage risk by planning.** Risks are more easily controlled when they are identified early in the planning process.

**Make risk decisions at the right level.** Risk management decisions are made by the leader directly responsible for the operation. Prudence, experience, judgment, intuition and situational awareness of leaders directly involved in the planning and execution of the mission are the critical elements in making effective risk management decisions. When the leader responsible for executing the mission determines that the risk associated with that mission cannot be controlled at his/her level, or goes beyond the commander's stated intent, he/she shall elevate the decision to their chain of command.

105.5 Discuss the requirements and give examples of each of the following Personal Protection Equipment (PPE): [ref. b, art.13004 thru 13007]

**Head protection** - Head protection equipment is designed to protect workers' head from bumps, cuts, impact, penetration, and electric shock, or any combination thereof. Head-hazardous areas are designated where there is reasonable possibility of head injury caused by cuts, bumps, falling or flying objects, and from limited electric shock and burns. Industrial head protection appropriate to exposure shall be worn during the entire work shift by Marine Corps personnel assigned to head-hazardous or hardhat areas. Any other personnel entering head-hazardous areas shall wear appropriate head protection.

**Hearing protection** - Hearing protective devices shall be worn by all personnel when they enter or work in an area where the operations generate noise levels:

Greater than 84 dBA (8 hour TWA), or  
140 dB peak sound pressure level or greater.

A combination of insert type and circumaural hearing protective devices (double protection) shall be worn in all areas where noise levels exceed 104 dBA (8 hour TWA) sound level.

Additionally, all personnel exposed to gunfire in a training situation or to artillery, mortar, or missile firing, under any circumstances, shall wear hearing protective devices

**Foot protection** - All Marine Corps personnel occupationally exposed to foot-hazardous operations or areas shall be furnished appropriate safety footwear at organizational expense. Foot-hazardous operations are those, which have a high incidence of, or a potential for, foot or toe injuries. Some of these operations or areas include; construction material handling, maintenance, transportation, weapons, supply, warehousing, vehicle maintenance facilities, aircraft maintenance, fuels, and avionics

**Eye protection** - Marine Corps personnel working in eye-hazardous areas or operations identified in PPE survey shall be provided adequate eye protection at government expense. All persons entering an eye-hazardous area or a hazard radius of an eye-hazardous operation, including other workers, supervisors, or visitors, shall also be required to wear eye protection

105.6 Define the following terms: [ref. c, pp. B3-1, B3-2]

**Hazardous material** - Any material that, because of its quantity, concentration, or physical or chemical characteristics, may pose a substantial hazard to human health or the environment when incorrectly used, purposefully released, or accidentally spilled.

**Hazardous waste** - Any discarded material (liquid, solid, Or gas) which meets the definition of HM and/or is designated as a hazardous waste by the Environmental

Protection Agency or a State authority

105.7 Explain the purpose and information contained on the Material Safety Data Sheet (MSDS). [ref. c, pp. B3-6, B3-7]

**MSDS** - technical bulletins containing information about materials, such as composition, chemical, and physical characteristics, health and safety hazards, and precautions for safe handling and use. MSDS's shall be maintained for every item of HAZMAT aboard. They shall be readily accessible to supervisors and personnel who actually use or handle HAZMAT. Supervisors are required to provide instruction in MSDS understanding and use. All personnel using HAZMAT shall be trained on the dangers and precautions contained within the MSDS before they actually use those materials

## 106 GENERAL COMBAT LEADERSHIP FUNDAMENTALS

### References:

- [a] Marine Corps Common Skills Handbook, Book 1A (PCN 50600000900)  
[b] USMC, Marine Corps University Sergeant's Course (SCRS0810)
- 

106.1 Identify and explain the nine common elements found in a combat environment.  
[ref. a, p. 1-8-3]

(1) Violent, unnerving sights and sounds

### (2) Casualties

(3) Confusion and lack of information

(5) Communications breakdown

(6) Individual discomfort and physical fatigue

(7) Fear, stress, and mental fatigue

(8) Continuous operations

(9) Homesickness

106.2 Explain the characteristics that enable Marines and Sailors to overcome fear.  
[ref. a, p. 1-8-7]

**Morale** - is the individual's state of mind. It depends on individual attitude toward everything that affects him/her, fellow Marines, leaders, Marine life in general, and other things important to the individual.

**Discipline** - is the individual or group attitude that ensures prompt obedience to orders and initiation of appropriate action in the absence of orders.

**Esprit de corps** - is the loyalty to, pride in, and enthusiasm for the unit shown by its members. It implies devotion and loyalty to the unit and deep regard for the unit's history, traditions, and honor.

**Proficiency** - is the technical, tactical, and physical ability to perform the job or mission.

**Motivation** - is based on psychological factors such as needs, desires, and impulses that cause a person to act. For a Marine, commitment and pride in the unit and Corps is generally the basis for combat motivation

106.3 Discuss and explain the six troop leading steps.(BAMCIS)  
[ref. b, pp. 0810H-2 thru 0810H-5]

**The acronym BAMCIS** is utilized to memorize the troop leading step.

Begin planning.

Arrange for reconnaissance.

Make reconnaissance.

Complete the plan.

Issue the order.

Supervise.

106.4 Explain and interpret the six articles of the Code of Conduct.  
[ref. a, pp. 1-10-1, 1-10-2]

**ARTICLE I.** "I am an American, fighting in the armed forces which guard my country and our way of life. I am prepared to give my life in their defense."

**INTERPRETATION:** I am a Marine. I will fight and, if necessary, die for my country and our way of life.

**ARTICLE II.** "I will never surrender of my own free will. If in command, I will never surrender the members of my command while they still have the means to resist

**INTERPRETATION:** I will never surrender as long as I can fight, nor will I surrender the Marines in my charge if they can fight. If they should lose the means to fight, they will take all possible steps to evade capture.

**ARTICLE III.** "If I am captured, I will continue to resist by all means available. I will make every effort to escape and aid others to escape. I will accept neither parole nor special favors from the enemy."

**INTERPRETATION:** If I am captured, I will not take any favors or special treatment from the enemy, and I will resist and escape, if possible. If I can help Marines and others to escape, I will do so.

**ARTICLE IV.** "If I become a prisoner of war, I will keep faith with my fellow prisoners. I will give no information nor take part in any action which might be harmful to my comrades. If I am senior, I will take command. If not, I will obey the lawful orders of those appointed over me and will back them in every way."

**INTERPRETATION:** If I am a prisoner, I will help my fellow prisoners and not sell them out for favors from the enemy. If senior, I will take charge; if not, I will follow the orders of the senior prisoner, regardless of the branch of service (U. S. or allied nation).

**ARTICLE V.** "When questioned, should I become a prisoner of war, I am required to give name, rank, service number, and date of birth. I will evade answering further questions to the utmost of my ability. I will make no oral or written statements disloyal to my country and its allies, or harmful to their cause."

**INTERPRETATION:** If taken prisoner, I will give my service number (social security number), name, rank, and date of birth, as required. I may fill out a Geneva Convention Capture Card, but I am not required to. I may also write letters home

and talk with the enemy about matters of health and welfare. I will say or sign nothing that may hurt my fellow prisoners, my country, or its allies.

**ARTICLE VI.** "I will never forget that I am an American, fighting for freedom, responsible for my actions, and dedicated to the principles which made my country free. I will trust in my God and in the United States of America."

**INTERPRETATION:** I am a Marine fighting to keep my country free. I will be responsible for my conduct, and I will trust in my God and my country

106.5 Discuss the rights of a prisoner of war. [ref. a, pp. 1-10-3 thru 1-10-6]

**The right to receive sanitary, protective housing and clothing.**

- Prisoners of war shall be quartered under conditions as favorable as those for the forces of the Detaining Power who are billeted in the same area. The said conditions shall make allowance for the habits and customs of the prisoners and shall in no case be prejudicial to their health. In any camp in which women and men POWs are accommodated, separate dormitories shall be provided for them.

-Clothing, underwear, and footwear shall be supplied to POWs in sufficient quantities by the Detaining Power, which shall make allowance for the climate of the region where the prisoners are detained. Uniforms of enemy Armed Forces captured by the Detaining Power should, if suitable for the climate, be made available to clothe POWs.

**The right to receive a sufficient amount of food to sustain good health.**

-The basic daily food rations shall be sufficient in quantity, quality, and variety to keep POWs in good health and prevent loss of weight or the development of nutritional deficiencies. Account shall also be taken of the habitual diet of the prisoners.

-Sufficient drinking water shall be supplied to POWs. The use of tobacco shall be permitted. Adequate premises shall be provided for messing. Collective disciplinary measures affecting food are prohibited

**The right to receive adequate medical care.**

- Every camp shall have an adequate infirmary where POWs may have the attention they require as well as appropriate diet. Isolation wards shall, if necessary, be set aside for cases of contagious or mental disease.

- Prisoners of war shall have the attention, preferably, of medical personnel of the power on which they depend and, if possible, of their nationality. Prisoners of war may not be prevented from presenting themselves to the medical authorities for examination. The costs of treatment, including those of any apparatus necessary for the maintenance of POWs in good health, particularly dentures and other artificial appliances and spectacles shall be borne by the Detaining Power.

- Medical inspections of POWs shall be held at least once a month. They shall include the checking and the recording of the weight of each POW. Their purpose shall be, in particular, to supervise the general state of health, nutrition, and cleanliness of prisoners and detect contagious diseases, especially tuberculosis, malaria, and venereal disease.

**The right to receive necessary facilities for proper hygiene.**

- Prisoners of war may be interned only in premises located on land and affording every guarantee of hygiene and healthfulness. Prisoners of war interned in unhealthy areas, or where the climate is injurious for them, shall be removed as soon as possible to a more favorable climate.

**The right to practice religious faith.**

- Prisoners of war shall enjoy complete latitude in the exercise of their religious duties, including attendance at the service of their faith on condition that they comply with the disciplinary routine prescribed by the military authorities. Adequate premises shall be provided where religious services may be held

*The right to keep personal property except weapons, military equipment, and military documents.*

- All effects and articles of personal use except arms, horses, military equipment, and military documents shall remain in the possession of POWs, likewise their metal helmets and gas masks and like articles issued for personal protection. Effects and articles used for their clothing or feeding shall likewise remain in their possession, even if such effects and articles belong to their regulation military equipment. At no time should POWs be without identity documents. The Detaining Power shall supply such documents to POWs who possess none.

- Badges of rank and nationality, decorations, and articles having above all a personal or sentimental value may not be taken from POWs. Sums of money carried by POWs may not be taken away from them except by order of an officer, after the amount and particulars of the owner have been recorded in a special register, and an itemized receipt has been given legibly inscribed with the name, rank, and unit of the person issuing the said receipt. Sums in the currency of the Detaining Power of which are changed into such currency at the prisoner's request shall be placed to the prisoner's credit.

**The right to send and receive mail.**

-Prisoners of war shall be allowed to send and receive letters and cards. If the Detaining Power deems it necessary to limit the number of letters and cards sent by each POW, the said number shall not be less than two letters and four cards monthly. Such letters and cards must be conveyed by the most rapid method at the disposal of the Detaining Power; they may not be delayed or retained for disciplinary reasons.

-Prisoners of war who have been without news for a long period, are unable to receive news from their next of kin, or given news by the ordinary postal route, as well as those who are at a great distance from their homes shall be permitted to send telegrams, the fees being charged against the POW's accounts with the Detaining Power or paid in the currency at their disposal. As a general rule, the correspondence of POW shall be written in their native language. The parties to the conflict may allow correspondence in other languages. Sacks containing POW mail must be securely sealed and labeled so as clearly to indicate their contents, and must be addressed to offices of destination.

**The right to receive packages containing non-contraband items such as food, clothing, educational, religious, and recreational materials.**

- Prisoners of war shall be allowed to receive, by post or by any other means, individual parcels or collective shipments containing in particular foodstuffs, clothing, medical supplies, and articles of a religious, educational, or recreational character which may meet their needs; including books, devotional articles, scientific equipment, examination papers, musical instruments, sports outfits, and materials allowing POWs to pursue their studies or their cultural activities.

**The right to select a fellow POW to represent you.**

- In all places where there are POWs, except in those where there are officers, the prisoners shall freely elect by secret ballot every 6 months, and also in case of vacancies, prisoners' representatives entrusted with representing them before the military authorities, the Protecting Powers, the International Committee of the Red Cross, and any other organization which may assist them.
- In camps for officers and persons of equivalent status or in mixed camps, the senior officer among the POWs shall be recognized as the camp prisoners' representative.
- Officer POWs of the same nationality shall be stationed in labor camps for POWs to carry out the camp administration duties for which the POWs are responsible.
- Every representative elected must be approved by the Detaining Power before he or she has the right to commence his or her duties.
- In all cases, the prisoners' representative must have the same nationality, language, and customs as the POWs whom he or she represents.

**The right to receive humane treatment.**

- Prisoners of war must at all times be humanely treated. Any unlawful act or omission by the Detaining Power causing death or seriously endangering the health of a POW in its custody is prohibited and will be regarded as a serious breach of the present convention. In particular, no POW may be subjected to physical mutilation or to medical or scientific experiments of any kind, which are not justified by the medical, dental, or hospital treatment of the prisoner concerned and carried out in his or her interest.

**The right to have a copy of the Geneva Convention and its annexes, including any special agreements, posted where it can be read. The Geneva Convention and its annexes, etc., must be written in the proper language and available upon request.**

- Every POW camp shall be put under the immediate authority of a responsible commissioned officer belonging to the regular Armed Forces of the Detaining Power. Such officer shall have in his or her possession a copy of the present convention. He or she shall ensure that its provisions are known to the camp staff and the guard and shall be responsible, for its application.

**The right to have a copy of all camp regulations, notices, orders, and publications about POW conduct posted where it can be read. Regulations, notices, etc., must be in the proper language for POWs to understand and available upon request.**

106.6 Discuss the obligations of a prisoner of war. [ref. a, p. 1-10-7]

**Information Marines are required to give their captors.**

- Name
- Rank
- Service number (social security number)
- Date of birth

**Obey lawful rules and regulations.**

**Explain responsibility to perform paid labor.**

- Labor that is not military
- Not degrading
- Not dangerous
- Not unhealthy

**Explain military discipline, courtesy, and rendering of honors responsibilities.**

- Maintain military discipline in accordance with the rules and regulations governing the armed forces.
- Maintain courtesy and honors to all officers regardless of the branch of the service (U.S. or allied nation).

## 107 FIRST AID AND FIELD SANITATION FUNDAMENTALS

### References:

- [a] NAVEDTRA 14295, Hospital Corpsman  
[b] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
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#### 107.1 Discuss the nine general first aid rules. [ref. a, p. 4-1]

-Take a moment to get organized. On your way to an accident scene, use a few the basic rules of first aid. Remain calm as you take charge of the situation, and act quickly but efficiently. Decide as soon as possible what has to be done and which one of the patient's injuries needs attention first.

-Unless contraindicated, make your preliminary examination in the position and place you find the victim. Moving the victim before this check could gravely endanger life, especially if the neck, back, or ribs are broken. Of course, if the situation is such that you or the victim is in danger, you must weigh this threat against the potential damage caused by premature transportation. If you decide to move the victim, do it quickly and gently to a safe location where proper first aid can be administered.

- In a multi-victim situation, limit your preliminary survey to observing for airway patency, breathing, and circulation, the ABCs of basic life support. Remember, irreversible brain damage can occur within 4 to 6 minutes if breathing has stopped. Bleeding from a severed artery can lethally drain the body in even less time. If both are present and you are alone, quickly handle the major hemorrhage first, and then work to get oxygen back into the system.

- Examine the victim for fractures, especially in the skull, neck, spine, and rib areas. If any are present, prematurely moving the patient can easily lead to increased lung damage, permanent injury, or death. Fractures of the hip bone or extremities, though not as immediately life-threatening, may pierce vital tissue or blood vessels if mishandled.

- Remove enough clothing to get a clear idea of the extent of the injury. Respect the victim's modesty as you proceed, and do not allow the victim to become chilled.

- Keep the victim reassured and comfortable. If possible, do not allow the victim to see the wounds. The victim can endure pain and discomfort better if confident in your abilities.

- Avoid touching open wounds or burns with your fingers or unsterile objects, unless clean compresses and bandages are not available and it is imperative to stop severe bleeding.

- Unless contraindicated, position the unconscious or semiconscious victim on his side or back, with the head turned to the side to minimize choking or the aspirating of vomitus. Never give an unconscious person any substance by mouth.

- Always carry a litter patient feet first so that the rear bearer can constantly observe the victim for respiratory or circulatory distress

107.2 Discuss the protocols for tactical and nontactical triage. [ref. a, p. 4-2]

**Triage**, a French word meaning “to sort” is the process of quickly assessing patients in a multiple-casualty incident and assigning patient a priority (or classification) for receiving treatment according to the severity of his illness or injuries. Triage is a dynamic process, and a patient’s priority is subject to change as the situation progresses.

### **TACTICAL**

**Class I** Patients whose injuries require minor professional treatment that can be done on an outpatient or ambulatory basis. These personnel can be returned to duty in a short period of time.

**Class II** Patients whose injuries require immediate life-sustaining measures or are of a moderate nature. Initially, they require a minimum amount of time, personnel, and supplies.

**Class III** Patients for whom definitive treatment can be delayed without jeopardy to life or loss of limb.

**Class IV** Patients whose wounds or injuries would require extensive treatment beyond the immediate medical capabilities. Treatment of these casualties would be to the detriment of others

### **NONTACTICAL**

**Priority I** Patients with correctable life-threatening illnesses or injuries such as respiratory arrest or obstruction, open chest or abdomen wounds, femur fractures, or critical or complicated burns.

**Priority II** Patients with serious but non-life-threatening illnesses or injuries such as moderate blood loss, open or multiple fractures (open increases priority), or eye injuries.

**Priority III** Patients with minor injuries such as soft tissue injuries, simple fractures, or minor to moderate burns.

**Priority IV** Patients who are dead or fatally injured. Fatal injuries include exposed brain matter, decapitation, and incineration.

As mentioned before, triage is an ongoing process. Depending on the treatment rendered, the amount of time elapsed, and the constitution of the casualty, you may have to reassign priorities. What may appear to be a minor wound on initial evaluation could develop into a case of profound shock. Or a casualty who required initial immediate treatment may be stabilized and downgraded to a delayed status

107.3 Explain the steps in performing a primary survey. [ref. a, p. 4-4]

Field assessments are normally performed in a systematic manner. The formal processes are known as the **primary survey** and the **secondary survey**. The primary survey is a rapid initial assessment to detect and treat life-threatening conditions that require immediate care, followed by a status decision about the patient's stability and priority for immediate transport to a medical facility.

**A = Airway.** An obstructed airway may quickly lead to respiratory arrest and death. Assess responsiveness and, if necessary, open the airway.

**B = Breathing.** Respiratory arrest will quickly lead to cardiac arrest. Assess breathing, and, if necessary, provide rescue breathing. Look for and treat conditions that may compromise breathing, such as penetrating trauma to the chest.

**C = Circulation.** If the patient's heart has stopped, blood and oxygen are not being sent to the brain. Irreversible changes will begin to occur in the brain in 4 to 6 minutes; cell death will usually occur within 10 minutes. Assess circulation, and, if necessary, provide cardiopulmonary resuscitation (CPR). Also check for profuse bleeding that can be controlled. Assess and begin treatment for severe shock or the potential for severe shock.

**D = Disability.** Serious central nervous system injuries can lead to death. Assess the patient's level of consciousness and, if you suspect a head or neck injury, apply a rigid neck collar. Observe the neck before you cover it up. Also do a quick assessment of the patient's ability to move all extremities.

**E = Expose.** You cannot treat conditions you have not discovered. Remove clothing—especially if the patient is not alert or communicating with you—to see if you missed any life-threatening injuries. Protect the patient's privacy, and keep the patient warm with a blanket if necessary.

**As soon as the ABCDE process is completed,** you will need to make what is referred to as a status decision of the patient's condition. A status decision is a judgment about the severity of the patient's condition and whether the patient requires immediate transport to a medical facility without a secondary survey at the scene. Ideally, the ABCDE steps, status, and transport decision should be completed within 10 minutes of your arrival on the scene.

107.4 Identify the signs, symptoms, and general treatment procedures for shock. [ref. a, pp. 4-22 thru 4-25]

**The essence of shock control and prevention** is to recognize the onset of the condition and to start treatment before the symptoms fully develop. The following are general signs and symptoms of the development of shock:

- Restlessness and apprehension are early symptoms, often followed by apathy.
- Eyes may be glassy and dull. Pupils may be dilated.

- Breathing may be rapid or labored, often of the gasping, for air hunger, type. In the advanced stages of shock, breathing becomes shallow and irregular.
- The face and skin may be very pale or ashen gray; in the dark complexioned, the mucous membranes may be pale. The lips are often cyanotic.

- The skin feels cool and is covered with clammy sweat. The skin's coolness is related to a decrease in the peripheral circulation.
- The pulse tends to become rapid, weak, and thready. If the blood pressure is severely lowered, the peripheral pulse may be absent.
- The blood pressure is usually lowered in moderately severe shock; the systolic pressure drops below 100, while the pulse rises above 100. The body is compensating for circulatory fluid loss by peripheral vasoconstriction. This process tends to maintain the blood pressure at a nearly normal level despite a moderately severe loss of circulating blood volume.
- There may be nausea, vomiting, and dryness of the mouth, lips, and tongue.
- Surface veins may collapse.
- There are frequent complaints of thirst.
- The kidneys may shut down. Urine formation either ceases or greatly diminishes if the systolic blood pressure falls below 80 for long periods of time.
- The person may faint from inadequate venous blood return to the heart. This may be the result of a temporary gravitational pooling of the blood associated with standing up too quickly.

107.5 Discuss how to control hemorrhage by use of the following:  
[ref. a, pp. 4-31 thru 4-34]

**Pressure dressing** - The best way to control external bleeding is by applying a compress to the wound and exerting pressure directly to the wound. At times, elevation of an extremity is also helpful in controlling hemorrhage. The use of splints in conjunction with direct pressure can be beneficial. If bleeding does not stop after a short period, try placing another compress or dressing over the first and securing it firmly in place. If bleeding still will not stop, try applying direct pressure with your hand over the compress or dressing. Remember that in cases of severe hemorrhage, it is less important to worry too much about finding appropriate materials or about the dangers of infection. In most situations direct pressure is the first and best method to use in the control of hemorrhage.

**Pressure points** - Bleeding can often be temporarily controlled by applying hand pressure to the appropriate pressure point. A pressure point is the spot where the main artery to an injured part lies near the skin surface and over a bone. Apply pressure at this point with the fingers (digital pressure) or with the heel of the hand. No first aid materials are required. The object of the pressure is to compress the artery against the bone, thus shutting off the flow of blood from the heart to the wound. There are 11 principal points on each side of the body where hand or finger pressure can be used to stop hemorrhage. It is very tiring to apply digital pressure, and it can seldom be maintained for more than 15 minutes. Pressure points are recommended for use while direct pressure is being applied to a serious wound by a second rescuer. Using the pressure-point technique is also advised after a compress, bandage, or dressing has been applied to the wound, since this method will slow the flow of blood to the area, thus giving the direct pressure technique a better chance to stop the hemorrhage. See Appendix C-1 for a chart of pressure points.

**Tourniquets** - A tourniquet is a constricting band that is used to cut off the supply of blood to an injured limb. Use a tourniquet only as a last resort and if the control of hemorrhage by other means proves to be difficult or impossible. A tourniquet must

always be applied above the wound (i.e., toward the trunk), and it must be applied as close to the wound as practical. Basically, a tourniquet consists of a pad, a band, and a device for tightening the band so that the blood vessels will be compressed. Any long flat material may be used as the band. It is important that the band be flat: belts, stockings, flat strips of rubber, or neckerchiefs may be used; however, rope, wire, string, or very narrow pieces of cloth should not be used because they can cut into the flesh. A short stick may be used to twist the band, tightening the tourniquet. To be effective, a tourniquet must be tight enough to stop the arterial blood flow to the limb. Be sure, therefore, to draw the tourniquet tight enough to stop the bleeding. Do not make it any tighter than necessary, though, since a tourniquet that is too tight can lead to loss of the limb the tourniquet is applied to.

107.6 Discuss how to identify and treat the following wounds: [ref. a, pp. 4-37 thru 4-39]

**Head wounds** - Head wounds must be treated with particular care, since there is always the possibility of brain damage. The general treatment for head wounds is the same as that for other fresh wounds. However, certain special precautions must be observed if you are giving first aid to a person who has suffered a head wound. -

- NEVER GIVE ANY MEDICATIONS.

- Keep the victim lying flat, with the head at the level of the body.

- If the wound is at the back of the head, turn the victim on his side.

- Watch closely for vomiting and position the head to avoid aspiration of vomitus or saliva into the lungs.

- Do not use direct pressure to control hemorrhage if the skull is depressed or obviously fractured.

**Facial wounds** - Wounds of the face are treated, in general, like other fresh wounds. However, in all facial injuries make sure neither the tongue nor injured soft tissue blocks the airway, causing breathing obstruction. Keep the nose and throat clear of any obstructing materials, and position the victim so that blood will drain out of the mouth and nose. Facial wounds that involve the eyelids or the soft tissue around the eye must be handled carefully to avoid further damage. If the injury does not involve the eyeball, apply a sterile compress and hold it in place with a firm bandage. If the eyeball appears to be injured, use a loose bandage. (Remember that you must NEVER attempt to remove any object that is embedded in the eyeball or that has penetrated it; just apply a dry, sterile compress to cover both eyes, and hold the compress in place with a loose bandage). Any person who has suffered a facial wound that involves the eye, the eyelids, or the tissues around the eye must receive medical attention as soon as possible.

**Chest wounds** - Since chest injuries may cause severe breathing and bleeding problems, all chest injuries must be considered as serious conditions. Any victim showing signs of difficulty in breathing without signs of airway obstruction must be inspected for chest injuries. The most serious chest injury that requires immediate first aid treatment is the sucking chest wound. This is a penetrating injury to the chest that produces a hole in the chest cavity. The chest hole causes the lung to collapse, preventing normal breathing functions. Victims with open chest wounds gasp for breath, have difficulty breathing out, and may have a bluish skin color to their face. Frothy-looking blood may bubble from the wound during breathing. The proper treatment for a sucking chest wound is as follows:

- Immediately seal the wound with a hand or any airtight material available (e.g., ID card). The material must be large enough so that it cannot be sucked into the wound when the victim breathes in.

- Firmly tape the material in place with strips of adhesive tape and secure it with a pressure dressing. It is important that the dressing is airtight. If it is not, it will not relieve the victim's breathing problems. The object of the dressing is to keep air from going in through the wound.

NOTE: If the victim's condition suddenly deteriorates when you apply the seal, remove it immediately.

- Give the victim oxygen if it is available and you know how to use it.

- Place the victim in a Fowler's or semi-Fowler's position. This makes breathing a little easier. During combat, lay the victim on a stretcher on the affected side.

- Watch the victim closely for signs of shock, and treat accordingly.

- Do not give victims with chest injuries anything to drink.

- Transport the victim to a medical treatment facility immediately.

**Abdominal wound** - A deep wound in the abdomen is likely to constitute a major emergency since there are many vital organs in this area. Abdominal wounds usually cause intense pain, nausea and vomiting, spasm of the abdominal muscles, and severe shock. Immediate surgical treatment is almost always required; therefore, the victim must receive medical attention at once, or the chances of survival will be poor. The following first aid procedures may be of help to a person suffering from an abdominal wound: Keep the victim in a supine position. If the intestine is protruding or exposed, the victim may be more comfortable with the knees drawn up. Place a coat, pillow, or some other bulky cloth material under the knees to help maintain this position. **DO NOT ATTEMPT TO PUSH THE INTESTINES BACK IN OR TO MANIPULATE THEM IN ANY WAY!** If bleeding is severe, try to stop it by applying direct pressure. If the intestines are not exposed, cover the wound with a dry sterile dressing. If the intestines are exposed, apply a sterile compress moistened with sterile water. If no sterile water is available, clean sea water or any water that is fit to drink may be used to moisten the compress. The compress should be held in place by a bandage. Fasten the bandage firmly so that the compress will not slip around, but do not apply any more pressure than is necessary to hold the compress in position. Large battle dressings are ideal. Treat for shock, but do not waste any time doing it. The victim must be transported to a hospital at the earliest possible opportunity. **DO NOT GIVE ANYTHING TO DRINK.** If the victim is thirsty, moisten the mouth with a small amount of water, but do not allow any liquid to be swallowed.

107.7 Discuss the difference between open and closed fractures. [ref. a, p. 4-46]

A break in a bone is called a fracture. There are two main kinds of fractures. A **closed fracture** is one in which the injury is entirely internal; the bone is broken but there is no break in the skin. An **open fracture** is one in which there is an open wound in the tissues and the skin. Sometimes the open wound is made when a sharp end of the broken bone pushes out through the flesh; sometimes it is made by an object such as a bullet that penetrates from the outside.

107.8

Discuss the general guidelines for the identification and treatment of the following fractures: [ref. a, pp. 4-46 thru 4-50]

**Forearm fracture** - There are two long bones in the forearm, the radius and the ulna. When both are broken, the arm usually appears to be deformed. When only one is broken, the other acts as a splint and the arm retains a more or less natural appearance. Any fracture of the forearm is likely to result in pain, tenderness, inability to use the forearm, and a kind of wobbly motion at the point of injury. If the fracture is open, a bone will show through. If the fracture is open, stop the bleeding and treat the wound. Apply a sterile dressing over the wound. Carefully straighten the forearm. (Remember that rough handling of a closed fracture may turn it into an open fracture.) Apply a pneumatic splint if available; if not, apply two well-padded splints to the forearm, one on the top and one on the bottom. Be sure that the splints are long enough to extend from the elbow to the wrist. Use bandages to hold the splints in place. Put the forearm across the chest. The palm of the hand should be turned in, with the thumb pointing upward. Support the forearm in this position by means of a wide sling and a cravat bandage. The hand should be raised about 4 inches above the level of the elbow. Treat the victim for shock and evacuate as soon as possible. See Appendix C-2 for proper way to splint a forearm fracture.

**Upper arm fracture** - The signs of fracture of the upper arm include pain, tenderness, swelling, and a wobbly motion at the point of fracture. If the fracture is near the elbow, the arm is likely to be straight with no bend at the elbow. If the fracture is open, stop the bleeding and treat the wound before attempting to treat the fracture. **NOTE:** Treatment of the fracture depends partly upon the location of the break. If the fracture is in the upper part of the arm near the shoulder, place a pad or folded towel in the armpit, bandage the arm securely to the body, and support the forearm in a narrow sling. If the fracture is in the middle of the upper arm, you can use one well-padded splint on the outside of the arm. The splint should extend from the shoulder to the elbow. Fasten the splinted arm firmly to the body and support the forearm in a narrow sling, which you find it. This will prevent further nerve and blood vessel damage. The only exception to this is if there is no pulse distal to the fracture, in which case gentle traction is applied and then the arm is splinted. Treat the victim for shock and get him under the care of a medical officer as soon as possible. Another way of treating a fracture in the middle of the upper arm is to fasten two wide splints (or four narrow ones) about the arm and then support the forearm in a narrow sling. If you use a splint between the arm and the body, be very careful that it does not extend too far up into the armpit; a splint in this position can cause a dangerous compression of the blood vessels and nerves and may be extremely painful to the victim. If the fracture is at or near the elbow, the arm may be either bent or straight. No matter in what position you find the arm, **DO NOT ATTEMPT TO STRAIGHTEN IT OR MOVE IT IN ANY WAY.** Splint the arm as carefully as possible in the position in which you find it. This will prevent further nerve and blood vessel damage. The only exception to this is if there is no pulse distal to the fracture, in which case gentle traction is applied and then the arm is splinted. Treat the victim for shock and get him under the care of a medical officer as soon as possible. See Appendix C-2 for the proper splinting of an upper arm fracture.

**Thigh fracture** - The femur is the long bone of the upper part of the leg between the kneecap and the pelvis. When the femur is fractured through, any attempt to move the limb results in a spasm of the muscles and causes excruciating pain. The leg has a wobbly motion, and there is complete loss of control below the fracture. The limb usually assumes an unnatural position, with the toes pointing outward. By actual measurement, the fractured leg is shorter than the uninjured one because of contraction of the powerful thigh muscles. Serious damage to blood vessels and nerves often results from a fracture of the femur, and shock is likely to be severe. If the fracture is open, stop the bleeding and treat the wound before attempting to treat the fracture itself. Serious bleeding is a special danger in this type of injury, since the broken bone may tear or cut the large artery in the thigh. Carefully straighten the leg. Apply two splints, one on the outside of the injured leg and one on the inside. The outside splint should reach from the armpit to the foot. The inside splint should reach from the crotch to the foot. The splints should be fastened in five places: (1) around the ankle; (2) over the knee; (3) just below the hip; (4) around the pelvis; and (5) just below the armpit. The legs can then be tied together to support the injured leg as firmly as possible. It is essential that a fractured thigh be splinted before the victim is moved. Manufactured splints, such as the Hare or the Thomas half-ring traction splints, are best, but improvised splints may be used. Remember **DO NOT MOVE THE VICTIM UNTIL THE INJURED LEG HAS BEEN IMMOBILIZED**. Treat the victim for shock, and evacuate at the earliest possible opportunity. See Appendix C-3 for the proper way to splint a fractured femur.

**Lower leg fracture** - When both bones of the lower leg are broken, the usual signs of fracture are likely to be present. When only one bone is broken, the other one acts as a splint and, to some extent, prevents deformity of the leg. However, tenderness, swelling, and pain at the point of fracture are almost always present. A fracture just above the ankle is often mistaken for a sprain. If both bones of the lower leg are broken, an open fracture is very likely to result. If the fracture is open, stop the bleeding and treat the wound. Carefully straighten the injured leg. Apply a pneumatic splint if available; if not, apply **three** splints, one on each side of the leg and one underneath. Be sure that the splints are well padded, particularly under the knee and at the bones on each side of the ankle. A pillow and two side splints work very well for treatment of a fractured lower leg. Place the pillow beside the injured leg, then carefully lift the leg and place it in the middle of the pillow. Bring the edges of the pillow around to the front of the leg and pin them together. Then place one splint on each side of the leg (over the pillow), and fasten them in place with strips of bandage or adhesive tape. Treat the victim for shock and evacuate as soon as possible. When available, you may use the Hare or Thomas half-ring traction splints.

**Clavicle fracture** - A person with a fractured clavicle usually shows definite symptoms. When the victim stands, the injured shoulder is lower than the uninjured one. The victim is usually unable to raise the arm above the level of the shoulder and may attempt to support the injured shoulder by holding the elbow of that side in the other hand. Since the clavicle lies immediately under the skin, you may be able

to detect the point of fracture by the deformity and localized pain and tenderness. If the fracture is open, stop the flow of blood and treat the wound before attempting to treat the fracture. Then apply a sling and swathe splint. Bend the victim's arm on the injured side, and place the forearm across the chest. The palm of the hand should be turned in, with the thumb pointed up. The hand should be raised about 4

inches above the level of the elbow. Support the forearm in this position by means of a wide sling. A wide roller bandage (or any wide strip of cloth) may be used to secure the victim's arm to the chest. A figure-eight bandage may also be used for a fractured clavicle. Treat the victim for shock and evacuate to a definitive care facility as soon as possible. See Appendix C-3 for the proper way to splint a fractured clavicle.

**Rib fracture** - If a rib is broken, make the victim comfortable and quiet so that the greatest danger -- the possibility of further damage to the lungs, heart, or chest wall by the broken ends -- is minimized. The common finding in all victims with fractured ribs is pain localized at the site of the fracture. By asking the patient to point out the exact area of the pain, you can often determine the location of the injury. There may or may not be a rib deformity, chest wall contusion, or laceration of the area. Deep breathing, coughing, or movement is usually painful. The patient generally wishes to remain still and may often lean toward the injured side, with a hand over the fractured area to immobilize the chest and to ease the pain. Ordinarily, rib fractures are **not** bound, strapped, or taped if the victim is reasonably comfortable. However, they may be splinted by the use of external support. If the patient is considerably more comfortable with the chest immobilized, the best method is to use a swathe in which the arm on the injured side is strapped to the chest to limit motion. Place the arm on the injured side against the chest, with the palm flat, thumb up, and the forearm raised to a 45° angle. Immobilize the chest, using wide strips of bandage to secure the arm to the chest. Do not use wide strips of adhesive plaster applied directly to the skin of the chest for immobilization since the adhesive tends to limit the ability of the chest to expand (interfering with proper breathing). Treat the victim for shock and evacuate as soon as possible. See Appendix C-4 for proper treatment of a rib fracture.

107.9 Identify the different degrees of thermal burns and discuss the treatment for each. [ref. a, pp. 4-57, 4-58]

**FIRST-DEGREE BURN.** With a first-degree burn, the epidermal layer is irritated, reddened, and tingling. The skin is sensitive to touch and blanches with pressure. Pain is mild to severe, edema is minimal, and healing usually occurs naturally within a week.

**SECOND-DEGREE BURN.** A second-degree burn is characterized by epidermal blisters, mottled appearance, and a red base. Damage extends into –but not through - the dermis. Recovery usually takes 2 to 3 weeks, with some scarring and depigmentation. This condition is painful. Body fluids may be drawn into the injured tissue, causing edema and possibly a “weeping” fluid (plasma) loss at the surface.

**THIRD-DEGREE BURN.** A third-degree burn is a full-thickness injury penetrating into muscle and fatty connective tissues, or even down to the bone. Tissues and nerves are destroyed. Shock, with blood in the urine, is likely to be present. Pain will be absent at the burn site if all the area nerve endings are destroyed, and the surrounding tissue (which is less damaged) will be painful. Tissue color will range from white (scalds) to black (charring burns). Although the wound is usually dry, body fluids will collect in the underlying tissue. If the area has not been completely cauterized, significant amounts of fluids will be lost by plasma “weeping” or by

hemorrhage, thus reducing circulation volume. There is considerable scarring and possible loss of function. Skin grafts may be necessary.

## First Aid

After the victim has been removed from the source of the thermal injury, first aid should be kept to a minimum.

- Maintain an open airway.
- Control hemorrhage, and treat for shock.
- Remove constricting jewelry and articles of clothing.
- Protect the burn area from contamination by covering it with clean sheets or dry dressings.

**DO NOT** remove clothing adhering to a wound.

- Splint fractures.
- For all serious and extensive burns (over 20 percent BSA), and in the presence of shock, start intravenous therapy with an electrolyte solution (Ringer's lactate) in an unburned area.
- Maintain intravenous treatment during transportation.
- Relieve mild pain with aspirin. Relieve moderate pain with cool, wet compresses or ice water immersion (for burns of less than 20 percent BSA). Severe pain may be relieved with morphine or demerol injections. Pain resulting from small burns may be relieved with an anesthetic ointment if the skin is not broken.

107.10 Explain how to prevent, identify symptoms of, and treat the following:  
[ref. a, pp 4-60 thru 4-65]

**Heat cramps** - Excessive sweating may result in painful cramps in the muscles of the abdomen, legs, and arms. Muscle cramps are often an early sign of approaching heat exhaustion. To provide first aid treatment for heat cramps, move the victim to a cool place. Since heat cramps are caused by loss of salt and water, give the victim plenty of cool (not cold) water to drink, adding about one teaspoon of salt to a liter or quart of water. Apply manual pressure to the cramped muscle, or gently massage it to relieve the spasm. If there are indications of anything more serious, transport the victim immediately to a medical treatment facility.

**Heat exhaustion** - Heat exhaustion (heat prostration or heat collapse) is the most common condition caused by working or exercising in hot environments. In heat exhaustion, there is a serious disturbance of blood flow to the brain, heart, and lungs. This causes the victim to experience weakness, dizziness, headache, nausea, and loss of appetite. The victim may faint but will probably regain consciousness as the head is lowered, which improves the blood supply to the brain. Signs and symptoms of heat exhaustion are similar to those of shock; the victim will appear ashen gray, the skin cool, moist, and clammy and the pupils may be dilated. The vital signs usually are normal; however, the victim may have a weak pulse, together with rapid and shallow breathing. Body temperature may be below normal. Treat heat exhaustion as if the victim were in shock. Move the victim to a cool or air-conditioned area. Loosen the clothing, apply cool wet cloths to the head, axilla, groin, and ankles, and fan the victim. Do not allow the victim to become chilled. (If this does occur, cover with a light blanket and move into a warmer area.)

If the victim is conscious, give a solution of 1 teaspoon of salt dissolved in a liter of cool water. If the victim vomits, do not give any more fluids by mouth. Transport the

victim to a medical treatment facility as soon as possible. Intravenous fluid infusion may be necessary for effective fluid and electrolyte replacement to combat shock.

**Heat stroke** - Sunstroke is more accurately called heat stroke since it is not necessary to be exposed to the sun for this condition to develop. It is a less common but far more serious condition than heat exhaustion, since it carries a 20 percent mortality rate. The most important feature of heat stroke is the extremely high body temperature (105°F, 41°C or higher) accompanying it. In heat stroke, the victim suffers a breakdown of the sweating mechanism and is unable to eliminate excessive body heat build up while exercising. If the body temperature rises too high, the brain, kidneys, and liver may be permanently damaged. Sometimes the victim may have preliminary symptoms such as headache, nausea, dizziness, or weakness. Breathing will be deep and rapid at first, later shallow and almost absent. Usually the victim will be flushed, very dry, and very hot. The pupils will be constricted (pinpoint) and the pulse fast and strong. When providing first aid for heat stroke, remember that this is a true life-and-death emergency. The longer the victim remains overheated, the more likely irreversible brain damage or death will occur. First aid is designed to reduce body heat fast. Reduce heat immediately by dousing the body with cold water or by applying wet, cold towels to the whole body. Move the victim to the coolest place available and remove as much clothing as possible. If cold packs are available, place them under the arms, around the neck, at the ankles, and in the groin. Expose the victim to a fan or air conditioner since drafts will promote cooling. Immersing the victim in a cold water bath is also very effective. If the victim is conscious, give cool water to drink. **Do not give any hot drinks or stimulants.** Discontinue cooling when the rectal temperature reaches 102°F; watch for recurrence of temperature rise by checking every 10 minutes. Repeat cooling if temperature reaches 103°F rectally. Get the victim to a medical facility as soon as possible.

**Hypothermia** - General cooling of the whole body is caused by continued exposure to low or rapidly falling temperatures, cold moisture, snow, or ice. Those exposed to low temperatures for extended periods may suffer ill effects, even if they are well protected by clothing, because cold affects the body systems slowly, almost without notice. As the body cools, there are several stages of progressive discomfort and disability. The first symptom is shivering, which is an attempt to generate heat by repeated contractions of surface muscles. A feeling of listlessness, indifference, and drowsiness follows this. Unconsciousness can follow quickly. Shock becomes evident as the victim's eyes assume a glassy stare, respiration becomes slow and shallow, and the pulse is weak or absent. As the body temperature drops even lower, peripheral circulation decreases and the extremities become susceptible to freezing. Finally, death results as the core temperature of the body approaches 80°F. The steps for treatment of hypothermia are as follows:

- Carefully observe respiratory effort and heart beat; CPR may be required while the warming process is underway.
- Rewarm the victim as soon as possible. It may be necessary to treat other injuries before the victim can be moved to a warmer place. Severe bleeding must be controlled and fractures splinted over clothing before the victim is moved.
- Replace wet or frozen clothing and remove anything that constricts the victim's arms, legs, or fingers, interfering with circulation.

- If the victim is inside a warm place and is conscious, the most effective method of warming is immersion in a tub of warm (100° to 105°F or 38° to 41°C) water. The

water should be warm to the elbow never hot. Observe closely for signs of respiratory failure and cardiac arrest (rewarming shock). Rewarming shock can be minimized by warming the body trunk before the limbs to prevent vasodilation in the extremities with subsequent shock due to blood volume shifts.

- If a tub is not available, apply external heat to both sides of the victim. Natural body heat (skin to skin) from two rescuers is the best method. This is called “buddy warming”. If this is not practical, use hot water bottles or an electric rewarming blanket. Do not place the blanket or bottles next to bare skin, however, and be careful to monitor the temperature of the artificial heat source, since the victim is very susceptible to burn injury. Because the victim is unable to generate adequate body heat, placement under a blanket or in a sleeping bag is not sufficient treatment.

- If the victim is conscious, give warm liquids to drink. Never give alcoholic beverages or allow the victim to smoke.

- Dry the victim thoroughly if water is used for rewarming.

- As soon as possible, transfer the victim to a definitive care facility. Be alert for the signs of respiratory and cardiac arrest during transfer, and keep the victim warm.

**Immersion foot** - Immersion foot, which also may occur in the hands, results from prolonged exposure to wet cold at temperatures ranging from just above freezing to 50°F (10°C). Immersion foot is usually seen in connection with limited motion of the extremities and water-soaked protective clothing. Signs and symptoms of immersion foot are tingling and numbness of the affected areas; swelling of the legs, feet, or hands; bluish discoloration of the skin; and painful blisters. Gangrene may occur.

General treatment for immersion foot is as follows:

- Get the victim off his feet as soon as possible.

- Remove wet shoes, socks, and gloves to improve circulation.

- Expose the affected area to warm, dry air.

- Keep the victim warm.

- **Do not** rupture blisters or apply salves and ointments.

- If the skin is not broken or loose, the injured part may be left exposed; however, if it is necessary to transport the victim, cover the injured area with loosely wrapped fluff bandages of sterile gauze.

- If the skin is broken, place a sterile sheet under the extremity and gently wrap it to protect the sensitive tissue from pressure and additional injury.

- Transport the victim as soon as possible to a medical treatment facility as a litter patient

**Frostbite** - Frostbite occurs when ice crystals form in the skin or deeper tissues after exposure to a temperature of 32°F (0°C) or lower. Depending upon the temperature, altitude, and wind speed, the exposure time necessary to produce frostbite varies from a few minutes to several hours. The areas most commonly affected are the face and extremities. The symptoms of frostbite are progressive. Victims generally incur this injury without being acutely aware of it. Initially, the affected skin reddens and there is an uncomfortable coldness. With continued heat loss, there is a numbness of the affected area due to reduced circulation. As ice crystals form, the frozen extremity appears white, yellow-white, or mottled blue-white, and is cold, hard, and insensitive to touch or pressure. Frostbite is classified as superficial or deep, depending on the extent of tissue involvement.

**Superficial Frostbite** - In superficial frostbite the surface of the skin will feel hard, but the underlying tissue will be soft, allowing it to move over bony ridges. This is evidence that only the skin and the region just below it are involved. General treatment for superficial frostbite is as follows:

- Take the victim indoors.
- Rewarm hands by placing them under the armpits, against the abdomen, or between the legs.
- Rewarm feet by placing them in the armpit or against the abdomen of a buddy.
- Gradually rewarm the affected area by warm water immersion, skin-to-skin contact, or hot water bottles.
- Never rub a frostbite area.

**Deep Frostbite.** In deep frostbite, the freezing reaches into the deep tissue layers. There are ice crystals in the entire thickness of the extremity. The skin will not move over bony ridges and will feel hard and solid. The objectives of treatment are to protect the frozen areas from further injury, to rapidly thaw the affected area, and to be prepared to respond to circulatory or respiratory difficulties.

- Carefully assess and treat any other injuries first. Constantly monitor the victim's pulse and breathing since respiratory and heart problems can develop rapidly. Be prepared to administer CPR if necessary.
- Do not attempt to thaw the frostbitten area if there is a possibility of refreezing. It is better to leave the part frozen until the victim arrives at a medical treatment facility equipped for long-term care. Refreezing of a thawed extremity causes severe and disabling damage.
- Treat all victims with injuries to the feet or legs as litter patients. When this is not possible, the victim may walk on the frozen limb, since it has been proven that walking will not lessen the chances of successful treatment as long as the limb has not thawed out.
- When adequate protection from further cold exposure is available, prepare the

victim for rewarming by removing all constricting clothing such as gloves, boots, and socks. Boots and clothing frozen on the body should be thawed by warm-water immersion before removal.

- Rapidly rewarm frozen areas by immersion in water at 100°F to 105°F (38°C to 41°C). Keep the water warm by adding fresh hot water, but do not pour the water directly on the injured area. Ensure that the frozen area is completely surrounded by water; do not let it rest on the side or bottom of the tub.

- After rewarming has been completed, pat the area dry with a soft towel. Later it will swell, sting, and burn. Blisters may develop. These should be protected from breaking. Avoid pressure, rubbing, or constriction of the injured area. Keep the skin dry with sterile dressings and place cotton between the toes and fingers to prevent their sticking together.

- Protect the tissue from additional injury and keep it as clean as possible (use sterile dressings and linen).

- Try to improve the general morale and comfort of the victim by giving hot, stimulating fluids such as tea or coffee. Do not allow the victim to smoke or use alcoholic beverages while being treated.

- Transfer to a medical treatment facility as soon as possible. During transportation, slightly elevate the frostbitten area and keep the victim and the injured area warm. Do not allow the injured area to be exposed to the cold.

107.11 Discuss how to purify water under field conditions. [ref. b, pp. 1-17-27 thru 1-17-29]

Draw water upstream from other activities

## Use Iodine tablets

- Remove the cap from your canteen and fill the canteen with the cleanest water available.

- Put one tablet in clean water.

- Put two tablets in the canteen of cloudy water.

**NOTE:** Double the amount if you have a 2-quart canteen.

- Replace the cap and wait 5 minutes.

- Shake the canteen.

- Loosen the cap and tip the canteen over to allow leakage around the canteen threads.

- Tighten the cap and wait another 25 minutes before drinking or a total of 30 minutes.

### Use calcium hypochlorite.

Fill the canteen with the cleanest water available. Leave airspace of 1 inch or more below the neck of the canteen

- Fill a canteen cup half full of water and add the calcium hypochlorite from one ampule. Stir with a clean stick until the powder is dissolved.

- Fill the cap of a plastic canteen half full of the solution in the cup.

- Add it to the water in the canteen.

- Place the cap on the canteen. Shake it thoroughly.

- Loosen the cap slightly and invert the canteen. Let the treated water leak onto the threads around the neck of canteen.

- Tighten the cap on the canteen and wait at least 30 minutes before using the water for drinking or cooking.

### Boil water.

**NOTES:** This method is used when purification compounds are not available.

However, it has the following disadvantages:

- You need fuel to boil the water.

- Water can take a long time to boil and then cool.

- Boiled water needs residual protection against recontamination.

- Water must be held at a rolling boil for at least 15 seconds to make it safe for drinking

107.12 Discuss how to construct a cat hole/straddle trench. [ref. b, pp. 1-17-30, 1-17-31]

**Dig a cat hole** approximately 1-foot wide and 1-foot deep.

- Completely cover and pack down with dirt after each use.

- The cat-hole is used when on the march.

**Dig a straddle trench** approximately 4-foot long, 2 1/2 feet deep, and 1-foot wide

- After each use, cover with a shovel of dirt.

- Completely cover and pack down with dirt after each bivouac.

- The straddle trench is used for 1- to 3-day bivouac sites.

107.13 Explain the following methods for carrying a casualty:  
[ref. b, pp. 1-21-33 thru 1-21-41]

Properly position the unconscious or disabled casualty.  
Roll the casualty onto his or her abdomen.  
Kneel at the casualty's uninjured side.  
Place the casualty's arms above his or her head and cross the ankle farther from you over the one closer to you.  
Place one of your hands on the shoulder farther from you and your other hand in the area of the casualty's hip or thigh, then gently roll the casualty toward you onto his or her abdomen.  
Raise the casualty from the ground.  
After rolling the casualty onto his or her abdomen, straddle him or her.  
Extend your hands under casualty's chest and lock them together.  
Lift the casualty to his or her knees as you move backward  
Continue to move backward, thus straightening the casualty's legs and locking his or her knees.  
Walk forward, bringing the casualty to a standing position but tilted slightly backward to prevent his or her knees from buckling.  
Free your left arm, maintaining support of the casualty with your right arm.  
Quickly grasp his left wrist and raise his or her arm high.  
Instantly pass your head under the casualty's raised arm, releasing his or her arm as you pass under it.  
Move swiftly to face the casualty and secure your arms around his or her waist  
Immediately place your right toe between the casualty's feet, and spread his or her feet 6 to 8 inches apart.  
With your right hand, grasp the casualty's left wrist and raise his or her arm over your head.  
Bend at the waist and knees; then pull the casualty's arm over your left shoulder and down your back, thus bringing his or her body across your shoulders .  
At the same time, pass your left arm between his or her legs.  
Place the Marine's left wrist in your left hand, and place your right hand on your right knee for support in rising.  
Rise with the casualty in the correct position  
Free your right hand to use as needed.  
**See Appendices C-5 through C-10 for the correct procedure for using a fireman's carry.**

#### **One-man support carry**

Raise the casualty from the ground as in the fireman's carry.  
With your left or right hand, grasp the casualty's left or right wrist and draw his or her arm around your neck.  
Place your right or left right arm around his or her waist. (The casualty is now able to walk, using you as a crutch.)  
**See Appendix C-11 for the correct procedure for using a support carry.**

#### **One-man arms carry**

Lift the casualty from the ground as you would in the fireman's carry.  
Carry the casualty high to lessen fatigue.

**See Appendix C-11 for the correct procedure for using an arms carry.**

### **Saddleback carry**

Raise the casualty to an upright position as in the fireman's carry.

Support the casualty by placing an arm around his or her waist, and move in front of him or her.

Have the casualty circle his or her arms around your neck.

Stoop, raise the casualty upon your back, and clasp your hands beneath his or her thighs.

**See Appendix C-12 for the correct procedure for using a saddleback carry.**

### **Pack strap carry**

Lift the casualty from the ground as in the fireman's carry.

Supporting the casualty with your arm around him or her, grasp his or her wrist closest to you, and place his or her arm over your head and cross your shoulder.

Move in front of the casualty while supporting his or her weight against your back.

Grasp his or her other wrist, and place this arm over your shoulder

Bend forward, and hoist the casualty as high on your back as possible so that all his or her weight is resting on your back.

**See Appendices C-12 for the correct procedure for using a pack strap carry.**

### **Pistol-belt carry**

Link together two pistol belts to form a sling.

**NOTE:** If pistol belts are not available, use other items such as one rifle sling, two cravat bandages, two litter straps, or any suitable material that will not cut or bind the wounded Marine.

Place the sling under the casualty's thighs and lower back so that a loop extends from each side. Lie between the casualty's outstretched legs

Thrust your arms through the loops; grasp the casualty's hand and trouser leg on his or her injured side.

Roll toward the casualty's uninjured side onto your abdomen, bringing the casualty onto your back.

Adjust the sling as necessary.

Rise to a kneeling position. The belt will hold the casualty in place

Place one hand on your knee for support and rise to an upright position.

**NOTE:** Your shoulders now support the casualty.

Carry the casualty so that your hands will be free to fire your rifle, climb banks, or to surmount obstacles.

**See Appendix C-13 and C-14 for the correct procedure for using the pistol-belt carry.**

- 107.14 Discuss how to improvise a litter to carry a casualty.  
[ref. b, pp. 1-21-41 thru 1-21- 43]

#### **Improvise a stretcher with a poncho and poles.**

Open the poncho and lay the two poles (or tree limbs) lengthwise across the center. Reach in, pull the hood toward you and lay it flat on the poncho.

Fold the poncho over the first pole

Fold the remaining free edge of the poncho over the second pole.

**See Appendix C-15 for the correct procedure for a poncho litter.**



**Improvise a stretcher with poles and jackets.**

Button two or three blouses and turn them inside out, leaving the sleeves inside.

Pass the poles through the sleeves of the blouses.

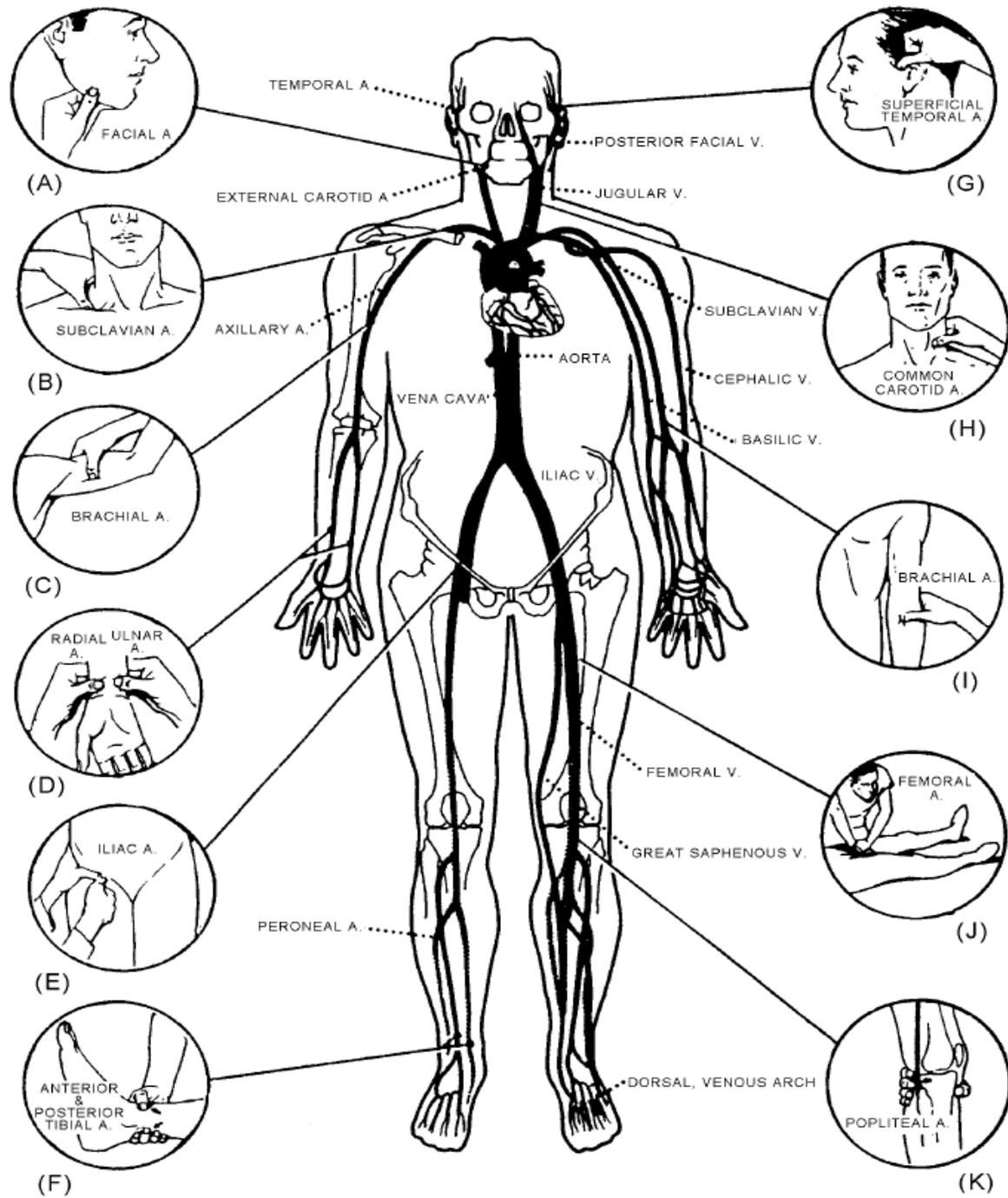
Cut holes in both shoulders of the blouses.

Button the two blouses.

Push poles through the holes.

Improvise litters made by inserting poles through sacks or by rolling a blanket.

**See Appendix C-16 for the correct procedure for a jacket litter.**



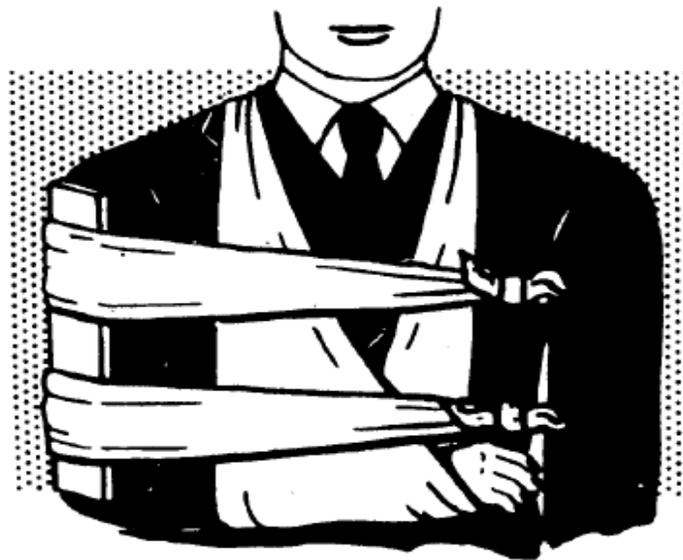
HM3F0427

## Pressure Point Chart

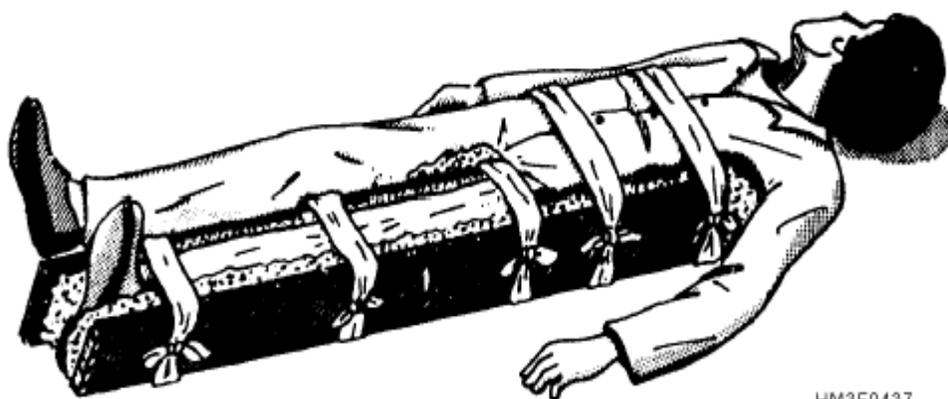
C-1



**First Aid for Forearm Fracture**

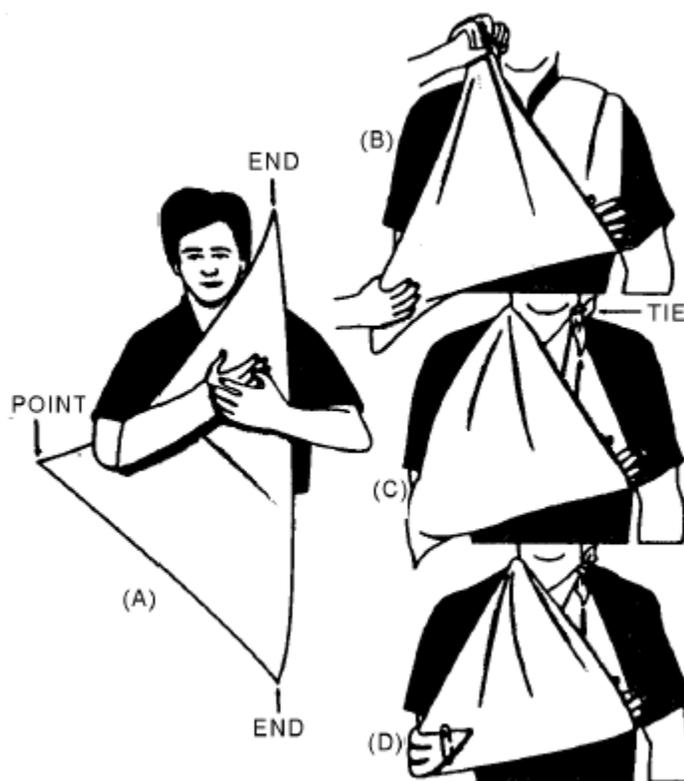


**Splint & Sling for Upper Arm Fracture**



HM3F0437

### Splint for Fractured Femur



### Sling for Fractured Clavicle



HM3F0440

## **Bandage for Rib Fracture**

**C-4**

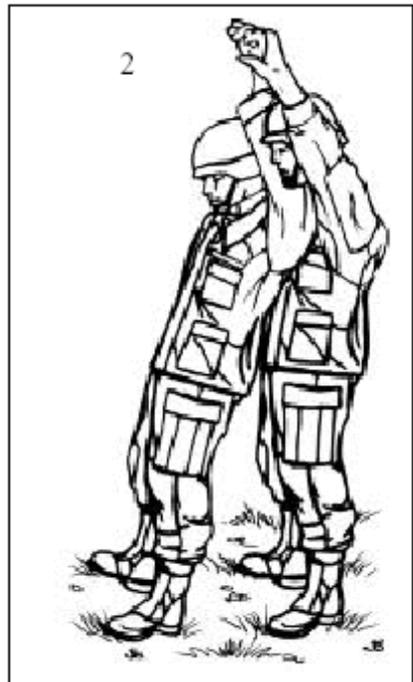
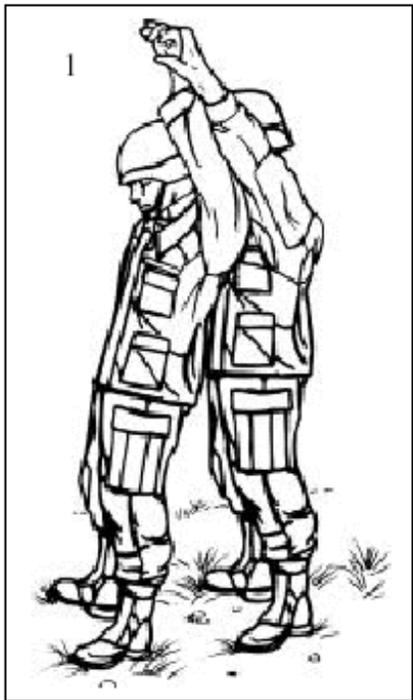


**Fireman's Carry**

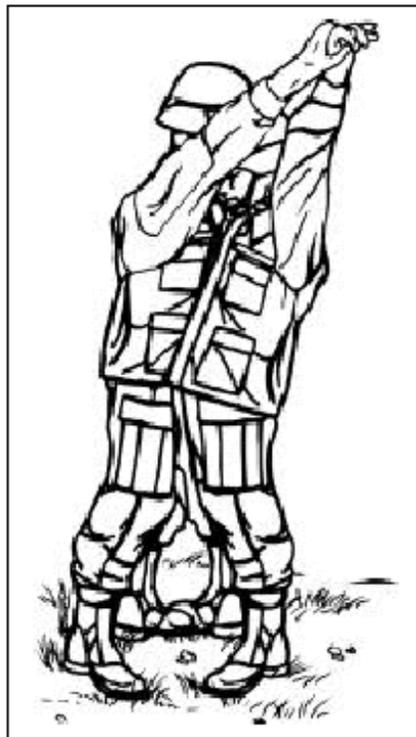
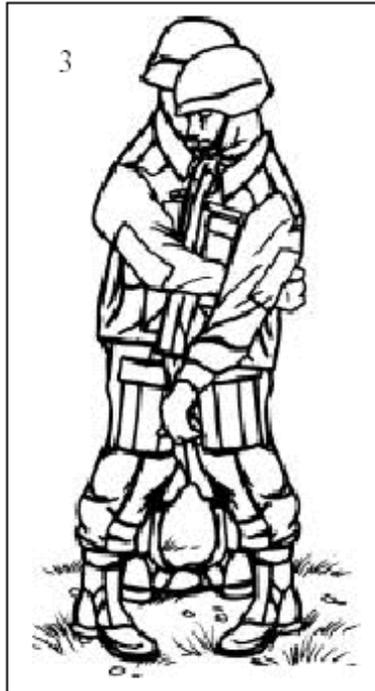
**C-5**



**Fireman's Carry (continued)**



**Fireman's Carry (continued)**



**Fireman's Carry (continued)**



**Fireman's Carry (continued)**

**C-9**



**Fireman's Carry (continued)**

**C-10**



**One-man Support Carry**



**One-man Arms Carry**



**Saddleback Carry**



**Pack Strap Carry**

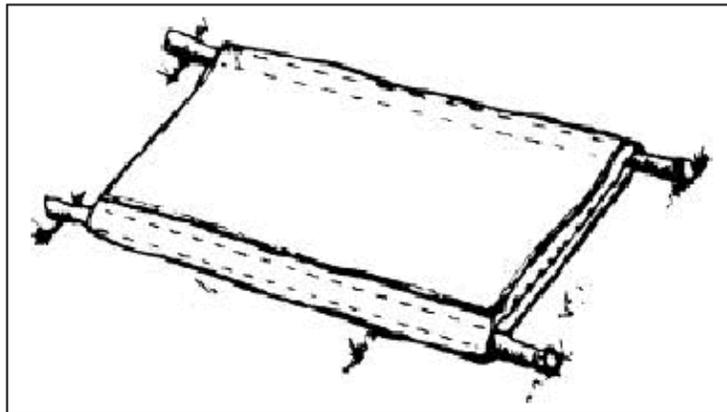
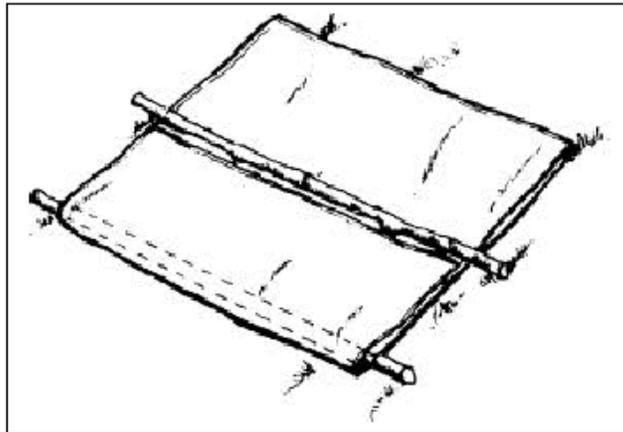
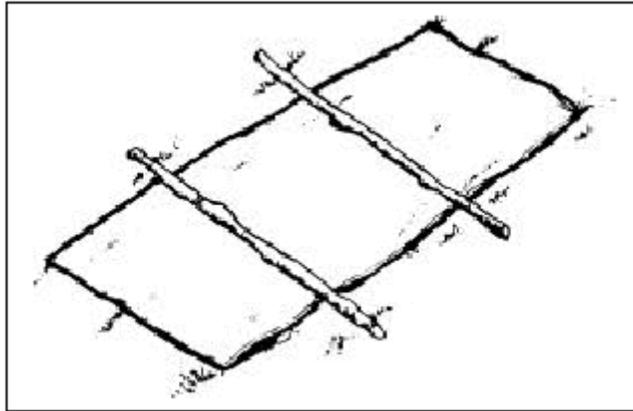


## Pistol Belt Carry

C-13

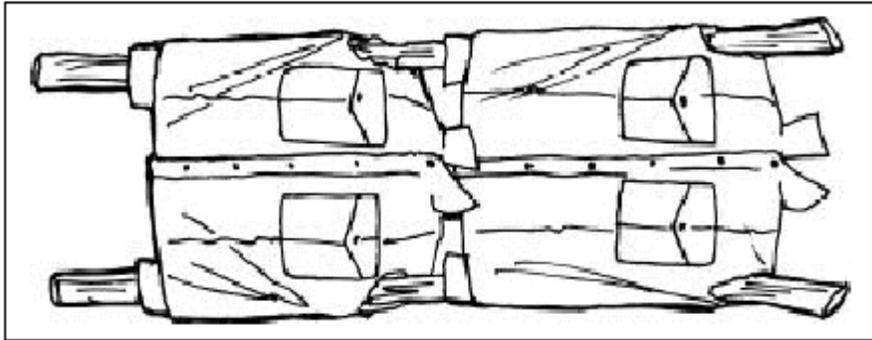
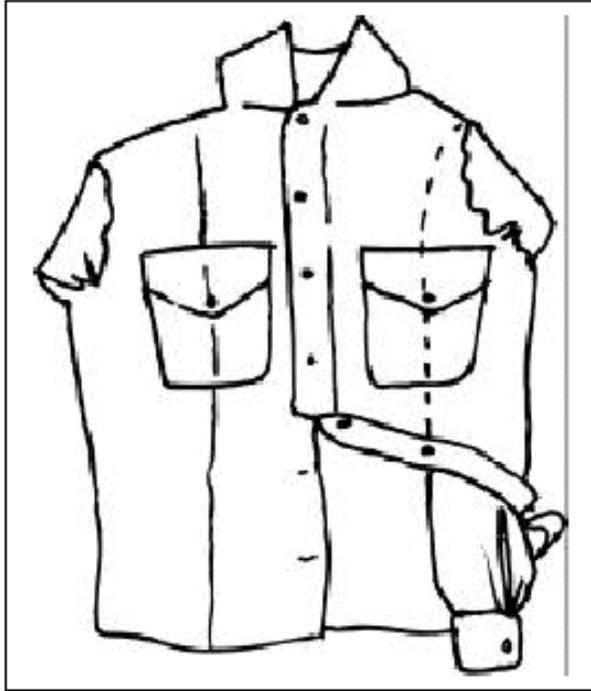


**Pistol Belt Carry (continued)**



**Poncho Litter**

**C-15**



**Jacket Litter**

**C-16**

## 108 SECURITY FUNDAMENTALS

### References:

- [a] Marine Corps Common Skills Handbook, Book 1A (PCN 50600000900)  
[b] SECNAVINST 5510.36, DON Information Security Program Regulation
- 

108.1 Discuss the duties of the interior guard. [ref. a, p. 1-9-1]

Preserve order  
Protect property  
Enforce regulations within the jurisdiction of command

108.2 Discuss and provide explanation of the eleven general orders.  
[ref. a, pp. 1-9-3, 1-9-4] 1.

**General Order 1.**

To take charge of this post and all government property in view.

**General Order 2.**

To walk my post in a military manner, keeping always on alert and observing everything that takes place within sight or hearing.

**General Order 3.**

To report all violations of orders I am instructed to enforce.

**General Order 4.**

To repeat all calls from post more distant from the guardhouse than my own.

**General Order 5.**

To quit my post only when properly relieved.

**General Order 6.**

To receive, obey, and pass on to the sentry who relieves me all orders from the commanding officer, officer of the day, and officers and noncommissioned officers of the guard only.

**General Order 7.**

To talk to no one except in the line of duty.

**General Order 8.**

To give the alarm in case of fire or disorder.

**General Order 9.**

To call the corporal of the guard in any case not covered by instructions.

**General Order 10.**

To salute all officers and all colors and standards not cased.

**General Order 11.**

To be especially watchful at night and during the time for challenging, to challenge all persons on or near my post, and to allow no one to pass without proper authority

108.3 Discuss the interior guard chain of command. [ref. a, p. 1-9-9]

**Commanding officer:** Ensures the security of the command.

**Field officer of the day:** Ensures the security of the command.

**Officer of the day:** Supervises the main guard. Directs inspection of the guard by other officers or NCO's.

**Commander of the guard:** Ensures proper instruction, discipline, and performance of duty of the main guard.

**Sergeant of the guard:** Ensures proper instruction, discipline, and performance of duty of the main guard.

**Corporal of the guard:** In charge of the relief.

108.4 Define deadly force and when it may be used. [ref. a, pp. 1-9-11, 1-9-12 ]

**Deadly force** - The efforts of an individual used against another to cause death, substantial risk of death, or serious bodily harm

**The six conditions that justify the use of deadly force:**

**Defend yourself.** To prevent military law enforcement or security personnel who reasonably believe themselves to be in imminent danger of death or serious bodily harm.

**Defend property not involving national security.** To prevent the threatened theft, damage, or espionage aimed at property or information, which though not vital to the national security is of substantial importance to the national security. To prevent the actual theft, damage, or espionage aimed at property or information, which though not vital to the national security is of substantial importance to the national security.

**Defend property not involving national security but inherently dangerous to others.**

To prevent the actual theft or sabotage of property, such as operable weapons or ammunition, which is inherently dangerous to others.

**Prevent crimes against people.** To prevent or to interrupt the commission of a serious offense observed by the sentry, which threatens death or serious bodily harm to other persons. Such offenses include, but are not limited to, murder, rape, or armed robbery.

**Apprehend individuals.** To apprehend or to prevent the escape of a person reasonably believed to have committed an offense involving national security, or to prevent the escape of a designated prisoner.

**Establish and/or maintain lawful order** when it has been directed by the lawful order of a superior authority

108.5 Discuss and explain the characteristics of the following: [ref. a, p. 1-9-13]

**Terrorism** - Terrorism is the unlawful use or threatened use of violence to force or to intimidate governments or societies to achieve political, religious, or ideological objectives.

**Perspectives of terrorism** - Terrorism is a cheap, low-risk, highly effective way for weak nations, individuals, or groups to challenge stronger nations or groups and achieve objectives beyond their own abilities.

**Long-range goals of terrorism** - Terrorists have sought to topple governments, influence top-level decisions, and gain recognition for their cause

**Short range goals of terrorism** - Focus on gaining recognition, reducing government credibility, obtaining funds and equipment, disrupting communications, demonstrating power, delaying the political process, reducing the government's economy, influencing elections, freeing prisoners, demoralizing and discrediting the security force, intimidating a particular group, and causing a government to overreact.

**What motivates terrorists** - Terrorists are motivated by religion, prestige, power, political change, and material gain. Terrorists believe that they are an elite society and act in the name of the people.

**Terrorist operations.** - Terrorists operate in small secret groups with little interaction and tight central control held by a few individuals. Each group may have smaller functional units that have command, intelligence, support, and tactical responsibilities. Each unit may have only two to six persons. Terrorists operate with the good will and support of sympathetic foreign governments. Terrorist groups share resources, expertise, and safe havens. Tactics and methods of operation may vary from group-to-group, but they all seek to achieve their objectives through fear, intimidation, and force

108.6 Define the threat condition (THREATCON) system. [ref. a, p. 1-9-14]

The THREATCON system is designed to standardize security measures so that inter-service coordination and support of anti-terrorism activities are simplified. An overseas command will reduce, increase, or cancel declared THREATCONs as demanded by changes in the terrorist threat

108.7 Explain the four basic THREATCON conditions: [ref. a, p. 1-9-15]

**Alpha** - A general threat of possible terrorist activity against installations and personnel. The exact nature and extent are unpredictable, and circumstances do not justify full implementation of THREATCON BRAVO. Implication of selected THREATCON BRAVO measures as a result of intelligence or as a deterrent may be necessary (Alpha +)

**Bravo** - An increased and more predictable threat of terrorist action.

**Charlie** - An incident has occurred or that intelligence has been received indicating that some form of terrorist action is imminent.

**Delta** - A terrorist attack has occurred or that intelligence indicates that a terrorist action against a specific location is likely. Normally, this THREATCON is declared as a localized warning.

108.8 Explain the steps in reacting to a terrorist threat/attack. [ref. a, p. 1-9-15]

**There are no purely preventive measures that can ensure 100 percent protection against terrorism; however, as Sailors we must apply all known measures to protect us from attack.**

**The following are some common rules to protect you from terrorist attack.**

- Vary transportation methods, routes, and times.
- Park in well-lighted areas with multiple exits.
- Lock unattended vehicles.
- Report unusual activities to local security officials.
- Avoid traveling alone.
- Travel only on busy, well-traveled thoroughfares whenever possible.
- Take proper security precautions at home during travel.
- Attend periodic threat awareness briefings and hostage survival training.
- Avoid establishing a pattern of attendance at certain events, locations, etc.
- Keep a low profile and avoid calling attention to yourself.
- Seek knowledge of the local situation and be aware of your surroundings.
- Be sensitive to the possibility of surveillance

108.9 Describe the ways to protect yourself from terrorist attacks. [ref. a, p. 1-9-17]

**Maintain a low profile.**

- Ensure that your dress, conduct, and mannerisms do not attract attention.
- Make an effort to blend into the local environment.
- Avoid publicity.
- Do not go out in big groups.
- Stay away from civil disturbances and demonstrations.

**Be unpredictable.**

- Vary your route and the time you leave and return home during your daily routine.
- Vary your style of dress.
- Avoid deserted streets or country roads.
- Avoid traveling alone.
- Let people close to you know where you are going and what you will be doing

**Remain vigilant.**

- Watch for anything suspicious or out of place.
- Do not give out personal information over the telephone.
- Preselect a secure area in which you can take refuge if you are being followed.
- Report any incident of being followed to the military police and to your command duty officer.

**Protect your automobile.**

- Avoid leaving the vehicle unattended and in the open.
  - Lock the doors, the trunk, and the gas cap when leaving the vehicle.
  - Upon returning to the vehicle, search it before operating (or driving).
- Check the exterior of the vehicle for; packages left under the vehicle, ground disturbed around the vehicle, loose wiring, string, or tape, check the interior of the vehicle for, objects out of place, or anything out of the ordinary

108.10 Discuss the following terms: [ref. b, app. A, pp. A-1 thru A-8]

**Access** - The ability and opportunity to obtain knowledge or possession of classified information.

**Classification** -The determination by an authorized official that official information requires, in the interests of national security, a specific degree of protection against unauthorized disclosure

**Compromise** - An unauthorized disclosure of classified information to one or more persons who do not possess a current valid security clearance

**Information** - Any official knowledge that can be communicated or documentary material, regardless of its physical form or characteristics, that is owned by, produced by or for, or is under the control of the U.S. Government. 'Control' means the authority of the agency that originates information, or its successor in function, to regulate access to the information

108.11 Identify the three levels of security classifications. [ref. b, art. 4-2]

**Top Secret** is the classification level applied to information whose unauthorized disclosure could reasonably be expected to cause **exceptionally grave damage** to the national security. Examples include information whose unauthorized release could result in armed hostilities against the U.S. or its allies; a disruption of foreign relations vitally affecting the national security; the compromise of vital national defense plane; the disclosure of complex cryptographic and communication intelligence systems; the disclosure of sensitive intelligence operations; and the disclosure of significant scientific or technological developments vital to national security.

**Secret** is the classification level applied to information whose unauthorized disclosure could reasonably be expected to cause **serious damage** to the national security. Examples include information whose unauthorized release could result in the disruption of foreign relations significantly affecting the national security; the significant impairment of a program or policy directly related to the national security; the disclosure of significant military plans or intelligence operations; and the disclosure of scientific or technological developments relating to national security.

**Confidential** is the classification level applied to information whose unauthorized disclosure could reasonably be expected to cause **damage** to the national security. Examples include information whose unauthorized release could result in disclosure of ground, air, and naval forces (e.g., force levels and force dispositions); or disclosure of performance characteristics, such as design, test, and production data of U.S. munitions and weapon systems.

Terms such as 'For official Use Only' (FOUO) or 'Secret Sensitive' (SS) shall not be used for the identification of U.S. classified information.

- 108.12 Discuss what should be done upon finding unsecured classified material.  
[ref. a, p. 1-9-19]

Protect it from further compromise and notify the custodian or security manager immediately

- 108.13 Describe methods that foreign agents use in collecting information. [ref. a, p. 1-9-19]

**Observe and photograph activities.**  
**Eavesdrop on electronic communications.**  
**Read news releases.**  
**Listen to careless talk.**  
**Obtain classified documents**

## 109 FIELD COMMUNICATION FUNDAMENTALS

### References:

- [a] TM 11-5820-890-10-1, SINCGARS Radio Operator's Manual (PCN 35159745100)  
[b] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
- 

- 109.1 Discuss the two modes of operation for the Single Channel Ground and Airborne Radio System (SINCGARS) radio. [ref. a, p. 1-15]

**SINGLE CHANNEL:** When using the SC mode of operation, the RT communicates on one frequency.

**FREQUENCY HOPPING:** SINCGARS also has the ability to secure transmissions through the use of a transmission security key and frequency hopping to reduce or eliminate the threat of jamming and direction-finding equipment.

- 109.2 Discuss the maximum transmission ranges for each of the following settings:  
[ref. a, p. 1-6]

**LO (low power)** - 200 M - 400 M

**M (medium power)** - 400 M - 5KM

**HI (high power)** - 5KM - 10KM

**PA (power amplifier)** - 10 KM - 40 KM (Vehicular Only)

**NOTE:** Above ranges are based upon line of sight and are average for normal conditions. Range depends on location, sighting, weather, and surrounding noise level, among other factors.

- 109.3 Explain the components and assembly process of the following SINCGARS radio configurations: [ref. a, pp. 2-16 thru 2-29]

**A. MANPACK** - To assemble a manpack radio, you must first check and install the battery.

## Installation of Primary Battery and Battery Box to RT

- Visually inspect battery box for dirt and damage. If battery has been previously used, note battery life condition number.
- Stand RT on front panel guards; place battery box on RT. Secure using latches.
- Check battery life condition (written on battery if battery is not new).
- Write down number (for later entry into radio).
- Place battery in battery box and mate connectors.
- Close battery box cover, and secure using latches
- Return radio to upright position.
- If used battery was installed, enter the battery life condition into the radio by performing the following: Set FCTN to LD. Press BATT, then CLR. Enter number recorded on side of battery. Press STO. Set FCTN to SQ ON.

SEE APPENDIX D-1

DO NOT heat, incinerate, crush, puncture, disassemble, or otherwise mutilate battery.

DO NOT short circuit, recharge, or bypass any internal fuse.

DO NOT store battery in equipment during periods of non-use.

TURN OFF equipment immediately if you feel battery case becoming very hot, hear battery venting (hissing, or burping), or smell irritating gas (sulphur dioxide),

Remove battery only after it cools to the touch; then return it to supply for disposal.

### **Antenna**

DO NOT USE ANTENNA AS A HANDLE. EQUIPMENT DAMAGE MAY RESULT.

- Screw whip into antenna base. (Hand tighten).

- Carefully mate antenna base with RT ANT connector.

- Hand tighten. (Important not to over-tighten.)

- Position antenna as needed by bending gooseneck.

NOTE: Keep antenna straight up if possible. If the antenna is bent to a horizontal position, it may be necessary to turn the radio in order to receive and transmit messages.

SEE APPENDIX D-1

### **Handset**

Connect and secure handset connector to AUD/DATA connector. Make sure that keys line up on handset connector and RT AUD/DATA connector; then push handset connector onto AUD/DATA connector and twist right (clockwise) to lock in place. Push handset connector in and twist left (counterclockwise) to remove handset.

SEE APPENDIX D-1

### **Field Pack**

Place RT in field pack with antenna.

Fold top flap of field pack over RT and secure flap to field pack using straps and buckles.

Put on field pack.

SEE APPENDIX D-2

**B. Vehicle Radio Component** –Vehicular radios are installed and removed by maintenance personnel.

**Antenna.** There are four methods to tie down an antenna: (1) stay-down clamp, (2) snap-free clamp, (3) stay-down clip, and (4) snap-free clip.

109.4 Explain the procedures for loading single channel frequencies.  
[ref. a, pp. 2-33, 2-34]

**LOADING SC FREQUENCIES.**

- Obtain authorized operating frequency from SOI or NCS.
  - Set FCTN to LD.
  - Set MODE to SC.
  - Set CHAN to MAN, CUE, or desired channel (1 - 6) where frequency is to be stored.
  - Press **FREQ** (display will show "00000", or to frequency RT is currently tuned).
  - Press **CLR** (display will show five lines).
    - Enter the numbers of the new frequency (using keyboard buttons).
- If you make a mistake while entering a frequency, press **CLR** (this action will delete the last digit entered). It is important that you enter another number, or store the frequency within 7 seconds. Otherwise, the display will go blank, and you will have to re-enter the numbers. If you require more than 7 seconds to perform a step, continue to press the last button, and the 7 second clock will be stopped.
- Press **STO** (display will blink and show the frequency you just stored).
  - Repeat steps for additional frequencies that you wish to load.
  - Set FCTN to **SQ ON** (or normal operating position).

SEE APPENDIX D-2 FOR FRONT PANEL DISPLAY

109.5 Discuss the purpose of the following batteries: [ref. a, p. C-1]

**BA 5372** - BATTERY, NON-RECHARGEABLE BA-5372 (hold up battery)

**BA 5590** - BATTERY, NON-RECHARGEABLE (Lithium) – primary battery

**BB 590** - BATTERY, RECHARGEABLE – secondary battery

109.6 Discuss the phonetic alphabet. [ref. b, p. 1-19-14]

**PHONETIC ALPHABET**

**PRONUNCIATION**

A = ALFA  
B = BRAVO  
C = CHARLIE  
D = DELTA  
E = ECHO  
F = FOXTROT  
G = GOLF  
H = HOTEL  
I = INDIA  
J = JULIET  
K = KILO  
L = LIMA  
M = MIKE

N = NOVEMBER  
O = OSCAR  
P = PAPA  
Q = QUEBEC  
R = ROMEO  
S = SIERRA  
T = TANGO  
U = UNIFORM  
V = VICTOR  
W = WHISKEY  
X = X-RAY  
Y = YANKEE  
Z = ZULU

A = AL FAH  
B = BRAH VOH  
C = CHAR LEE  
D = DELL TAH  
E = ECH OH  
F = FOKS TROT  
G = GOLF  
H = HOH TELL  
I = IN DEE AH  
J = JEW LEE ETT  
K = KEY LOH  
L = LEE MAH  
M = MIKE

N = NO VEM BER  
O = OSS CAH  
P = PAH PAH  
Q = KEH BECK  
R = ROW ME OH  
S = SEE AIR RAH  
T = TANG GO  
U = YOU NEE FORM  
V = VIK TAH  
W = WISS KEY  
X = ECKS RAY  
Y = YANG KEY  
Z = ZOO LOO

### **NUMERIC PRONUNCIATION**

1 = WUN  
2 = TOO  
3 = TREE  
4 = FO-WER  
5 = FIFE

6 = SIX  
7 = SEV-EN  
8 = ATE  
9 = NIN-ER  
0 = ZE-RO

70 = SEVEN ZERO  
84 = ATE FO-WER  
131 = WUN TREE WUN  
500 = FIFE HUN-DRED  
1,468 = WUN FO-WER SIX ATE  
7,000 = SEVEN THOUSAND  
16,000 = WUN SIX THOUSAND

- 109.7 Discuss the procedures to perform operator's level maintenance on the AN/PRC 119. [ref. b, pp. 1-19-16, 1-19-17]

#### **Inspect the equipment.**

Ensure the equipment SL3 is complete.

Check all major components for damage and serviceability.

- Receiver-transmitter (RT)
- Battery box
- Antennas and support bases
- Harness and accessory bag
- Headset or handset.

#### **Clean the equipment**

- Inspect the exterior of the radio set.
- Clean the external surface by removing dust, dirt, grease, salt, and fungus.
- Remove all dust and loose dirt with a clean rag and a general-purpose brush
- Clean the audio connector pins on the radio and handset with a rubber eraser.

**Perform operation checks.**

Conduct inventory. Make sure all parts are present.

Check the accessories for cleanliness and serviceability using the memory aid

**FITCAL.**

**Feel.** Physically touch and inspect the radio set and its accessories.

**Inspect.** Visually inspect gear for cracks or corrosion.

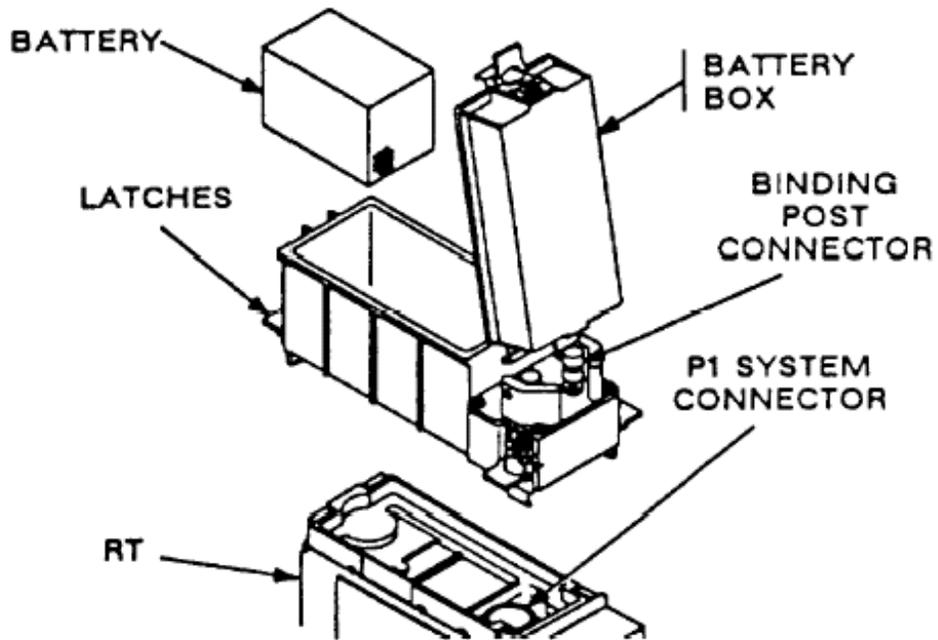
**Tighten.** Tighten all connectors by hand and make sure all screws are tight.

**Clean.** Clean with brushes and rags.

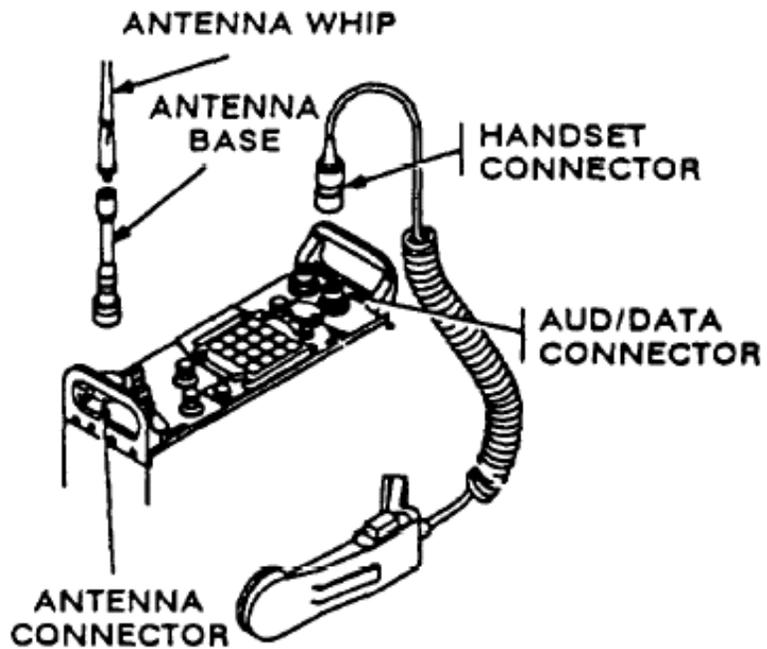
**Adjust.** Adjust all controls and knobs to ensure serviceability.

**Lubricate.** Lubricate rubber boots and handset cords with silicone to prevent dry rot.

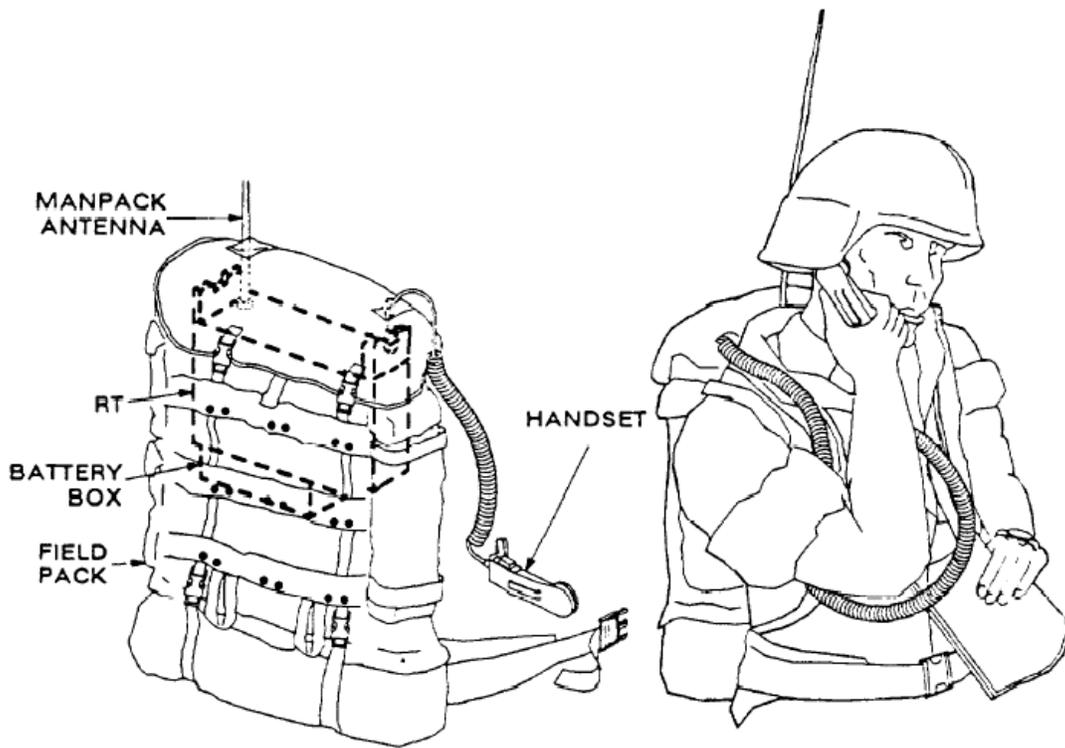
**Report any discrepancies**



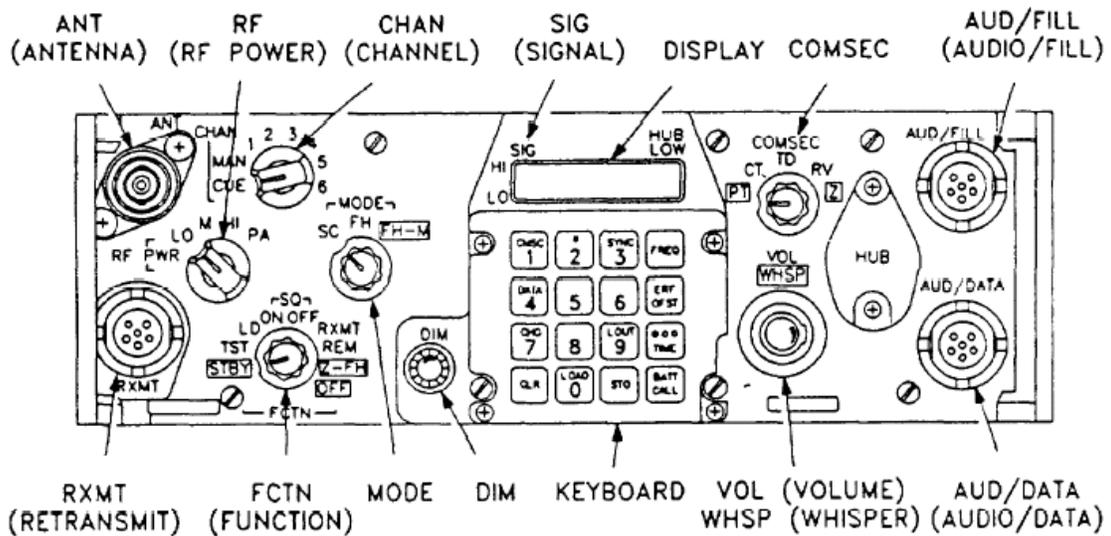
**Battery Box**



**Antenna & Handset Installation**



**Field Pack**



**SINCGARS Front Panel**

## 110 WEAPONS FUNDAMENTALS

### References:

- [a] USMC, Marine Corps University Sergeant's Course 1006
  - [b] TM05538D/10012B-12/1, USMC Operator's Manual with Components List (Rifle, 5.56 MM, M16A2 W/E; Rifle, 5.56 MM, M16A4 W/E; Carbine, 5.56 MM, M4 W/E; Carbine 5.56 MM, M4A1 W/E) (PCN 18405538000)
  - [c] USMC, Marine Corps University Sergeant's Course 1001
  - [d] USMC, Marine Corps University Sergeant's Course 1002
  - [e] USMC, Marine Corps University Sergeant's Course 1003
  - [f] USMC, Marine Corps University Sergeant's Course 1004
  - [g] USMC, Marine Corps University Sergeant's Course 1005
  - [h] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
- 

110.1 Discuss the following characteristics of the M9 service pistol: [ref. a]

**Description and Technical Data:** The M9 pistol is a semiautomatic, magazine fed, recoil operated, double action pistol, chambered for the 9mm cartridge.

Caliber.....9mm NATO  
System of Operation.....short recoil, semi-automatic  
Length.....8.54 in  
Width.....50 in  
Height.....5.51 in  
Weight (w/empty magazine).....33.86 oz.  
Weight (w/15 round magazine).....40.89 oz.  
Maximum effective range.....50 meters  
Maximum range.....1800 meters  
Magazine.....staggered, 15 round capacity

#### **Four weapon safety rules:**

- #1 Treat every weapon as if it were loaded
- #2 Never point a weapon at anything you do not intend to shoot.
- #3 Keep your finger straight and off the trigger until you are ready to fire.
- #4 Keep weapon on safe until you are ready to fire.

#### **Condition codes**

**Condition 1.** Magazine inserted, round in chamber, slide forward, hammer in the forward position and decocking/safety lever is on.

**Condition 2.** Does not apply to the M9 Pistol.

**Condition 3.** The chamber is empty, a magazine is inserted, the slide is forward, and the safety is on.

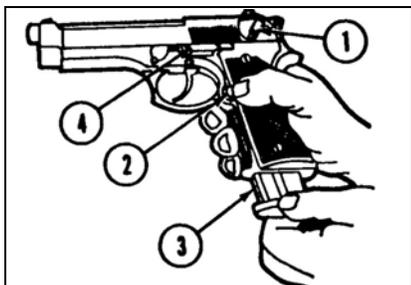
**Condition 4.** Magazine removed, the chamber is empty, the slide is forward, and the safety is on.

#### **Load and unload procedures:**

**Loading the pistol.** Insert the loaded magazine into the magazine well of the pistol until a click of the magazine catch is heard. This will ensure proper catch

engagement. With the pistol pointing in a safe direction, grasp the serrated portion of the slide and retract the slide to the rear. Releasing the slide will strip a cartridge from the magazine and chamber it.

**Unloading the pistol:** Place decocking/safety lever (1) in "safe" (down) position. Depress the magazine release button (2) to remove the magazine (3) from the pistol. With the pistol pointing in a safe direction, grasp the slide serrations and fully retract the slide to remove the chambered cartridge. Lock the slide to the rear using the slide stop (4) and visually inspect the chamber to ensure that it is empty.



**Immediate Action** - Immediate action is the prompt action taken by the user to correct a stoppage. The procedure for applying immediate action should become instinctive to the user, without the user attempting to discover the cause.

**WARNING:** During the following procedures always keep the pistol pointed in a safe direction.

When the slide is fully forward and the pistol fails to fire, apply immediate action as follows:

- Ensure that decocking/safety lever is in the fire (up) position.
- In a tactical situation, if the pistol does not fire, ensure that the magazine is fully seated; retract the slide to the rear and release.
- In a non-tactical situation, clear/unload the pistol. If the operator cannot determine the cause of the stoppage, evacuate the pistol to organizational maintenance.
- If the pistol still does not fire, remove the magazine and retract the slide to eject the chambered cartridge. Insert a new magazine; retract the slide and release to chamber another cartridge.
- Squeeze the trigger
- If the pistol still does not fire, replace the ammunition.
- If the pistol still does not fire, clear/unload the pistol and refer to the Trouble Shooting Procedures in the Operator's Manual.

When the slide is not fully seated forward, remove finger from the trigger. With the other hand, attempt to push the slide fully forward. If the slide will not move forward, proceed as follows:

- Place decocking/safety lever in safe (down) position
- Remove the magazine.
- Grasp the slide and retract to the rear, locking it with the slide stop.
- Inspect the chamber and bore and remove any obstructions.
- Insert another loaded magazine into the pistol.
- Release the slide. Place the decocking/safety lever in fire (up) position, aim and attempt to fire.

**WARNING:** If a round has been assembled without powder (a faulty manufacturing process), the primer alone has enough power to expel the bullet from the case to

lodge in the bore. A bullet lodged in the bore will cause destruction of the pistol if another round is fired, and will also cause personal injury.

SEE APPENDIX E-1.

110.2 Discuss the following characteristics of the M16A2 service rifle: [ref. b and h]

**Description and technical data** - The M16A2 is a lightweight, gas-operated, air-cooled, magazine-fed, shoulder-fired, weapon that can be fired in the semi-auto and auto (3 round burst)

Caliber.....5.56mm  
System of Operation.....gas operated, semi-automatic, 3 round burst  
Length (w compensator)..... 39 5/8 in  
Weight (w/30 round magazine).....8.79 lbs  
Maximum effective range.....550 meters point target/800 meters area target  
Maximum range.....3600 meters  
Magazine.....staggered, 30 round capacity

**Four weapon safety rules:**

- #1 Treat every weapon as if it were loaded
- #2 Never point a weapon at anything you do not intend to shoot.
- #3 Keep your finger straight and off the trigger until you are ready to fire.
- #4 Keep weapon on safe until you are ready to fire.

**Condition codes**

**Condition 1.** Safety on, magazine inserted, round in chamber inserted, bolt forward, ejection port cover closed.

**Condition 2.** Does not apply to the M16A2 rifle.

**Condition 3.** Safety on magazine inserted , chamber empty, bolt forward, ejection port cover closed

**Condition 4.** Safety on, magazine removed, the chamber is empty, ejection port cover closed.

**Immediate Action –**

If your rifle stops firing, perform the following immediate actions:

- Slap upwards on the magazine to make sure it is properly seated.
- Pull charging handle all the way back. Observe ejection of case or cartridge. Check chamber for obstruction.
- If cartridge or case is ejected or chamber is clear, release charging handle to feed new round. Don't ride the charging handle forward.
- Tap Forward assist.

If your rifle still fails to fire after performing Immediate Action, check again for jammed cartridge case. Perform remedial action.

**Remedial Action**

**WARNING:** If your rifle stops firing with a live round in the chamber of a hot barrel, remove the round fast. However, if you cannot remove the round within 10 seconds, remove the magazine and wait 15 minutes with the rifle pointed in a safe direction. This way you will not get hurt by the possibility of a round cooking off. Regardless, keep your face away from the ejection port while clearing a hot chamber.

- If a cartridge case is in the chamber, tap it out with a cleaning rod.
- Remove the magazine
  - Lock the bolt to the rear
  - Place selector switch on "safe"

**WARNING.** Bullet stuck in bore. If an audible “pop” is heard or reduced recoil is experienced during firing, immediately cease fire. **Do not apply Immediate Action** If a bullet is stuck in the barrel of the weapon, **DO NOT** attempt to remove it. Turn the weapon in to the armorer.

SEE APPENDIX E-1.

110.3 Discuss the following characteristics of the M203 grenade launcher: [ref. c]

**Description and Technical Data** - The M203 grenade launcher is a lightweight, single-shot, breech-loaded, pump action (sliding barrel), shoulder-fired weapon attached to either an M16A1 or an M16A2 rifle.

Weight of launcher unloaded.....1.4 kg (3.0 pounds)  
Weight of launcher loaded.....1.6 kg (3.5 pounds)  
Wt. of rifle and grenade launcher with both fully loaded..5.0 kg (11.0 pounds)  
Maximum range (approximately).....400 meters (1,312 feet)  
Maximum effective range:  
- Fire-team sized area target.....350 meters (1,148 feet)  
- Vehicle or weapon point target.....150 meters (492 feet)  
Minimum safe firing range (HE) (Training) .....165 meters (541 feet)  
(Combat).....31 meters (102 feet)  
Minimum arming range (approximately).....14 to 38 meters (46 to 125 ft)  
Rate of fire.....5 to 7 rounds per minute

**Four weapon safety rules:**  
Same as for M9 & M16A2

#### **Condition Codes**

- Condition 1.** Round in the chamber, action is closed and the weapon is on safe.
- Condition 2.** This condition does not apply to the M203.
- Condition 3.** This condition does not apply to the M203.
- Condition 4.** The chamber is clear. The action is closed and the weapon is on safe.

#### **Load and unload procedures**

**Load the M203.** Always keep the muzzle down range. Do not take the weapon off safe until you intend to fire. Press the barrel latch and slide the barrel forward. With the barrel assembly open, place a round into the breech end of the barrel, ensuring it is snugly in place and that it will not fall out. Slide the barrel down until it locks into place.

**Unload the M203.** To unload the grenade launcher, press the barrel latch and slide the barrel forward. The empty casing will usually fall out by itself. If it does not, then take the casing out using your fingers. If it is a live round that you are unloading, place free hand under the receiver to catch the round as it ejects.

SEE APPENDIX E-2

**Immediate and Remedial Action** – Immediate action is the prompt action taken by the grenadier to reduce a stoppage. If the launcher fails to fire, assume a hang fire and proceed as follows:

Keeping the weapon trained on the target, shout "MISFIRE". Clear unnecessary people from the vicinity and attempt to remove the round from the grenade launcher. Wait 30 seconds from the time of the failure before opening the breech for unloading procedures. Either catch the ejected round or reduce the distance of its free fall to the ground. **Exercise extreme caution!** Determine whether the round or the firing mechanism is defective. Examine the primer to see if it has been dented. If not, the firing mechanism is at fault. Reload and attempt to fire after the cause or the failure to fire has been corrected. If the primer has been dented, separate the round from other ammunition until it can be properly disposed of.

SEE APPENDIX E-3

110.4 Discuss the following characteristics of the M249 squad automatic weapon: [ref. d]

**Description and Technical Data** - The machine gun, light, squad automatic weapon, M249 (SAW) is a gas-operated, air-cooled, belt or magazine-fed, automatic weapon that fires from the open-bolt position.

Weight of SAW with bipod and tools .....	17 pounds
With 200 round drum .....	23.92 pounds
Measurements:Length .....	40.87 inches
Muzzle velocity Ball ammunition .....	3,025 feet per second
Tracer ammunition .....	2,870 feet per second
Rifling .....	Standard right hand twist one turn in 7 inches
Ranges: Maximum .....	3,600 meters
Maximum effective Point targets .....	800 meters
Area targets .....	1,000 meters
Grazing fire .....	600 meters
Rates of fire. Sustained .....	85 rounds per minute, fired in 3 to 5 round bursts, 4 to 5 seconds between bursts, no barrel changes
Rapid .....	200 rounds per minute, fired in 6 to 8 round bursts, 2 to 3 seconds between bursts, barrel change every 2 minutes
Cyclic .....	850 rounds per minute, continuous burst, barrel change every minute

**Four weapon safety rules:**

Same as for M9 & M16A2

**Condition Codes**

**Condition 1.** The bolt is locked to the rear. The safety is on. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.

**Condition 2.** Not applicable to the M249.

**Condition 3.** The bolt is forward. The chamber is empty. The safety is off. The source of ammunition is in position on the feed tray or in the magazine well. The cover closed.

**Condition 4.** The bolt is forward. The chamber is empty. The safety is off. The feed tray is empty or no magazine is inserted. The cover is closed.

**Load and unload procedures**

**Load the M249.** There are two methods of loading the M249 machine gun, belt fed or magazine fed.

**Belt Method.** Clear the weapon. Leave cover open. If using the ammunition box attach it to the grooved tracks on the bottom of the receiver. Make sure the open side of the links are facing down, and place the first round in the tray groove against the cartridge stop. Hold in place and close the feed cover. NOTE. You must first pull the cocking handle to the rear in order to fire. The M249 fires from the open bolt.

**Magazine method.** Load the magazine by inserting it into the magazine well on the left side of the receiver. Push the magazine firmly into the well until it seats and the release tab clicks into the recess on the magazine.

**Unload the M249.** Ensure the bolt and lock it in the rear position if it is not already there. Place the weapon on safe.

**Belt fed.** Raise the cover and remove any ammunition or links from the feed tray. Perform the five-point safety check

- Check the feed pawl assembly under the cover
- Check the feed tray assembly
- Lift the feed tray assembly and inspect the chamber
- Check the space between the bolt assembly and the chamber
- Insert two fingers of the left hand into the magazine well to extract any ammunition or brass

**Magazine fed.** Push the magazine release tab down and pull the magazine from the magazine well. Raise the feed cover and perform the five-point safety check.

### **Immediate and Remedial Action**

A malfunction is a failure of the machine gun to function satisfactorily. The two most common types of malfunctions are sluggish operation and run away gun.

**Sluggish Operation.** Gun fires very slowly. It can be due to excessive friction or loss of gas. Excessive friction is usually due to lack of lubrication or excessive dirt/carbon. Loss of gas is usually due to loose connections in the gas system.

Action taken is:

- Move the regulator setting to the number two or three position.
- Clean, inspect and lube the gun.

**Runaway Gun.** This is the case when a gun continues to fire after you release the trigger; firing is uncontrolled. Caused by worn, broken, or burred sear or worn sear notch. Use either of the following methods when you have a runaway gun. Keep the gun pointed down range and let weapon fire off remaining rounds if near the end. Team leader should break the belt of ammunition by twisting it.

**NOTE.** Never reload a runaway gun until it is repaired

**Stoppages.** A stoppage is an interruption in the cycle of operation cause by a faulty gun or ammunition. In short the gun stops firing. A stoppage must be cleared quickly by applying immediate action.

**Immediate Action.** This is the prompt action taken by the gunner to reduce a stoppage of the machine gun without investigating the cause. If the gun stops firing, the gunner performs immediate action. Hang fire and cook off are two terms that describe ammunition condition and should be understood in conjunction with immediate action procedures.

**Hang Fire.** Occurs when the cartridge primer has detonated after being struck by the firing pin but some problem with the propellant powder causes it to burn too slowly and this delays the firing of the projectile. Time (5 seconds) is allotted for this malfunction before investigating a stoppage further because of injury to personnel and damage to equipment.

**Cook Off.** Occurs when the heat of the barrel is high enough to cause the propellant powder inside the round to ignite even though the primer has not been struck. Immediate action is completed in a total of ten (10) seconds to ensure that the round is extracted prior to the heat of the barrel affecting it. When the round fails to extract/eject, further action is delayed (15 minutes) if the barrel is hot because the gunner must assume that a round is still in the chamber and could cook off at any time prior to the barrel cooling off.

**Procedures.** Wait 5 seconds after the misfire to guard against a hang fire. Within the next 5 seconds (to guard against a cook off) pull and lock the cocking handle to the rear while observing the ejection port to see if a cartridge case, belt link, or round is ejected. Ensure the bolt remains to the rear to prevent double feeding if nothing is ejected. If a cartridge case, belt link, or a round is ejected, push the cocking handle to its forward position, take aim at the target, and press the trigger. If the weapon does not fire, take remedial action. If a cartridge case, belt link, or a round is not ejected take remedial action.

**Remedial Action.** When immediate action fails to reduce the stoppage, remedial action must be taken. This involves investigating the cause of the stoppage and may involve some disassembly of the weapon and replacement of parts to correct the problem. Remedial actions for stoppages are as follows:

**Stuck Cartridge.** Some swelling of the cartridge occurs when it fires. If the swelling is excessive, the cartridge will be fixed tightly in the chamber. If the extractor spring has weakened and does not tightly grip the base of the cartridge, it may fail to extract a round when the bolt moves to the rear. Insure the bolt is locked to the rear. Place the weapon on safe and allow the gun to cool if hot gun. Insert a length of cleaning rod into the muzzle to push the round out through the chamber.

**Ruptured Cartridge.** Sometimes a cartridge is in a weakened condition after firing. In addition, it may swell as described above. In this case, a properly functioning extractor may sometimes tear the base of the cartridge off as the bolt moves to the rear, leaving the rest of the cartridge wedged inside the chamber. The ruptured cartridge extractor must be used in this instance to remove it. Remove the barrel. Insert extractor into the chamber to grip and remove the remains of the cartridge.

SEE APPENDIX E-3

110.5 Discuss the following characteristics of the M240G machine gun: [ref. e]

Description and Technical Data - The M240G machine gun is an air-cooled, belt fed, gas operated automatic weapon that fires from the open bolt position.

Total system weight (gun and tripod complete) .....	45.6 pounds
Length of machine gun .....	49 inches
Ranges Maximum .....	3,725 meters
Maximum effective .....	1,800 meters
Grazing fire .....	600 meters

Caliber .....7.62 millimeter  
Rates of fire  
Sustained ..... 100 rounds per minute fired in 6 to 8 round bursts 4 to 5 seconds between bursts barrel change every 10 minutes  
Rapid ..... 200 rounds per minute fired in 10 to 12 round bursts 2 to 3 seconds between bursts barrel change every 2 minutes  
Cyclic .....650 to 950 rounds per minute continuous burst barrel change every minute depending on gas setting)

**Four weapon safety rules:**

Same as for M9 & M16A2

**Condition Codes**

**Condition 1.** The bolt is locked to the rear. The safety is on. The source of ammunition is in position on the feed tray. The cover is closed.

**Condition 2.** Not applicable to the M240G.

**Condition 3.** The bolt is forward. The chamber is empty. The safety is off. The source of ammunition is in position on the feed tray. The cover closed.

**Condition 4.** The bolt is forward. The chamber is empty. The safety is off. The feed tray is empty. The cover is closed.

**Load and unload procedures**

**Load the M240G.** There are two methods of loading the M240G machine gun, the cover raised method and the cover closed method.

**Cover Raised Method.** To load with the cover raised, the bolt must be to the rear and safety lever on S.

- Open the cover.
- Place the belt of ammo on the feed tray with open side of links down against cartridge stop.
- Hold in place and close the cover.
- Pull the bolt to the rear and push the cocking handle forward.
- Place the weapon on safe.

**Cover closed method.** To load with the cover closed and the bolt forward, the safety must be on fire.

- The team leader takes a belt of ammunition with the open side of the link is down and forces the first round into the feedtray until the holding pawl engages it and holds it in place (distinct click).
- The gunner pulls the cocking handle to the rear and returns the handle forward.
- The gun is loaded and ready to fire.

**Unload the M240G.** To unload the gun, follow these steps.

- The gunner ensures the bolt is to the rear and places the weapon on safe.
- The gunner then raises the cover.
- The team leader clears the feed tray of ammunition and links.
- The gunner raises the feed tray and visually inspects the chamber.
- If the chamber is clear, unloading is completed.

**Immediate and Remedial Action**

Same as for M249 SAW

**Description and Technical Data** - The machine gun, caliber .50, Browning, M2HB (M2 .50 cal), is a belt-fed, recoil-operated, air-cooled, crew-served machine gun. The gun is capable of single shot as well as automatic fire.

Weights/measurements:

Total system weight (gun, and tripod complete) ..... 128 pounds

Ranges:

- Maximum (M2 ball) ..... 7,400 meters (approximate)
- Maximum effective ..... 1,830 meters
- Grazing fire ..... 700 meters
- Caliber ..... 50 caliber

Rates of fire:

- Sustained ..... 40 rounds or less per minute
- Rapid ..... More than 40 rounds per minute
- Cyclic ..... 450-550 rounds per minute

**Four weapon safety rules:**

Same as for M9 & M16A2

### **Condition Codes**

**Condition 1.** The ammunition is in position on the feedtray. The bolt is locked to the rear and the bolt latch release lock is up.

**Condition 2.** This weapon condition does not apply to the M2.

**Condition 3.** The ammunition is in position on the feed tray. The chamber is empty. The bolt is forward and the bolt latch release lock is up.

**Condition 4.** The feed tray is clear of ammunition. The chamber is empty. The bolt is forward and the bolt latch release lock is up.

### **Load and unload procedures**

**Half Load.** In order to half load the gun, the gunner takes the following steps:

- Ensure the bolt is forward and the cover is closed.
- Squad leader inserts the double loop end of the ammunition belt in the feedtray until the belt holding pawl engages the first round.
- Gunner grasps the retracting slide handle with the right hand, palm up, and vigorously jerk the bolt to the rear and release the retracting slide handle
- If the bolt latch release lock is engaging the bolt latch release, the bolt and retracting slide handle will move forward under pressure of the driving spring group, half loading the gun.
- If the bolt latch release is up and free of the bolt latch release lock, the bolt latch will hold the bolt and the retracting slide handle to the rear, the retracting slide handle must be returned to its most forward position prior to releasing the bolt.
- Press the bolt latch release, allowing the bolt to go forward in order to complete half loading.

**Full Load.** To fully load the gun, the procedure is the same as in half loading, except it requires the gunner to pull and release the bolt twice.

### **Unload.**

- Gunner unlocks the bolt latch release (if applicable).
- Pull the retracting slide handle to the rear and holds it there.

- Squad leader then removes the round that was ejected out of the bottom of the gun.
- Gunner raises the cover and the squad leader removes the ammunition belt from the feed tray.
- Gunner examines the chamber and t-slot.
- If there is a round still on the t-slot the gunner pulls the bolt an additional 1/6 inch to the rear and forces the round up and out of the t-slot by reaching under the gun and forcing the round up the face of the bolt.

**Immediate and Remedial Action**

Same as for M249 SAW

SEE APPENDIX E-4.

110.7 Discuss the following characteristics of the MK19 machine gun: [ref. g]

**Description and Technical Data** A self-powered, air-cooled, belt-fed, blowback operated weapon, the MK19 is designed to deliver accurate, intense, and decisive firepower against enemy personnel and lightly armored vehicles.

Total System Weight..... 140.6 pounds

Ranges:

- Maximum (M2 ball) ..... 2,212 (approximate)
- Maximum effective ..... 1500 meters (point target)
- Grazing fire ..... 2,212 meters area target

Bore diameter ..... 40 mm

Rates of fire:

- Sustained ..... 40 rounds or less per minute
- Rapid ..... 60 rounds per minute
- Cyclic ..... 325 - 375 rounds per minute

**Four weapon safety rules:**

Same as for M9 & M16A2

**Condition Codes**

**Condition 1.** Ammunition is in the position on the feed tray .The weapon has been charged twice. The bolt is locked to the rear and the safety is on.

**Condition 2.** This weapon condition does not apply to the MK19.

**Condition 3.** The ammunition is in the feed tray. The weapon has been charged once. The chamber is empty. The bolt is forward and the safety is on.

**Condition 4.** The feed tray is clear of ammunition, the chamber is empty, the bolt is forward and the safety is on.

**Load and unload procedures**

**Loading.**

- Bolt is forward, the weapon is on S (safe), and the cover is raised.
- Insert the first round into the feeder. Female link first.
- Push or slide the round across the first pawl
- Move the feed slide assembly to the left.
- Close the cover.

**Charging The Gun.**

- Place the safety in fire position.
- Grasp the charger handles and press the charger handle locks up and in.
- Rotate the charger handles down and pull them to the rear
- Press the lock and push the charger handles forward and up to original position.
- Place the safety on F and press the trigger; the bolt will spring forward, loading the first round on to the face of the bolt.
- Pull the charger handles to the rear, which places the bolt and round into position to and up position.
- The weapon is prepared to fire. Put the safety on S until ready to fire.

**Unloading.** Open the cover. Reach beneath the feeder, and press the primary and secondary positioning pawls, at the same time, slide the linked rounds out of the feeder and feed tray

### **Immediate and Remedial Action**

**Malfunction.** A malfunction is a failure of the gun to function satisfactorily; the gun will fire, but fires improperly.

**Sluggish Operation.** Usually due to human failure to eliminate excessive friction caused by lack of lubrication or excessive dirt/carbon and burred parts.

-Clean, inspect and lube the gun.

**Runaway Gun.** This is the case when a gun continues to fire after you release the trigger; firing is uncontrolled. Caused by worn parts or short recoil of the bolt assembly. Use one of the following methods when you have a runaway gun.

**Free gun.** Keep the gun pointed down range and let weapon fire off remaining rounds if near the end.

**NOTE:** Never reload a runaway gun until it is repaired

**Firing out of battery.** This is a serious malfunction. A round is being fired before it is fully seated in the chamber. The gunner should see smoke a flash or powder blowback from the bottom of the gun. The following procedures should be followed:

- Cease-fire immediately.
- Place weapon on safe.
- Clear the area around the gun of all personnel and ammunition.
- Notify safety and ordnance personnel.
- Do not attempt to fire the weapon again until it has been inspected and fixed by higher echelon maintenance personnel.

**Stoppages.** A stoppage is any interruption in the cycle of operation caused by faulty action of the weapon or defective ammunition. In short the gun stops firing. A stoppage must be cleared quickly by applying immediate action.

**Immediate Action.** Is that action taken by the gunner/crew to reduce the stoppage, without investigating the cause, and quickly return the gun to action.

- Clear the area of personnel.
- Wait 10 seconds.
- Pull the bolt to the rear, and catch the round as it is being ejected
- Push the charger handles forward and up.
- Attempt to fire.
- If nothing happens put the gun on S.

- Wait ten seconds.
- Pull the bolt to the rear, catch the round as it is being ejected.
- Open the cover, unload, and clear the weapon.

**Remedial Action** - is when immediate action fails to reduce a stoppage, remedial action must be applied. This involves investigating the cause of the stoppage and may require disassembly of the weapon and replacement of parts to correct the problem.

SEE APPENDIX E-4.

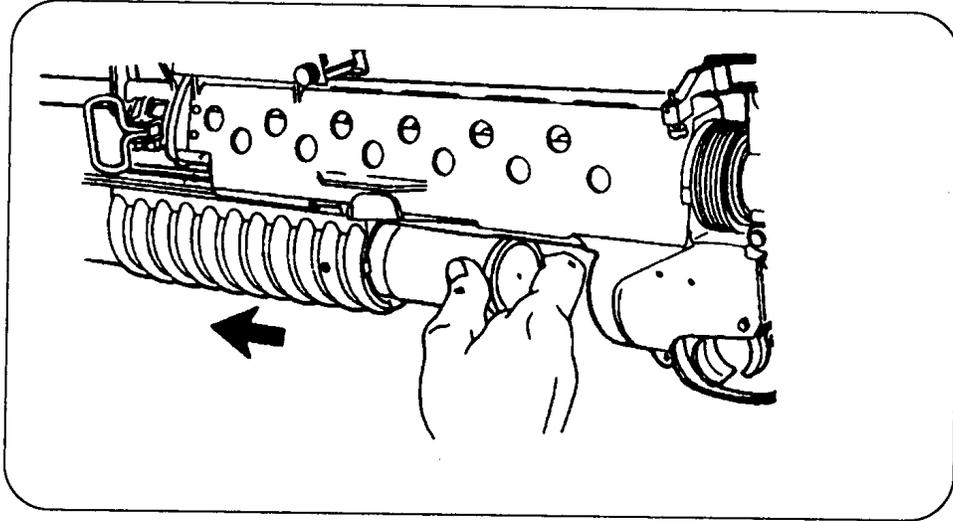


**M9 9mm Pistol**

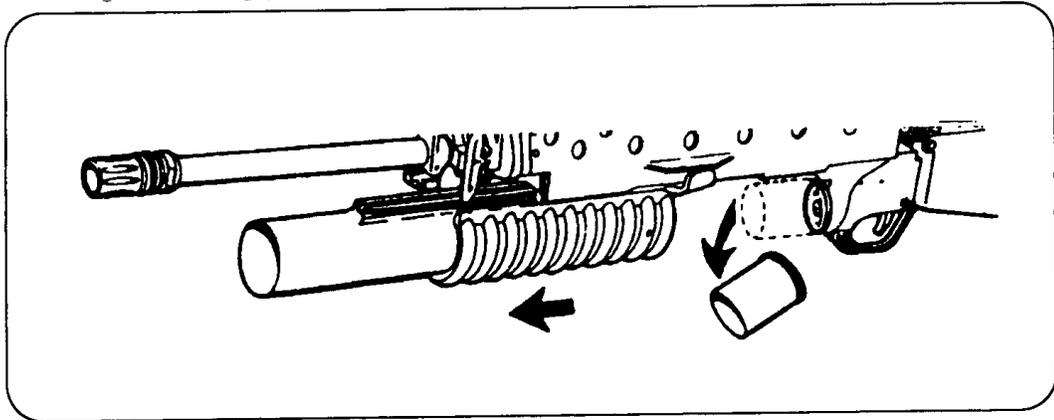


**M16A2**

**E-1**



**M203 Load**



**M203 Unload**



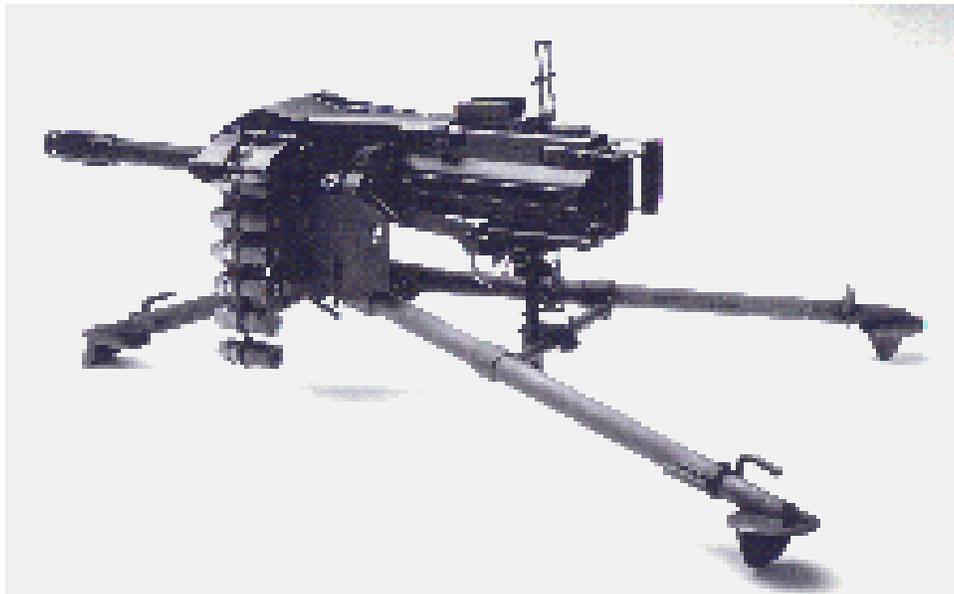
**M203**



**M249 Squad Automatic Weapon (SAW)**



**M2 .50 cal Machine Gun**



**Mk 19 40mm Machine Gun**



## 111 TACTICAL MEASURES FUNDAMENTALS

### References:

- [a] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)  
[b] USMC, Marine Corps University Sergeant's Course (SCRS0808)
- 

- 111.1 Explain unaided day and night observation techniques.  
[ref. a, pp. 1-13-1 thru 1-13-3]

#### **Avoid all unnecessary movement.**

- Remain motionless while observing. Anything in motion attracts the eye.
- Use all available concealment because it offers a low silhouette and makes detection by the enemy difficult.
- Expose nothing that reflects light.
- Blend with the background because contrasting colors are noticeable.
- Remain in the shade because moving shadows attract attention.
- Distort or change the regular outline of objects. Most military objects have distinctive shapes that make obvious shadows and silhouettes.
- Avoid the skyline. Figures on the skyline can be seen from great distances and are easily identified by their outlines.

#### **Search field of view using the off-center vision method.**

This technique requires viewing an object by looking 6 to 10 degrees above, below, or to either side of the object rather than directly at it.

#### **Search field of view using the scanning method.**

- Scanning enables the Marines to overcome many of the physiological limitations of their eyes. It can also reduce confusing visual illusions. This technique involves looking from right to left or left to right using a slow, regular scanning movement as shown in Appendix F-1. At night, it is essential to avoid looking directly at a faintly visible object when trying to confirm its presence.

#### **Search field of view using the strip method.**

- In daylight, look first at the ground nearest you. Begin observing close to your post and search a narrow strip 50 meters or less deep, going from right to left parallel to your front. Then search from left to right a second and similar strip farther away, but overlapping the first. Continue to observe until the entire field of view has been searched as in Appendix F-1.

#### **Preserve night vision when subjected to lighted areas or illumination.**

- When entering a lighted area or observing in a temporarily lighted area such as illumination and flares, one eye should be closed and covered to preserve its night vision.
- When the light goes off, fades, or the lighted area is exited, the night vision retained by the protected eye enables it to see until the other eye adapts to the darkness.
- Red light helps preserve night vision, but like white light, it can be observed at long distances.

- Factors that decrease night visual acuity include fatigue, lack of oxygen, long exposure to sunlight, alcohol, nicotine within the past 48 hours, and age.
- When night vision has been attained, straining will not improve effectiveness; however, practicing to identify objects at night will improve perception.

**Demonstrate techniques that enhance hearing.**

- Hearing is amplified with the mouth open.
- Removing the helmet will reduce sound distortion.
- By holding the ear close to the ground, sounds of people walking and vehicles moving can be heard

111.2 Define and discuss the intelligence information report (SALUTE). [ref. a, p. 1-13-11]

**Size and/or strength**

**Activity or actions**

**Location and direction of movement**

**Unit identification** (The enemy unit may be derived from unit markings, uniforms worn, or through prisoner interrogation)

**Time of observation**

**Equipment and weapons**

EXAMPLE: "Seven enemy soldiers, traveling SW, crossed road junction on BLACK RIDGE, unit unknown, at 211300 Aug carrying 1 machinegun and 1 rocket launcher"

111.3 Define and discuss the five paragraphs of the operations order (SMEAC). [ref. a, p. 1-13-17]

***Situation***

- Environment. Weather, terrain, visibility, local population situation, and behavior as they impact on the patrol and enemy forces.
- Enemy Forces. Consists of the composition, disposition, location, movement, capabilities, and recent activities of the enemy forces.
- Friendly Forces. A statement of the mission of the next higher unit, location and mission of adjacent units, and mission of non-organic supporting units that may affect the actions of the unit.
- Attachments and Detachments. Units attached to or detached from the patrol by higher headquarters, including the effective time of attachment or detachment.

**Mission**

A clear, concise statement of the task that the patrol must accomplish.

***Execution***

- Concept of Operations is the patrol leader's brief summary of the tactical plan the patrol is to execute.
- Subordinate Tasks (Missions). In each succeeding paragraph, missions are assigned to each element and any attached units.

- Coordinating Instructions. In the last paragraph, instructions that apply to two or more subordinate elements, coordination of details, and control measures applicable to the patrol as a whole.

## Administration and Logistics

This paragraph contains information pertaining to rations and ammunition; location of the distribution point, corpsman, and aid station; the handling of prisoners of war; and other administrative and supply matters.

## Command and Signal

- Special instructions on communications, including prearranged signals, password and countersign, radio call signs and frequencies, emergency signals, radio procedures, pyrotechnics, and restrictions on the use of communications.
- Location of patrol leader.
- Location of assistant patrol leader
- Location of subordinate leaders

111.4 Discuss the following hand and arm signals: [ref. a, pp. 1-14-2 thru 1-14-6]

**Column formation** - Raise either arm to the vertical position. Drop the arm to the rear, describing complete circles in a vertical plane parallel to the body. The signal may be used to indicate either a troop or vehicular column. (Appendix F-2)

**Echelon left/right** - The leader may give this signal either facing towards or away from the unit. Extend one arm 45 degrees below the horizontal, palms to the front. The lower arm indicates the direction of echelon. (Example: for echelon right, if the leader is facing in the direction of the forward movement, the right arm is lowered; if the leader is facing the unit, the left is lowered.) Supplementary commands may be given to ensure prompt and proper execution. (Appendix F-2)

**Skirmishers left/right** - Raise both arms lateral until horizontal, arms and hands extended, palms down. If it is necessary to indicate a direction, move in the desired direction at the same time. When signaling for fire team skirmishers, indicate skirmishers right or left by moving the appropriate hand up and down. The appropriate hand does not depend on the direction the signaler is facing. Skirmishers left will always be indicated by moving the left hand up and down; skirmishers right, the right hand. (Appendix F-2)

**Wedge formation** - Extend both arms downward and to the side at an angle of 45 degrees below the horizontal, palms to the front. (Appendix F-2)

**Fireteam** - The right arm should be placed diagonally across the chest. (Appendix F-3)

**Squad** - Extend the hand and arm toward the squad leader, palm of the hand down; distinctly move the hand up and down several times from the wrist, holding the arm steady. (Appendix F-3)

**Platoon** - Extend both arms forward, palms of the hands down toward the leaders (or units) for whom the signal is intended, and describe large vertical circles with hands. (Appendix F-3)

**Close Up** - Start the signal with both arms extended sideward, palms forward, and bring palms together in front of the body momentarily. When repetition of this signal is necessary, the arms are returned to the starting position by movement along the front of the body. (Appendix F-3)

**Open Up** - Start the signal with the arms extended in front of the body, palms together, and bring the arms to the horizontal position at the sides, palms forward. When repetition of this signal is necessary, the arms are returned along the front of the body to the starting position and the signal is repeated until understood. (Appendix F-4)

**Halt/Stop** - Carry the hand to the shoulder, palm to the front; then thrust the hand upward vertically to the full extent of the arm and hold it in that position until the signal is understood. (Appendix F-4)

**Dismount/Take cover** - Extend the arm sideward at an angle of 45 degrees above the horizontal, palm down, and lower it to side. Both arms may be used in giving this signal. Repeat until understood. (Appendix F-4)

**Hasty Ambush Left/Right** - Raise fist to shoulder level and thrust it several times in the desired direction. (Appendix F-4)

111.5 Define and discuss the acronym SAFE when constructing a fighting position.  
[ref. a, p. 1-15-1]

**Security:** Set up security before digging in.

**Automatic Weapons:** Set up your automatic weapons so that they are oriented to the most likely avenues of approach.

**Field of Fire:** Clear your fields of fire.

**Entrenchment:** Dig in your positions

111.6 Discuss the characteristics of the following fighting positions:  
[ref. a, pp. 1-15-2, 1-15-3]

#### **Individual fighting position**

The size and shape of the fighting hole are affected by certain important considerations. It is as small as practicable, exposing a minimum target to enemy fire; wide enough to accommodate the shoulders of a man sitting on the fire step; long enough to permit use of an entrenching tool; and at least 4 feet deep to the fire step. The Marine should be able to aim and fire his or her weapon when standing on the fire step.

**Two-man fighting position** - The two-man fighting hole consists essentially of two adjacent one-man fighting holes. Details of construction are as follows:

- In most types of soil, the fighting hole gives protection against the crushing action of tanks provided the occupant crouches at least 2 feet below the ground surface. In sandy or soft soils, it is necessary torevet the sides to prevent caving in. The soil is piled around the hole as a parapet, approximately 3-feet thick and ½-foot high, leaving a berm or shelf wide enough for the Marine to use as an elbow rest while firing. If turf or topsoil is used to camouflage the parapet, the Marine first removes sufficient ground cover and sets it aside until the fighting hole is completed. Once complete, the ground cover can then be laid on the top and side of the parapet so that it will better blend in with surrounding ground.

111.7 Discuss the advantages and disadvantages of a two-man fighting hole.  
[ref. a, p. 1-15-3]

**Disadvantages:** Since it is longer than the one-man type, the two-man fighting hole offers somewhat less protection against a tank crossing along the long axis, as well as less protection against strafing, bombing, and shell fragments.

**Advantages:** It allows continuous observation, mutual assistance and reassurance, and the redistribution of ammunition between the occupants.

111.8 Identify the individual combat equipment (782) used for tactical operations.  
[ref. a, pp. 1-17-9 thru 1-17-15]

**Ensure serviceability of 782-gear.**

- Scrub any soiled spots lightly with a brush, or use a white or colorfast cloth.
- Dry items in the shade or indoors.
- Do not dry items in the sun because direct sunlight will discolor them.
- Do not dry 782-gear in a mechanical/commercial dryer because this creates excessive wear and may damage the dryer.

**Maintaining the canteens and canteen cup.**

- Wash the canteens and canteen cup with warm, soapy water.
- Rinse thoroughly.
- Keep the canteen cup clean and dry when not using
- Check for holes and rust.

**Inspect and clean the flak jacket.**

- Visually inspect the flak jacket. Inspect for:
  - Bunching caused by lumps or distortion in the ballistic nylon filter.
  - Tears, punctures, or damages to the outer nylon cover.
  - An increase in weight, which indicates that the nylon filter has become wet.
  - A damaged or dirty hook-and-pile velcro fastener.
- Clean the hook-and-pile fastener by washing it with warm, soapy water or by brushing it, as necessary.

- Inspect for broken or missing elastic laces.

NOTE: Turn in a damaged jacket as soon as possible to supply

- Brush off mud and loose dirt.
- Wash the front, back, and the inside of the jacket.
- Air-dry the jacket.

**Maintaining the helmet.**

- Do not heat water in it.
- Do not hammer with it.
- Do not dig with it
- Clean the suspension, headband, chinstrap, and retention band of the helmet.
- Wash the suspension, headband, chinstrap, and retention band.

## **Assemble 782-gear and adjust for fit.**

### **Fit and adjust the belt.**

- Slide the two metal keepers away from the belt buckle and the adjusting clamp.
- Unlock the adjusting clamp by spreading the looped webbing apart.
- Slide the adjusting clamp toward the belt buckle to loosen the belt and away from the belt buckle to tighten it.
- Squeeze the adjusting clamp to lock the cartridge belt in place.
- Slide the metal keepers so one is next to the belt buckle and the other is next to the adjustable clamp.
- Buckle and place the cartridge belt.
- Attach the ammunition cases to the belt.
- Pull each slide keeper attached to the case to an open position, and slide it over one thickness of the webbing
- Push the slide keeper down and into the bottom holes.
- Attach the suspenders to the belt and magazine pouches.
- Open all suspender-snap hooks by pushing the hooks up and out of the retainers.
- Attach the back suspender-snap hooks into the eyelets at each side of the two, center, top eyelets at the back of equipment belt.
- Attach the front, suspender-snap hooks to the top eyelet nearest the buckle on each end of the belt, or fasten the snap hook on the eyelet of each magazine pouch.
- Attach the canteen cover. Using the two slide keepers on the back of the canteen cover, attach the cover on the right side as close as possible to the ammunition case.
- Attach the first aid kit using the slide keeper on the back of pouch, attach the pouch to the center of the back of the belt.
- Attach the bayonet with scabbard.
- Fasten the double hook on the back of the scabbard into the two eyelets of the individual equipment belt.
- Adjust the front and back suspender straps.
- Put on the belt and fasten the buckle after you have the equipment attached to the belt and suspenders.
- Adjust the length of the front and back suspender straps so the belt hangs evenly at your waist and the yoke is positioned comfortably
- Pull down on the loose end of each strap to tighten (to raise the belt), or lift the end of each strap buckle to loosen (to lower the belt).
- Secure the loose ends of the straps with the elastic loops.

### **Assemble the components of the helmet.**

Adjust the headband.

- Open all headband clips
- Make the headband larger than your head size.
- Put the headband on your head as you would a hat.
- Adjust the headband until it fits snugly.
- Take the headband off.
- Insert the headband into the helmet
- Slip the clips over the fixed web straps centering the two front clips
- Close all clips
- Put the helmet on your head
- Mount the camouflage cover on the helmet
- Put the cover over the helmet so the end marked "front" covers the bill of the helmet.

- Pull the cover over the back and sides of the helmet, and thread each end of the chinstrap through slits on the side of the cover.
- Extend the six, cover-retaining tabs down and around the fixed web strap of the suspension system (not the headband); fasten the tab onto itself using the Velcro closures.
- Place the elastic helmet band over the helmet and cover.

**Silence gear.**

- To silence 782-gear during combat patrolling, follow the steps below.
- Cover all metal areas with tape.
- Tape up all loose straps.
- Tape anything that could enhance noise.

**Waterproof gear.**

- To waterproof 782-gear, follow the steps below.
- Use trash and zip lock bags to prevent gear from getting wet.
- Use waterproof bag to keep sleeping bag from getting wet

111.9 Discuss camouflage, cover, and concealment. [ref. a, p. 1-17-17]

**CAMOUFLAGE:** Anything that you can use to keep yourself, your equipment, and your position from looking like what they really are. You can also use both natural and manmade materials for camouflage.

**COVER:** Anything that gives protection from bullets, fragments of exploding rounds, flame, nuclear effects, and biological and chemical agents. Cover can also conceal you from enemy observation. Cover can be natural or manmade.

**CONCEALMENT:** Anything that hides you from enemy observation. Concealment does not protect you from enemy fire

111.10 Describe the following individual movements: [ref. a, pp. 1-17-33 thru 1-17-40]

**High crawl –**

- Cover and/or concealment are available.
- Poor visibility reduces enemy observation.
- Greater speed of movement is required.

**To perform the high crawl,**

- Keep your body off the ground.
- Rest weight on forearms and lower legs.
- Cradle rifle in arms, keeping the muzzle off the ground.
- Keep knees well behind the buttocks to stay low.
- Move forward, alternately advancing right forearm and left knee, then left forearm and right knee.

**Low crawl –**

**The low crawl is used when**

- Cover and concealment are scarce.
- The enemy has good observation over the area in which the scout is moving.

- Speed is not essential.

#### **To perform the low crawl,**

- Keep your body as flat as possible against the ground.
- Grasp the rifle sling at the upper sling swivel.
- Let the balance of the rifle rest on the forearm and let the butt of the rifle drag on the ground.
- Keep the muzzle off the ground.
- Start forward by pushing your arms forward and pulling right leg forward.
- Move forward by pulling with arms and pushing with right leg. Change the pushing leg frequently to avoid fatigue

#### **Back crawl**

##### **To perform the back crawl,**

- Slide head first, on your back.
- Push yourself forward with your shoulders and heels.
- Carry your weapon lengthwise on your body.

#### **Rush**

##### **When starting from the prone position,**

- Raise your head slowly and steadily and select a new position.
- Lower your head slowly, draw arms inward, cock right leg forward, and prepare to rush.
- Use one movement to raise the body by straightening both arms.
- Spring to your feet, stepping off with the left foot.
- Bend forward as low as possible when running.
- Never advance directly to the next position; always zigzag.

##### **When hitting the deck,**

- Stop.
- Plant both feet in place.
- Drop quickly to the knees and slide the hand to the heel of the rifle.
- Fall forward, breaking your fall with the butt of the rifle. (To confuse the enemy, roll over after hitting the deck and roll into firing position with feet, knees, and stomach flat on the ground.)
- Keep your head down if you do not intend to fire.

##### **When rolling over,**

- Hit the deck and assume the prone position.
- Bring the rifle in close to the body, placing the rifle butt in the crotch.  
Roll over swiftly to confuse any enemy observers as to your final intended location.  
Never reappear at the same place you went down.

#### **Night Walk**

##### **When walking at night,**

- Place the heel down first. Balance the weight of your body on the rear foot until a secure spot is found.
- Lift the forward foot high to clear any stiff grass, brush, or other obstruction.
- Continue to balance body weight on the rear foot, lower the forward foot gently, toe first, to explore the ground for objects that might make noise.
- Step over fallen logs and branches, not on them.  
Lower the heel of the forward foot slowly, gradually transferring body weight to that foot.

## **Creeping**

### **To perform the creeping technique,**

- Creep at night on the hands and knees.
- Use your hands to feel for twigs, leaves, or other substances that might make a noise.
- Clear a spot to place your knee. Keeping your hand at that spot, place your knee in the same spot. Keeping your hand at that spot, place your knee on the ground and repeat the action with the other hand and knee.

## **Crossing a wall**

- Reconnaissance the wall before crossing.
- Quickly roll over the wall, keeping a low silhouette. The speed of your movement and a low silhouette deny the enemy a good target

## **Observing around a corner**

Observe the area around a corner before moving beyond it. The most common mistake made at a corner is allowing the weapon to extend beyond the corner before observing, thereby exposing your position.

## **Short stock technique.**

The shooter should be capable of both right-handed and left-handed firing of his or her weapon using this technique to be effective around corners. Short stocking the weapon will prevent the muzzle from protruding and keep the weapon ready to fire the instant visual contact is made with the enemy. Furthermore, it reduces the Marine's exposure as a target. A common mistake when firing around corners is firing from the standing position. The shooter exposes him or herself at the height the enemy would expect a target to appear and risks exposing the entire length of the body as a target for the enemy.

## **Popping the corner technique.**

- Get into a prone position near the corner of a building or obstacle around which to observe. The weapon is short stocked, and the muzzle is pointed in the direction you are looking. This allows you to engage a target, if necessary, when observing around a corner.
- Crawl to the corner but don't expose yourself.
- Raise your upper body onto your elbows. Then push your body forward with your feet and legs without moving your elbows. Your upper body, with the weapon ready, will move forward.
- The final position will expose the weapon, your helmet, and a minimal amount of your face. Your forearms will come to rest on the deck giving you a low profile, the ability to observe around the corner, and the immediate capability to engage targets with your weapon.

## **Crossing a Danger Area**

- Open areas such as streets, alleys, and parks should be avoided. They are natural kill zones for enemy crew-served weapons.
- Use smoke from hand grenades or smoke pots to conceal the movement of all Marines. Run the shortest distance between buildings and move along the far building to the next position. By doing so, you reduce the amount of time during which you are exposed to enemy fire.

- Before moving to another position, make a visual reconnaissance and select the position that offers the best cover and concealment. At the same time, select the route that you will take to get to that position.
- When moving from position to position, be careful not to mask your supporting fires. When you reach your next position, be prepared to cover the movement of other members of your assault force or element.

111.11 Discuss the following MEDEVAC categories of precedence and the criteria used to determine their assignment: [ref. b, p. 0808H1]

**DETERMINE THE PRECEDENCE OF THE CASUALTY.** The senior military person present makes the determination to request medical evacuation and assignment of precedence. The following are categories of precedence and the criteria used in their assignment:

**Priority 1 - Urgent.** Assigned to emergency cases that should be evacuated as soon as possible and within a maximum of 2 hours in order to save life, limb, or eyesight, to prevent complications of serious illness, or to avoid permanent disability.

**Priority 1A - Urgent-Surgical.** Assigned to patients who must receive far forward surgical intervention to save life and to stabilize them for further evacuation

**Priority 2 - Priority.** Assigned to sick and wounded personnel requiring prompt medical care. This precedence is used when the individual should be evacuated within 4 hours or his medical condition could deteriorate to such a degree that he will become an URGENT precedence, or whose requirements for special treatment are not available locally, or who will suffer unnecessary pain or disability.

**Priority 3 - Routine.** Assigned to sick and wounded personnel requiring evacuation but whose condition is not expected to deteriorate significantly. The sick and wounded in this category should be evacuated within 24 hours.

**Priority 4 - Convenience.** Assigned to patients for whom evacuation by medical vehicle is a matter of medical convenience rather than necessity

111.12 Discuss the criteria for selection of a helicopter landing zone. [ref. b, pp. 0808H2, 0808H3]

**The size of the landing zone** will dictate what type of helicopters will be able to support your MEDEVAC and may determine how large of a landing zone will need to be cleared (see Appendix F-5).

- Notice that the size of the obstacles around the landing zone is paramount, locations requiring vertical ascent or decent are not desirable.
- Site should not contain high obstacles or debris, which will be blown by rotor wash.
- The site should offer some measure of protection for the vulnerable helicopter form enemy direct fire weapons. Terrain cover and an effective base of fire suppressive fire during the critical landing, loading can provide this protection, and departure phases of an evacuation conducted in forward battle areas.
- Flat open spaces and hilltops are good locations for a landing zone.

- All around security (360-degree perimeter defense) should be maintained at all times.
- In extreme cases, where single and double canopy exists, casualties may have to be evacuated by hoisting as the helicopter hovers overhead.

**Selection of a pickup zone** necessitates extremely accurate map reading and communications with the helicopter. For normal operations when the helicopter approaches the landing site, the platoon commander should throw a smoke grenade to mark his position and show the pilot the direction of the wind. The platoon commander should also inform the pilot of the friendly position and the enemy position and situation. Particularly in a debris-strewn landing site, a Marine should direct the helicopter in, signaling where it is clear for the aircraft to land in the site. All obstacles within the landing zone need to be marked, so that the pilot has a clear view of the situation. Air panel markers are an excellent means of marking obstacles during good visibility; there are various methods to mark obstacles during low light situations, i.e., colored chemical lights. All Marines in the platoon should be trained in directing helicopters into a landing site, requesting medical evacuation helicopters from the company commander and communicating with the pilot over the radio. Radio communications are particularly important in night operations. Because of the inherent danger in night evacuation, the seriousness of the wound must be considered. It might be advantageous to wait until first light to evacuate the casualty.

**Marking the landing zone.** The size of the landing zone is dependent upon the height of the obstacles surrounding the zone and the number and type of helicopters needed on the largest wave planned landing zone size should be determined by using Appendix F-5 and computing the number of landing points needed to support the operation. Simple multiplication should provide good planning data.

- A landing point is a specific point where one helicopter can land. Landing points collectively form landing sites.

- A landing site is an area within a large landing zone used by the helicopter borne unit as a tactical control designator in order to land in predetermined locations. When such separation of units and functions is not required, the helicopter wave or flight leaders should be given the prerogative to land where safety and flight characteristics dictate

- The marking of landing zones varies from the initial marking with smoke for landing zone identification and wind direction to elaborate markings. When using panels, care must be exercised to ensure proper security from the effects of rotor wash, either by distance separation or staking and typing of the panels. Smoke is best used downwind from the landing points so as not to obscure vision during landing.

111.13 Discuss the procedures for requesting a MEDEVAC.  
[ref. b, pp. 0808H3 thru 0808H5]

**REQUESTING A MEDEVAC.**

**Helicopters** are normally requested through battalion, but the platoon and rifle company commanders should be aware of their availability under all circumstances. A MEDEVAC request is submitted to the appropriate unit using a MEDEVAC request. The medical evacuation request is used for requesting evacuation support for both air and ground ambulances. There are two established medical evacuation formats and procedures – one for wartime use and one used in peacetime.

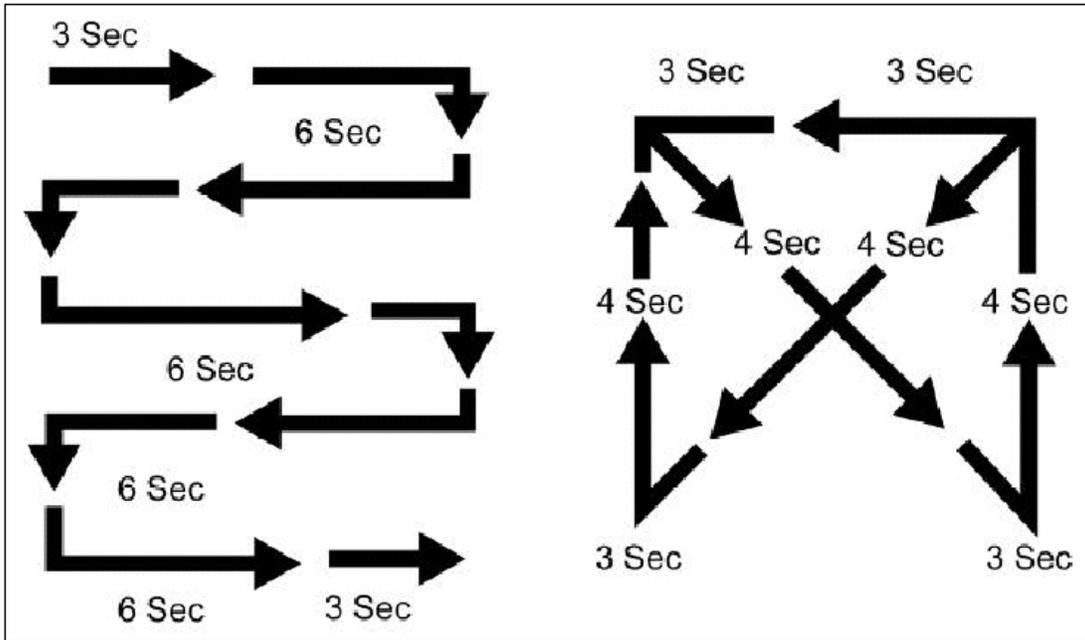
Several differences exist between the wartime and the peacetime medical evacuation request formats and procedures.

Line 6 – changed to number and type of wound, injury, or illness (two gunshot wounds and one compound fracture). If serious bleeding is reported, the patient's blood type should be given, if known.

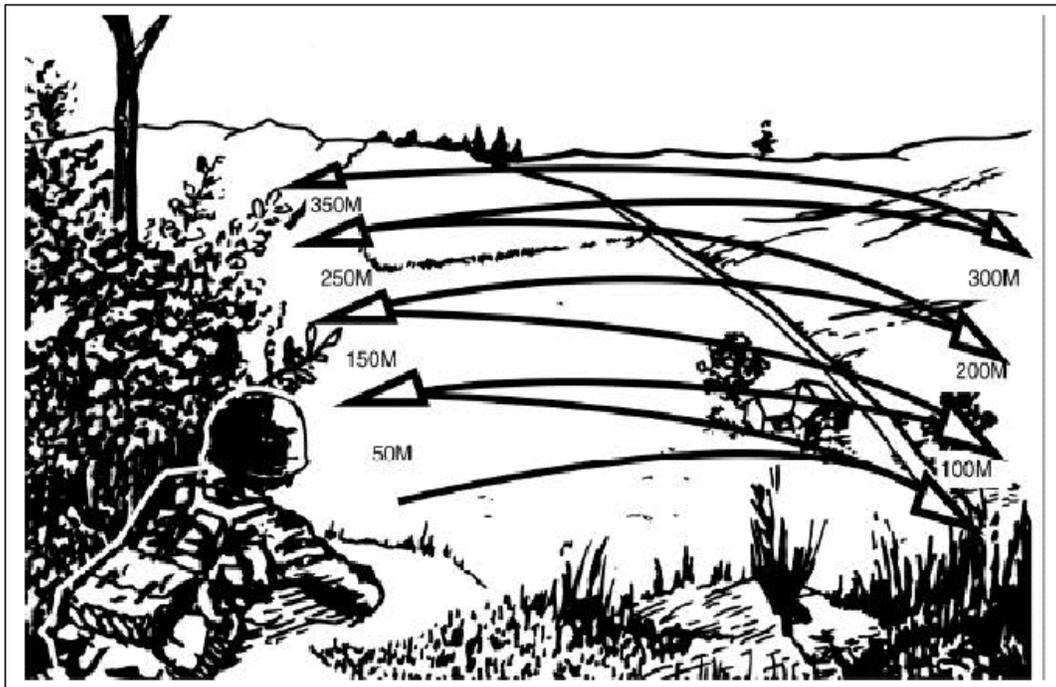
Line 9 – changed to description of terrain (flat, open, sloping, wooded). If possible, include relationship of landing area to prominent terrain features.

**Security** is another basic difference between wartime and peacetime requesting procedures. Under all non-war conditions, the safety of US military and civilian personnel outweighs the need for security, and clear text transmissions of medical evacuation requests are authorized. During wartime, the rapid evacuation of patients must be weighed against the importance of unit survivability. Accordingly, wartime medical evacuation requests are transmitted by secure means only.

See Appendix F-6 and F-7 for 9-Line Medevac Request Format



**Scanning Method of Observation**



**Strip Method of Observation**



**Column**



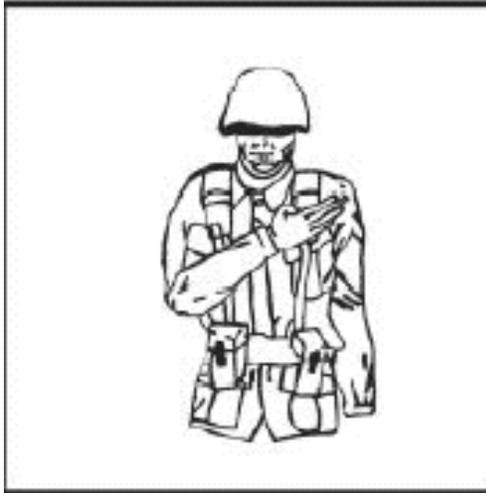
**Echelon**



**Skirmishers**



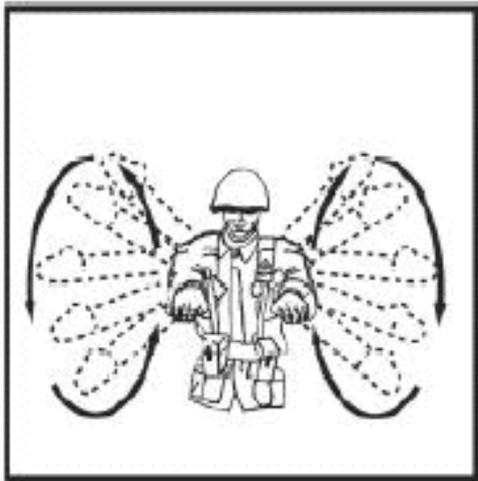
**Wedge**



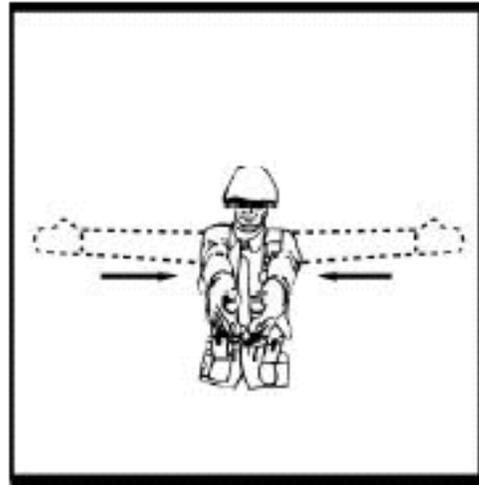
**Fireteam**



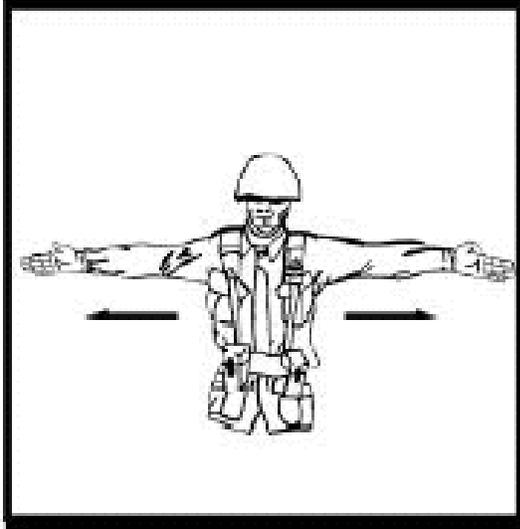
**Squad**



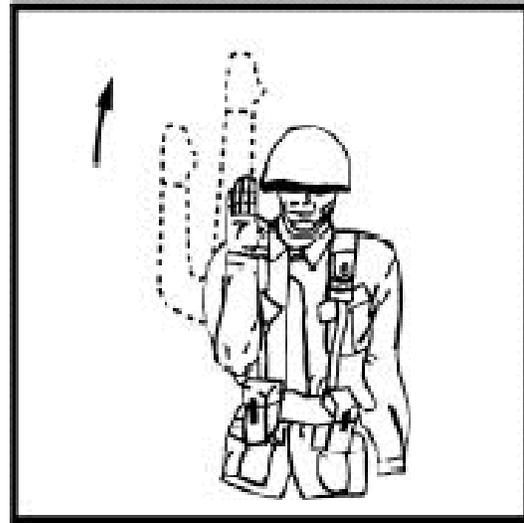
**Platoon**



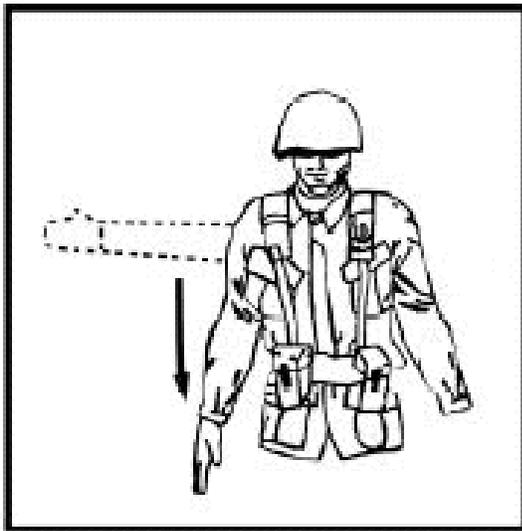
**Close Up**



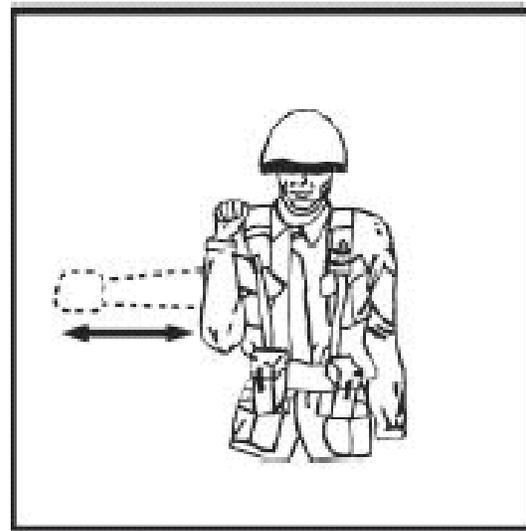
**Open Up**



**Halt**



**Dismount**



**Hasty Ambush**



OVERALL LENGTH	OBSTRUCTION HEIGHT (FEET)		LANDING ZONE DIAMETER TYPE			
	(FEET)					
		5-40	40-80	80- +		
UH-1E/N	57/57			100	150	200
CH-46	46/84			175	250	350
CH-53D	56/89			175	250	350
CH-53E	60/99			175	250	350

# Helicopter Landing Zone Diameter

F-5



LINE	ITEM	EXPLANATION	WHERE/HOW	WHO NORMALLY	REASON
			OBTAINED	PROVIDES	
1	Location of Pickup site	Encrypt the grid coordinates of the pickup site. When using the DRYAD Numeral Cipher, the same "SET" line will be used to encrypt the grid zone letters and the coordinates. To preclude misunderstanding, a statement is made that grid zone letters are included in the message (unless unit SOP specifies its use at all times).	from map	Unit Leaders	Required so evacuation vehicle knows where to pickup patient. Also, so that the unit coordinating evacuation mission can plan the route for the evacuation vehicle (if the evacuation vehicle must pick up from more than one location).
2	Radio Frequency call sign, and suffix	Encrypt the frequency of the radio at the pickup site, not a relay frequency. The call sign (and suffix if used) of person to be contacted at the pickup site may be transmitted in the clear.	From SOI	RTO	Required for that evacuation vehicle can contact requesting unit while en route (obtain additional information or change in situation or direction)
3	Number of Patients by Precedence	Report only applicable information and encrypt the brevity codes. A- Urgent B- Urgent-Surgical C- Priority D- Routine E- Convenience If two or more categories must be reported in the same request, insert the word "Break" between each category.	From SOI	RTO	Required by the unit controlling the evacuation vehicles to assist in prioritizing missions.
4	Special Equipment Required	Encrypt the applicable brevity codes A - None B - Hoist C- Extraction Equipment D-Ventilator	From evaluation of patient(s)	Medic or senior person present	Required so that the equipment can be placed on board the evacuation vehicle prior to the start of the mission.
5	Number of Patients by Types	Report only applicable information and encrypt the brevity code.	From Evaluation of patients	Medic or senior person	Required so that the appropriate number of
6	Security of Pickup Site (WARTIME)	N- No enemy troops in area P- Possibly enemy troops in area (approach with caution) E- Enemy troops in area (approach with caution)	From evaluation of situation.	Unit Leader	Required to assist the evacuation crew in assessing the situation and determining if assistance is required.

X- Enemy troops in area  
(armed escort required)

More definitive guidance  
can be furnished to  
the evacuation vehicle  
while it is enroute  
(specific location of enemy  
to assist an aircraft in  
planning its approach).

## **9-Line Medevac Request**

**F-6**

LINE	ITEM	WHERE/HOW	WHO NORMALLY	PROVIDES	REASON
		EXPLANATION	OBTAINED		
6	Number and type of wound, injury, or illness <b>(PEACETIME)</b>	Specific information regarding patient wounds by type (gunshot or shrapnel). Report serious bleeding, along with patient blood type, if known	From evaluation of patient.	Medic or senior person present	Required to assist evacuation personnel determining treatment and special equipment needed.
7	Method of Marking Pickup Site	Encrypt the brevity codes. A- Panels B- Pyrotechnic signal C- Smoke Signal D- None E- Other	Based on situation and availability	Medic or senior person present	Required to assist the evacuation crew in identifying the specific location of the pick up. Note that the color of the panels or smoke should not be transmitted until the evacuation vehicle contacts the unit (just prior to its arrival). For security, the crew should identify the color and unit verify.
8	Patient Nationality and Status	The number of patients in each category need not be transmitted. Encrypt only the applicable brevity codes. A- U.S. Military B- U.S. Civilian C- Non U.S. Military D- Non U.S. Civilian E- EPW	From evaluation of patient	Medic or senior person present	Required to assist in planning for destination facilities and need for guards. Unit requesting support should ensure that there is an English speaking representative at the pickup site.
9	NBC Contamination <b>(WARTIME)</b>	Include this line only when applicable. Encrypt the applicable brevity codes. N- Nuclear B- Biological C- Chemical	From situation	Medic or senior person present	Required to assist in planning for the mission (Determine which evacuation vehicle will accomplish the mission and when it will be accomplished).
9	Terrain Description <b>(PEACETIME)</b>	Includes details of terrain features in and around proposed landing site. If possible, describe relationship of site to prominent terrain feature (lake, mountain, tower).	From area survey	Personnel at site	Required to allow evacuation personnel to assess route/avenue of approach into area. Of particular importance if hoist operation is required.

## 9-Line Medevac Request

F-7

References:

- [a] Headquarters Marine Corps, Department of Aviation Website (<http://www.hqmc.usmc.mil/>)
  - [b] US Navy Ships Website (<http://www.fas.org/man/dod-101/sys/ship/>)
  - [c] Joint Publication 3-07, Joint Doctrine for Military Operations Other Than War
  - [d] MCWP 3-35.3, Military Operations on Urbanized Terrain (PCN 14300003500)
  - [e] MCCP 1, Operation Maneuver From the Sea (PCN 14500000100)
- 

112.1 Discuss the primary function and mission of the following Marine Corps aviation platforms: [ref. a]

**AH-1W Cobra** (See Appendix G-1)

Primary function: [Attack helicopter](#)

Mission: [Fire support and security for forward and rear area forces, point target/anti-armor, anti-helicopter, armed escort, supporting arms control and coordination, point and limited area air defense from enemy fixed-wing aircraft.](#)

Features: [The AH-1W Super Cobra is a Marine Corps attack helicopter capable of operating in day, night and limited visibility. The AH-1W provides enroute escort for our assault helicopters and their embarked forces. The Cobra provides fire support and fire support coordination to the landing force during amphibious assaults and subsequent operations ashore.](#)

**CH-46E Sea Knight** (See Appendix G-1)

Primary function: [Medium lift assault support helicopter](#)

Payload:

[9-16 passengers/combat troops](#)

[Medical evacuation: 15 litters and 2 attendants](#)

[Cargo: 2,000 - 4,000 pounds \(2270 kilograms\) internal or external load](#)

Mission: [The mission of the CH-46E Sea Knight helicopter in a Marine Medium Helicopter \(HMM\) squadron is to provide all-weather, day/night, night vision goggle \(NVG\) assault transport of combat troops, supplies, and equipment during amphibious and subsequent operations ashore. Troop assault is the primary function and the movement of supplies and equipment is secondary. Additional tasks are: combat and assault support for evacuation operations and other maritime special operations; over-water search and rescue augmentation; support for mobile forward refueling and rearming points; aeromedical evacuation of casualties from the field to suitable medical facilities.](#)

### **CH-53D Sea Stallion** (See Appendix G-2)

**Primary function:** Transportation of equipment and supplies during the ship-to-shore movement of an amphibious assault and during subsequent operations ashore.

**Mission:** The CH-53D Sea Stallion is designed for the transportation of equipment, supplies and personnel during the assault phase of an amphibious operation and subsequent operations ashore. Capable of both internal and external transport of supplies, the CH-53D is shipboard compatible and capable of operation in adverse weather conditions both day and night. The CH-53D is now filling a role in the Marine Corps' medium lift helicopter fleet.

**Features:** The twin-engine helicopter is capable of lifting 7 tons (6.35 metric tons). The helicopter will carry 37 passengers in its normal configuration and 55 passengers with centerline seats installed.

### **CH-53E Super Sea Stallion** (See Appendix G-2)

**Primary function:** Transportation of heavy equipment and supplies during the ship-to-shore movement of an amphibious assault and during subsequent operations ashore.

**Mission:** As the Marine Corps' heavy lift helicopter designed for the transportation of material and supplies, the CH-53E is compatible with most amphibious class ships and is carried routinely aboard LHA and LHD type ships. The helicopter is capable of lifting 16 tons (14.5 metric tons) at sea level, transporting the load 50 nautical miles (57.5 miles) and returning. The aircraft also can retrieve downed aircraft including another CH-53E. The 53E is equipped with a refueling probe and can be refueled in flight giving the helicopter indefinite range.

**Features:** The CH-53E is a follow-on for its predecessor, the CH-53D. Improvements include the addition of a third engine to give the aircraft the ability to lift the majority of the Fleet Marine Force's equipment, a dual point cargo hook system, improved main rotor blades, and composite tail rotor blades. The helicopter seats 37 passengers in its normal configuration and has provisions to carry 55 passengers with centerline seats installed. It can carry external loads at increased airspeeds due to the stability achieved with the dual point system.

### **UH-1N Huey** (See Appendix G-3)

**Primary function:** Utility helicopter

**Mission:** Airborne command and control, combat assault, medical evacuation, maritime special operations, supporting arms control and coordination, fire support and security for forward and rear area forces.

### **MV-22B Osprey** (See Appendix G-3)

**Primary function:** Amphibious assault transport of troops, equipment and supplies from assault ships and land bases.

**Mission:** Marine Corps Assault Support

**Description:** The V-22 Osprey is a multi-engine, dual-piloted, self-deployable, medium lift, vertical takeoff and landing (VTOL) tiltrotor aircraft designed for combat, combat support, combat service support, and Special Operations missions worldwide. It will replace the Corps' aged fleet of CH-46E and CH-53D medium lift helicopters.

### **EA-6B Prowler** (See Appendix G-4)

**Primary function:** Airborne Electronic Warfare (EW) support to Fleet Marine Forces to include electronic attack (EA), tactical electronic support (ES), electronic protection (EP) and high-speed anti-radiation missile (HARM)

**Mission:** The EA-6B's is used to collect tactical electronic order of battle (EOB) data which can be recorded and processed after missions to provide updates to various orders of battle; to provide active radar jamming support to assault support and attack aircraft, as well as ground units; suppression of enemy air defenses (SEAD) capability; and can detect and jam a wide range of communication frequencies to further degrade air defense and ground unit's capabilities.

**Features:** Marine Prowlers may be land-based from prepared airfields, or operate from expeditionary airfields (EAF). They may also be sea-based, operating from aircraft carriers.

### **AV-8B Harrier II** (See Appendix G-4)

**Primary function:** Attack and destroy surface targets under day and night visual conditions.

**Mission:** The mission of the VMA STOVL squadron is to attack and destroy surface and air targets, to escort helicopters, and to conduct other such air operations as may be directed. Specific tasks of the AV-8B HARRIER II include:

- Conduct close air support using conventional and specific weapons
- Conduct deep air support, to include armed reconnaissance and air interdiction, using conventional and specific weapons.
- Conduct offensive and defensive anti-air warfare. This includes combat air patrol, armed escort missions, and offensive missions against enemy ground-to-air defenses, all within the capabilities of the aircraft.
- Be able to operate and deliver ordnance at night and to operate under instrument flight conditions.
- Be able to deploy for extended operations employing aerial refueling.
- Be able to deploy to and operate from carriers and other suitable seagoing platforms, advanced bases, expeditionary airfields, and remote tactical landing sites.

### **KC130F/R/T Hercules** (See Appendix G-5)

**Primary function:** In-flight refueling; tactical transport.

**Mission:** The KC-130 is a multi-role, multi-mission tactical tanker/transport which provides the support required by Marine Air Ground Task Forces. This versatile asset provides in-flight refueling to both tactical aircraft and helicopters as well as rapid ground refueling when required. Additional tasks performed are aerial delivery of troops and cargo, emergency resupply into unimproved landing zones within the objective or battle area, airborne Direct Air Support Center, emergency medevac, tactical insertion of combat troops and equipment, evacuation missions, and support as required of special operations capable Marine Air Ground Task Forces.

**Features:** The KC-130 is equipped with a removable 3600-gallon (136.26 hectoliter) stainless steel fuel tank that is carried inside the cargo compartment providing additional fuel when required. The two wing-mounted hose and drogue refueling pods each transfer up to 300 gallons per minute (1135.5 liters per minute) to two aircraft simultaneously allowing for rapid cycle times of multiple-receiver aircraft formations (a typical tanker formation of four aircraft in less than 30 minutes). Some KC-130s are also equipped with defensive electronic and infrared countermeasures systems.

### **F-18A/B/C Hornet** (See Appendix G-5)

**Primary function:** Intercept and destroy enemy aircraft under all-weather conditions and attack and destroy surface targets.

**Mission:** Specific F/A-18A/C tasks include:

- Intercept and destroy enemy aircraft in conjunction with ground or airborne fighter control under all-weather conditions.
- Conduct day and night close air support under the weather.
- Conduct day and night precision deep air support, under the weather. Deep air support consists of radar search and attack, interdiction, and strikes against enemy installations using all types of weapons compatible with assigned aircraft.
- Conduct armed escort of friendly aircraft.
- Conduct day and night suppression of enemy air defense (SEAD)
- Be able to operate from carriers, advanced bases, and expeditionary airfields.
- Be able to deploy or conduct extended range ops employing aerial refueling.

**Features:** The Marine Corps F/A-18A/C strike fighter multi-mission aircraft was designed to replace the F-4 Phantom. The F/A-18A/C Hornet is missionized for traditional fighter, attack, and close air support roles through selection of external pods/equipment to accomplish specific mission objectives. Any aircraft can quickly be configured to perform either fighter or attack missions, or both, thus providing the Marine Air Ground Task Force (MAGTF) commander more flexibility in employing his tactical aircraft in a rapidly changing scenario. Marine F/A18s may be land-based from prepared airfields, or they can operate from expeditionary airfields (EAF). They may also be sea-based, operating from the decks of aircraft carriers.

## **F-18D Hornet** (See Appendix G-6)

**Primary function:** Attack and destroy surface targets, day or night, under all weather conditions; conduct multi-sensor imagery reconnaissance; provide supporting arms coordination; and intercept and destroy enemy aircraft under all weather conditions.

**Mission:** Specific F/A-18D tasks include:

- Conduct day and night deep air support, in all weather. Deep air support consists of armed reconnaissance, radar search and attack, interdiction, and strikes against enemy installations, using all types of weapons compatible with assigned aircraft.
- Conduct multi-sensor imagery reconnaissance to include pre-strike and post-strike target damage assessment and visual reconnaissance.
- Conduct day and night supporting arms coordination to include forward air control, tactical air coordination and artillery/naval gunfire spotting.
- Intercept and destroy enemy aircraft in conjunction with ground and airborne fighter direction.
- Conduct battlefield illumination and target illumination.
- Conduct armed escort of friendly aircraft.
- Be able to operate from carriers, advanced bases, and expeditionary airfields.
- Be able to deploy or conduct extended range ops employing aerial refueling.

**Features:** Marine F/A-18D aircraft are unique within the Department of the Navy because the Marine Corps employs the F/A-18D as a tactical strike aircraft while the Navy uses it as a trainer. Marine F/A-18Ds may be land-based from prepared airfields, or they can operate from expeditionary airfields (EAF). They may also be sea-based, operating from the decks of Navy aircraft carriers.

112 .2 Discuss the primary mission of each of the following classes of ships used to support the Marine Corps mission: [ref. b]

### **LHA** (See Appendix G-6)

**The primary war-fighting mission** of the LHA-1 Tarawa class is to land and sustain United States Marines on any shore during hostilities. The ships serve as the centerpiece of a multi-ship Amphibious Readiness Group (ARG). Some 3,000 Sailors and Marines contribute to a forward-deployed ARG composed of approximately 5,000 personnel.

### **LHD** (See Appendix G-7)

**The Wasp-class LHD** are the largest amphibious ships in the world. The LHD is an improved follow-on to the five ship Tarawa-class LHAs, sharing the basic hull and engineering plant. The LHD I has an enhanced well deck, enabling it to carry three LCACs (vice one LCAC in the LHAs). The flight deck and elevator scheme is also improved, which allows the ship to carry two more helicopters than its predecessor, the LHA.

### **LPD** (See Appendix G-7)

The LPD 4 Austin class of ship combines the functions of three different classes of ships; the landing ship (LSD), the tank landing ship (LST), and the attack cargo ship (LKA). The Amphibious Transport, Dock, is used to transport and land Marines, their equipment and supplies by embarked landing craft or amphibious vehicles augmented by helicopters in amphibious assault. These ships are configured as a flagship and provide extensive command, control and communications facilities to support an Amphibious Task Force Commander and Landing Force Commander. In an amphibious assault, the ship would normally function as the Primary Control Ship that would be responsible for coordinating boat waves and vectoring landing craft to the beach.

### **LSD** (See Appendix G-8)

The primary mission of the Harpers Ferry (Cargo Variant) ship is to dock, transport and launch the Navy's Landing Craft, Air Cushion (LCAC) vessels and other amphibious craft and vehicles with crews and Marines into potential trouble spots around the world. The ship also has the capability to act as primary control ship during an Amphibious Assault

### **LCAC** (See Appendix G-8)

**Mission:** Transport weapons systems, equipment, cargo and personnel of the assault elements of the Marine Air/Ground Task Force both from ship to shore and across the beach. The Landing Craft Air Cushion (LCAC) is a high-speed, over-the-beach fully amphibious landing craft capable of carrying a 60-75 ton payload. Capable of operating from existing and planned well deck ships, it is used to transport weapons systems, equipment, cargo and personnel from ship to shore and across the beach. They can carry heavy payloads, such as an M-1 tank, at high speeds. Their payload and speed mean more forces reach the shore in a shorter time, with shorter intervals between trips

### **T-AH** (See Appendix G-9)

Two hospital ships operated by Military Sealift Command are designed to provide emergency, on-site care for US combatant forces deployed in war or other operations. Hospital ships have two missions. First, to provide a mobile, flexible, rapidly responsive afloat medical capability to provide acute medical and surgical care in support of amphibious task forces, Marine Corps, Army, and Air Force elements, and forward deployed Navy elements. Secondly, to provide a full-service hospital asset for use by other government agencies involved in the support of disaster relief and humanitarian operations worldwide. This mission is accomplished by a proactive preventive medicine (PVNTMED) program and a phased health care system (echelons of care) that extends from actions taken at the point of wounding, injury, or illness to evacuation from a theater for treatment at a hospital in the continental United States (CONUS).

## T-AK (See Appendix G-9)

Each of the five ships of the TAK-3000 class carries a full range of Marine Corps cargo, enough cargo to support a Marine Air Ground Task Force for 30 days. Each ship has lift-on/lift-off capabilities, as well as roll-on/roll-off capabilities. They are certified to land up to CH-53E helicopters. The ships are pre-positioned in Diego Garcia.

Thirteen MSC pre-positioning ships are specially configured to transport supplies for the US Marine Corps. Known as the Maritime Pre-positioning Force, the 13 ships were built or modified in the mid-1980s and are on location in the western Pacific Ocean, the Indian Ocean and the Mediterranean Sea. The 13 Maritime Pre-positioning Ships, or MPS, contain nearly everything the Marines need for initial military operations from tanks and ammunition to food and fuel to spare parts and engine oil

### 112.3 Discuss the difference between war and Military Operations Other Than War (MOOTW). [ref. c, pp. I-1, I-2]

**War.** When instruments of national power are unable to achieve national objectives or protect national interests any other way, the US national leadership may decide to conduct large-scale, sustained combat operations to achieve national objectives or protect national interests, placing the United States in a wartime state. In such cases, the goal is to win as quickly and with as few casualties as possible, achieving national objectives and concluding hostilities on terms favorable to the United States and its multinational partners

**Military Operations Other Than War.** MOOTW focus on deterring war, resolving conflict, promoting peace, and supporting civil authorities in response to domestic crises. MOOTW may involve elements of both combat and noncombat operations in peacetime, conflict, and war situations. MOOTW involving combat, such as peace enforcement, may have many of the same characteristics of war, including active combat operations and employment of most combat capabilities.

All military operations are driven by political considerations. However, MOOTW are more sensitive to such considerations due to the overriding goal to prevent, preempt, or limit potential hostilities. In MOOTW, political considerations permeate all levels and the military may not be the primary player. As a result, these operations normally have more restrictive rules of engagement (ROE) than in war. As in war, the goal is to achieve national objectives as quickly as possible and conclude military operations on terms favorable to the United States and its allies. However, the purposes of conducting MOOTW may be multiple, with the relative importance or hierarchy of such purposes changing or unclear; for example, to deter potential aggressors, protect national interests, support the United Nations (UN) or other regional organizations, satisfy treaty obligations, support civil authorities, or provide humanitarian assistance (HA).

The Department of Defense (DOD) is often in a support role to another agency, such as the Department of State (DOS) in HA operations. However, in certain types of operations DOD is the lead agency, such as in peace enforcement operations (PEO).

These operations usually involve interagency coordination and may also involve nongovernmental organizations (NGOs) or private voluntary organizations

(PVOs). Finally, although MOOTW are generally conducted outside of the United States, some types may be conducted within the United States in support of civil authorities consistent with established law.

112.4 Explain the following types of MOOTW and give examples of each:  
[ref. c, pp. III-1 thru III-15]

**Arms control** is a concept that connotes any plan, arrangement, or process, resting upon explicit or implicit international agreement. Arms control governs any aspect of the following: the numbers, types, and performance characteristics of weapon and the numerical strength, organization, equipment, deployment or employment of the armed forces retained by the parties (it encompasses disarmament). Additionally, it may connote those measures taken for the purpose of reducing instability in the military environment. Although it may be viewed as a diplomatic mission, the military can play an important role. For example, US military personnel may be involved in verifying an arms control treaty; seizing WMD (nuclear, biological, and chemical or conventional); escorting authorized deliveries of weapons and other materials (such as enriched uranium) to preclude loss or unauthorized use of these assets; or dismantling, destroying, disposing of weapons and hazardous material.

**Combating terrorism** involves actions taken to oppose terrorism from wherever the threat. It includes antiterrorism (defensive measures taken to reduce vulnerability to terrorist acts) and counterterrorism (offensive measures taken to prevent, deter, and respond to terrorism). Counterterrorism provides response measures that include preemptive, retaliatory, and rescue operations. Normally, counterterrorism operations require specially trained personnel capable of mounting swift and effective action. Department of State (DOS), Department of Justice (DOJ) (specifically, the Federal Bureau of Investigation), or the Department of Transportation (DOT) (specifically the Federal Aviation Administration) receive lead agency designation according to terrorist incident location and type. DOS is the lead agency for incidents that take place outside the United States; DOJ is the lead agent for incidents that occur within the United States; and DOT is the lead agent for incidents aboard aircraft "in flight" within the special jurisdiction of the United States.

**Enforcement of sanctions/maritime intercept operations** are operations which employ coercive measures to interdict the movement of certain types of designated items into or out of a nation or specified area. These operations are military in nature and serve both political and military purposes. An example of sanctions enforcement is Operation SUPPORT DEMOCRACY conducted off the coast of Haiti beginning in 1993

**Enforcing Exclusion Zones.** An exclusion zone is established by a sanctioning body to prohibit specified activities in a specific geographic area. Exclusion zones can be established in the air (no-fly zones), sea (maritime), or on land. The purpose may be to persuade nations or groups to modify their behavior to meet the desires of the sanctioning body or face continued imposition of sanctions, or use or threat of force. Examples of enforcement of exclusion zones are Operation SOUTHERN WATCH in Iraq, initiated in 1992, and Operation DENY FLIGHT in Bosnia, initiated in 1993.

**Ensuring freedom of navigation and overflight.** These operations are conducted to demonstrate US or international rights to navigate sea or air routes. Freedom of navigation is a sovereign right according to international law. International law has long recognized that a coastal state may exercise jurisdiction and control within its territorial sea in the same manner that it can exercise sovereignty over its own land territory. International law accords the right of “innocent” passage to ships of other nations through a state’s territorial waters. Passage is “innocent” as long as it is not prejudicial to the peace, good order, or security of the coastal state. The high seas are free for reasonable use of all states. Freedom of navigation by aircraft through international airspace is a well-established principle of international law. Aircraft threatened by nations or groups through the extension of airspace control zones outside the established international norms will result in legal measures to rectify the situation. The ATTAIN DOCUMENT series of operations against Libya in 1986 are examples of freedom of navigation operations, both air and sea, in the Gulf of Sidra.

**Humanitarian assistance.** HA operations relieve or reduce the results of natural or manmade disasters or other endemic conditions such as human pain, disease, hunger, or privation in countries or regions outside the United States. HA provided by US forces is generally limited in scope and duration; it is intended to supplement or complement efforts of host-nation (HN) civil authorities or agencies with the primary responsibility for providing assistance. US forces can provide logistics; command, control, communications, and computers; and the planning required to initiate and sustain HA operations. HA operations may be directed by the NCA when a serious international situation threatens the political or military stability of a region considered of interest to the United States, or when the NCA deems the humanitarian situation itself sufficient and appropriate for employment of US forces. DOS or the US ambassador in country is responsible for declaring a foreign disaster or situation that requires HA. US military forces participate in three basic types of HA operations: those coordinated by the UN, those where the United States acts in concert with other multinational forces, or those where the United States responds unilaterally. Examples of humanitarian assistance are Operations SEA ANGEL I, conducted in 1991, and SEA ANGEL II, conducted in 1992, to provide assistance in the aftermath of devastating natural disasters in Bangladesh.

**Military support to civil authorities.** These operations provide temporary support to domestic civil authorities when permitted by law, and are normally taken when an emergency overtaxes the capabilities of the civil authorities. Limitations on military forces in providing support to civil authorities include, among others, the Posse Comitatus Act, Title 18, US Code Section 1385--Use of Army and Air Forces as Posse Comitatus. This Act prohibits the use of federal military forces to enforce or otherwise execute laws unless expressly authorized by the Constitution or Act of Congress. Examples of military support to civil authorities are disaster relief provided during Hurricanes Andrew in Florida and Iniki in Hawaii in 1992.

**Nation assistance/support to counterinsurgency** is civil or military assistance (other than HA) rendered to a nation by US forces within that nation’s territory during peacetime, crises or emergencies, or war, based on agreements mutually concluded between the United States and that nation. Nation assistance operations support an HN by promoting sustainable development and growth of responsive institutions. The goal is to promote long-term regional stability. All nation assistance actions are integrated through the US Ambassador’s Country Plan.

**Noncombatant Evacuation Operations.** These operations normally relocate threatened noncombatants from a foreign country. Although principally conducted to evacuate US citizens, NEOs may also include selective evacuation of citizens from the HN as well as citizens from other countries. NEO methods and timing are significantly influenced by diplomatic considerations. Under ideal circumstances there may be little or no opposition; however, commanders should anticipate opposition and plan the operation like any combat operation. NEOs are similar to a raid in that the operation involves swift insertion of a force, temporary occupation of objectives, and ends with a planned withdrawal. It differs from a raid in that force used is normally limited to that required to protect the evacuees and the evacuation force. Forces penetrating foreign territory to conduct a NEO should be kept to the minimum consistent with mission accomplishment and the security of the force and the extraction and protection of evacuees. The US Ambassador, or Chief of the Diplomatic Mission, is responsible for the preparation of Emergency Action Plans that address the military evacuation of US citizens and designated foreign nationals from a foreign country. Examples of NEO are EASTERN EXIT, conducted in 1991, when US and foreign national personnel were evacuated from Somalia, and QUICK LIFT, also conducted in 1991, when personnel were evacuated from Zaire.

are military operations to support diplomatic efforts to reach a long-term political settlement and categorized as peacekeeping operations (PKO) and peace enforcement operations. PO's are conducted in conjunction with the various diplomatic activities necessary to secure a negotiated truce and resolve the conflict. Additional types of MOOTW (e.g., HA and NEO) may complement peace operations. Peacekeeping Operations (PKO) are military operations undertaken with the consent of all major parties to a dispute, designed to monitor and facilitate implementation of an agreement (cease fire, truce, or other such agreements) and support diplomatic efforts to reach a long-term political settlement. Peace Enforcement Operations (PEO) are the application of military force, or threat of its use, normally pursuant to international authorization, to compel compliance with resolutions or sanctions designed to maintain or restore peace and order. PEO missions include intervention operations, as well as operations to restore order, enforce sanctions, forcibly separate belligerents, and establish and supervise exclusion zones for the purpose of establishing an environment for truce or cease-fire. Unlike PKO, such operations do not require the consent of the states involved or of other parties to the conflict. US military peace operations support political objectives and diplomatic objectives. An

example is Operation ABLE SENTRY, where US Forces deployed in 1993 to Macedonia in support of the UN effort to limit the fighting in the Former Republic of Yugoslavia.

**Protection of shipping.** When necessary, US forces provide protection of US flag vessels, US citizens (whether embarked in US or foreign vessels), and their property against unlawful violence in and over international waters. Protection of shipping includes coastal sea control, harbor defense, port security, counter mine operations, and environmental defense, in addition to operations on the high seas. It requires the coordinated employment of surface, air, space, and subsurface units, sensors, and weapons, as well as a command structure both ashore and afloat, and a logistics base. An example of protection of shipping is Operation EARNEST WILL, the reflagging of Kuwaiti ships in 1987.

**Recovery operations** are conducted to search for, locate, identify, rescue, and return personnel or human remains, sensitive equipment, or items critical to national security. These operations are generally sophisticated activities requiring detailed planning in order to execute them, especially when conducting them in denied areas. They may be clandestine, covert, or overt. Other recovery operations may be conducted in friendly areas, particularly when the HN does not have the means to provide technical assistance in conducting the recovery. An example of a recovery operation is OPERATION FULL ACCOUNTING conducted to account for and recover the remains of US service members lost during the Vietnam War.

**Show of force operations.** These operations, designed to demonstrate US resolve, involve increased visibility of US deployed forces in an attempt to defuse a specific situation that if allowed to continue may be detrimental to US interests or national objectives. US forces deployed abroad lend credibility to US promises and commitments, increase its regional influence, and demonstrate its resolve to use military force if necessary. In addition, the NCA order shows of force to bolster and reassure friends and allies. Shows of force operations are military in nature but often serve both political and military purposes. These operations can influence other governments or politico-military organizations to respect US interests as well as international law. A show of force involves the appearance of a credible military force to underscore US policy interests or commitment to an alliance or coalition. Political concerns dominate a show of force. As an example of a show of force, US forces conducted Operation JTF-Philippines in 1989 in support of President Aquino during a coup attempt against the Philippine government.

**Strikes and raids.** Strikes are offensive operations conducted to inflict damage on, seize, or destroy an objective for political purposes. Strikes may be used for punishing offending nations or groups, upholding international law, or preventing those nations or groups from launching their own offensive actions. A raid is usually a small-scale operation involving swift penetration of hostile territory to secure information, confuse the enemy, or destroy installations. It ends with a planned withdrawal upon completion of the assigned mission. An example of a strike is Operation URGENT FURY, conducted on the island of Grenada in 1983. An example of a raid is Operation EL DORADO CANYON conducted against Libya in 1986, in response to the terrorist bombing of US Service members in Berlin.

112.5 Define Military Operations on Urbanized Terrain (MOUT) and discuss the Marine Corps' role in urban warfare. [ref. d, pp. 1-1, 1-2]

**The Marine Corps Role in Urban Warfare.** As the Nation's force in readiness, forward deployed with expeditionary forces, Marines must be prepared to fight on urbanized terrain. In the past two decades, MAGTFs ranging in size from MEFs (Saudi Arabia, Desert Shield/Desert Storm; Somalia, Restore Hope) through Marine expeditionary units (MEUs) (Beirut, Lebanon; Grenada, Urgent Fury; Somalia, Eastern Exit and Restore Hope) have participated in MOUT. The task-organization

and combined-arms aspect of the MAGTF makes it well suited for combat on urbanized terrain. The results of geographical studies show that 60 percent of politically significant urban areas outside allied or former Warsaw Pact territory are located along or within 25 miles of a coastline; 75 percent are within 150 miles; 87 percent are within 300 miles; 95 percent are within 600 miles; and all are within 800 miles. U.S. embassies and diplomatic facilities are primarily located in cities where the host country's political and economic leadership is concentrated. The Marine Corps will continue to play a prominent role in future evacuations of U.S. citizens, as well as the conduct of peace, counterinsurgency, and contingency operations centered on urbanized areas.

In the years since World War II, the United States has employed military force more than 200 times. Of these, four out of five involved naval forces, and the majority of the naval efforts included Marines embarked in amphibious ships. The reasons are straightforward: availability and adaptability. Availability derives from the loiter time of forward deployed forces embarked on amphibious shipping. Adaptability comes from the Marine Corps' MAGTF organization, doctrine, training, and equipment, which prepare us for expeditionary missions from the sea in support of a variety of missions, including forcible entry. Despite our availability and adaptability, the prospect of urban warfare combined with an amphibious assault is a complex task which requires special preparation. At the outset of a developing situation, forward-deployed expeditionary forces can move quickly within range of a crisis that threatens the political stability of a country. Urban intervention operations

must often be planned and executed in a matter of hours or days (rather than weeks or months) to take advantage of the internal turmoil surrounding a developing crisis.

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.6 Discuss the following examples of MOUT [ref. d, pp. 1-9 thru 1-12]

**Stalingrad (1942-1943).** The tenacious Soviet defense of Stalingrad cost the attacking Germans dearly in every way and set up conditions for a decisive counteroffensive. This classic urban battle involved large forces and resulted in innovative urban combat techniques and the creation of the highly successful storm groups (task-organized assault units). (Length of battle: greater than 30 days) (Casualties: 1,630,000+)

**Berlin (1945).** The long, bloody Soviet offensive to seize the German capital city effectively concluded the last battle of World War II in Europe. Bitter fighting occurred, but the defense was never well coordinated due in part to poor preparation by the Germans. (Length of battle: 14 - 30 days) (Casualties: estimated in the thousands)

**Seoul (1950).** Following the Inchon landing, U.S. and Republic of Korea (ROK) forces recaptured the South Korean capital from the North Koreans. The fighting was unusual in that combat was largely centered on seizure of street barricades rather than buildings. (Length of battle: 6 - 13 days) (Casualties: Marines, 2,383; others, estimated in the thousands)

**Quang Tri I and II (1972).** An objective of the North Vietnamese 1972 winter-spring offensive was the capture of Quang Tri, the northernmost major city in South Vietnam. The NVA overwhelmed the Army, Republic of Vietnam (ARVN) defenders. Later, a smaller ARVN force using extensive artillery and air support recaptured the city. The large conventional forces involved on both sides made Quang Tri I and II the major urban battles of the Vietnam War. (Length of battle: Quang Tri I, 6 - 13 days; Quang Tri II, 30 days or greater) (Casualties: battles combined, 30,000+)

**Beirut II (1982).** The siege of Beirut culminated the Israeli campaign to evict the Palestine Liberation Organization (PLO) from Lebanon. Fighting under domestic and world political pressures, the Israeli Defense Forces (IDF) besieged the PLO, selectively applying heavy ground and air firepower in conjunction with psychological warfare and limited-objective ground operations. The fighting resulted in a negotiated PLO evacuation from the city. (Length of battle: greater than 30 days) (Casualties: 2,300+)

112.7 Discuss the noncombatant's impact on urban warfare. [ref. d, p. 6-1]

**Noncombatants may have the following effects on military operations:**

**Mobility.** Noncombatants civilians, attempting to escape the battlespace, can block military movement. Commanders plan routes to be used by civilians and seek the assistance of the civil police in refugee control.

**Firepower.** The presence of noncombatants can restrict the use of firepower. Areas may be designated no-fire areas to prevent noncombatant casualties. Other areas may be limited to small-arms fire and grenades. The control of fire missions may be complicated by the requirement for positive target identification. In the absence of guidance, the general rules of the law of land warfare apply.

**Security.** The presence of noncombatants increases security requirements in an urban environment to preclude noncombatants entering defensive areas, pilferage of equipment, sabotage, and terrorism.

**Obstacle Employment.** The presence and movement of noncombatants will influence the MAGTFs commander's obstacle plan. Minefields may not be allowed on designated refugee routes or, if allowed, must be guarded until the passage of refugees is completed. The use of boobytraps may be curtailed until noncombatants have been evacuated.

112.8 Discuss the principles of the Operational Maneuver from the Sea (OMFTS) [ref. e, p. 11]

**Operational Maneuver from the Sea**

- Focuses on an operational objective.
- Uses the sea as maneuver space.
- Generates overwhelming tempo and momentum.
- Pits strength against weakness.
- Emphasizes intelligence, deceptions, and flexibility.
- Integrates all organic, joint, and combined assets.



**AH-1W Cobra**



**CH-46E Sea Knight**

**G-1**



**CH-53D Sea Stallion**



**CH-53E Super Sea Stallion**

**G-2**



**UH-1N Huey**



**MV-22B Osprey**

**G-3**



**EA-6B Prowler**



**AV-8B Harrier**

**G-4**



**KC-130 Hercules**



**F-18A/B/C Hornet**

**G-5**



**F-18D Hornet**



**LHA**

**G-6**



**LHD**



**LPD**

**G-7**



**LSD**



**LCAC**

**G-8**



**T-AH**



**T-AK**

**G-9**

## References:

- [a] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
  - [b] MCRP 3-37A, NBC Field Handbook (PCN 14400004300)
  - [c] NAVEDTRA 14295, Hospital Corpsman
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113.1 Explain the shape, colors, and purposes of the standard North Atlantic Treaty Organization (NATO) Nuclear, Biological, and Chemical (NBC) contamination markers and the information contained on them. [ref. a, pp. 1-20-1 thru 1-20-3]

[See Appendices H-1 and H-2](#)

113.2 Discuss the purpose of the M-40 field protective mask. [ref. a, p. 1-20-5]

**The M40 field protective mask** is designed to protect the wearer from field concentrations of chemical and biological agents. The mask consists of a faceblank, a filter canister (which is used to cleanse contaminated air), dual voicemitter assemblies, inlet and outlet valves, and a water drinking system

113.3 Identify the following NBC alarms: [ref. a, pp. 1-20-19, 1-20-20]

**Vocal** - alarm for chemical/biological attack is **GAS-GAS-GAS**. The word gas is repeated three times

**Visual** - The arms are extended straight out to the side and the hands made into a fist. As the word **GAS** is said, bend the arms at the elbows so the fists are placed to the ears, then repeat three times

**Percussion** - Metal on metal. Metal triangles are used to give the NBC alarm by striking them repeatedly. Sirens, intermittent horns, biological/chemical alarm systems, or other devices as outlined by unit's standard operating procedures (SOP)

112.4 Discuss the proper way to don and clear a gas mask.  
[ref. a, pp. 1-20-20 thru 1-20-24]

## Upon receiving the command or detecting a contamination presence:

- Stop breathing; close your mouth and eyes.  
**CAUTION:** This does not mean take one last breath.
- Place the rifle between your legs.
- Remove the headgear and place it on the weapon.  
**NOTE:** Make sure that you remove glasses if you are wearing them.
- CAUTION:** Do not wear contact lenses with any field protective mask. Wearing contact lenses with the optical inserts will over correct your vision.
- Remove the mask from its carrier
- Allow the hood to hang down in front of the mask.
- Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask

- Clear the field protective mask by covering the outlet valve with the palm of one hand. Exhale sharply so the air escapes around the edges of the facepiece. Cover the air inlet port of the canister with the palm of your free hand, and then breathe in. The facepiece should collapse against your face and remain there while holding your breath.

<b>If</b>	<b>Then</b>
Facepiece collapses	Consider it airtight.
Facepiece does not collapse	Check for hair, clothing, or other interference between the facepiece and your face. Repeat steps to clear the mask until there is an airtight seal

- Adjust the M40 mask.
    - Grasp the tab, then pull the head harness over your head. Make sure the square harness patch is centered comfortably in the rear of your head.
    - Maintain the seal while holding the facepiece to your face with one hand.
    - Use your free hand to tighten the cheek straps one at a time
    - Make sure that straps lie flat against your head.
  - Should a leak or an improper seal be suspected,
    - Clear the field protective mask
    - Recheck facepiece for leaks.
- WARNING:** Check the mask for leaks each time you put it on. Air should circulate over the eyelenses inside the mask. If air flows in from around the edges of the mask, you may have a leak.
- Run your finger around the edges of the mask to check for bulging material.
  - When time permits, have another Marine check the facepiece.
- Resume breathing normally.

**CAUTION:** The mask must be donned, cleared, and sealed within 9 seconds. An additional 6 seconds is given to put the hood in place

113.5 Explain Mission Oriented Protective Posture (MOPP) levels. [ref. a, p. 1-20-27]

**The need to balance protection with the threat, temperature, and urgency of the mission led to the concept of MOPP.**

- Commanders can raise or lower the amount of protection through six levels of MOPP: MOPP Ready through MOPP 4.
- In addition, commanders have a mask-only option.
- Protection increases with progression from MOPP Ready through MOPP 4, but efficiency decreases correspondingly.
- The elements of MOPP gear that take the longest to put on and that degrade

mission performance the least are put on first.

- The MOPP gear elements that can be put on quickly and degrade performance of individual tasks the most are put on last.
- MOPP Ready is when a Marine carries his or her protective mask. MOPP level 0 is the condition that exists when a Marine has all of his or her MOPP gear available but is not wearing it.

113.6 Explain the uses of M9 and M8 paper. [ref. a, pp. 1-20-39, 1-20-40]

When identifying chemical agents, use the most expedient method. Using M8 or M9 detectors will take only seconds, whereas using the M256A1 will take approximately 15 minutes. Disadvantages of M8 and M9 over the M256A1 are their inability to test for vapor hazards and the limited number of agents detected.

**M9 detector paper.**

- M9 detector tape is usually issued 1 roll per squad or gun team and is worn around the ankles, wrists, and biceps on the exterior of protective clothing. Its purpose is to detect the presence of chemical agents, but will not identify the agent.

- Blot, do not rub, the M9 tape on suspect liquid. Its use is primarily on barely visible droplets.
- Observe for a color change.
- When in contact with contamination, the color will appear as a light pink to a reddish brown or violet tint.

**M8 detector paper.**

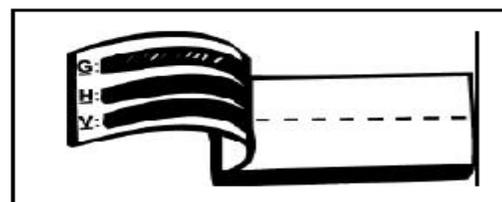
- M8 paper is issued with your field protective mask and the M256A1 chemical agent detector kit as an SL-3 component. Its use is primarily on suspected liquid forms such as puddles, small drops, or barely visible droplets.
- Remove and open M8 paper from the M256A1 kit or mask carrier, tearing off and discarding the plastic bag
- Test the liquid. Tear out a sheet of M8 paper (use half a sheet if it is perforated). Expose M8 paper to suspected liquid agent.

**CAUTION:** Make sure the M8 paper is held in the down position to prevent liquid contaminants from running onto protective glove  
Blot—do not rub the M8 on suspected contamination. Compare any color changes by observing the colors shown on the inside cover of the book of M8 paper.

The chart below identifies the color associated with the agent when using the M8 paper.

Color	Series	Agent
Yellow/gold	G	Nerve
Dark green	V	Nerve
Pink/red	H	Blister

**Note:** Some G agents give a red-brown color typical between H and G colors.



**NOTES:** Where decontaminants have been used, positive results must be confirmed by tests with the sampler-detector. Some decontaminants will produce false positive test on M8 paper.

Check the decontaminant itself with a sampler-detector because some

decontaminants will produce false indications on the sampler- detector. Never

assume that an area is uncontaminated.

113.7 Identify the equipment available, carried, and worn for the following MOPP levels:

[ref. a, p. 1-20-27]

**MOPP level zero** is the condition that exists when a Marine has all of his or her MOPP gear available but is not wearing it.

See Appendix H-3 for MOPP Level chart.

113.8 Discuss the three levels of decontamination. [ref. b, pp. 3-34, 3-35]

**Immediate Decon** minimizes casualties, saves lives, and limits the spread of contamination. Immediate decon is carried out by individuals upon becoming contaminated. There are three immediate techniques: skin decon, personnel wipe down, and operator's spray down.

**Operational Decon** sustains operations, reduces the contact hazard, and limits the spread of contamination to eliminate the necessity or reduce the duration of wearing MOPP gear. Operational decon is carried by individual and/or units. It is restricted to specific parts of operationally essential equipment/material and/or working areas, in order to minimize contact and transfer hazards and to sustain operations. Further decon may be required to reduce contamination to negligible risk levels. There are two operational decon techniques: vehicle wash down and MOPP gear exchange

**Thorough Decon** reduces or eliminates the need for individual protective clothing. Thorough decon is carried out by units with assistance from chemical units to reduce contamination on personnel, equipment/material, and/or working areas to the lowest possible level (negligible risk) to permit the reduction or removal of individual protective equipment and maintain operations with minimal degradation. This may include decontamination of terrain as required. There are three thorough decon techniques: detailed troop decon, detailed equipment decon, and detailed aircraft decon.

113.9 Discuss the immediate actions required for a nuclear attack without warning. [ref. a, pp. 1-20-63 thru 1-20-65]

**Take immediate action for a nuclear attack without warning** - Upon seeing a brilliant flash of light, an exceptionally loud explosion, or when the alarm is sounded, immediate action must be taken. When possible, look for protective cover.

**WARNING:** Never hesitate in taking immediate action.

**React without weapon** - Immediately drop face down, with head toward blast, if possible. If cover is available, use it. A log, large rock, or any depression in the earth's surface provides some protection. Close your eyes. Protect or cover exposed skin by putting hands and arms under or near the body and keeping your helmet on. Keep your head down

**React with weapon** - Immediately drop face down, with head toward blast, if possible. If cover is available, use it. A log, large rock, or any depression in the earth's surface provides some protection. Close your eyes. Protect or cover exposed skin by putting hands and arms under or near the body and keeping your helmet on. Make sure your weapon is placed under your body or beside you with the strap/sling wrapped tightly around your arm and the muzzle angled away from your face. Keep your head down. Remain face down for 90 seconds or until all debris has stopped falling. Use any protection available such as fighting holes, whenever possible. Fighting holes provide excellent protection against nuclear weapon effects. Other examples of hasty protection may include ditches, culverts, hills, large rocks, or armored vehicles. Put anything between yourself and the nuclear weapon's blast.

113.10 Discuss the immediate actions required for a chemical or biological attack without warning. [ref. a, pp. 1-20-67 thru 1-20-71]

**React to a gas attack in 15 seconds or less.**

- Stop breathing, close your mouth and eyes.
- Place the rifle between your legs.
- Remove the headgear and place it on the weapon.
- Remove the mask from its carrier
- Allow the hood to hang down in front of the mask.
- Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask
- Clear the field protective mask by covering the outlet valve with the palm of one hand. Exhale sharply so the air escapes around the edges of the facepiece. Cover the air inlet port of the canister with the palm of your free hand, and then breathe in. The facepiece should collapse against your face and remain there while holding your breath
- Adjust the M40 mask.
- Resume breathing normally.

The mask must be donned, cleared, and sealed within 9 seconds. An additional 6 seconds is given to put the hood in place

- Sound the alarm to warn others.
- Give vocal alarm for a chemical/biological attack.
- Give visual alarm for a chemical/biological attack.

- Secure weapon, helmet, and mask carrier.
- Check for contamination and decontaminate as necessary using the buddy system if

possible.

- Assume appropriate MOPP level as directed.
- Continue the mission.

113.11 Define and discuss the types, symptoms, and treatment for the following chemical agents: [ref. c, pp. 8-5 thru 8-10]

**Nerve** agents produce their effect by interfering with normal transmission of nerve impulses in the parasympathetic autonomic nervous system. Physically, nerve agents are odorless, almost colorless liquids, varying greatly in viscosity and volatility. They are moderately soluble in water and fairly stable unless strong alkali or chlorinating compounds are added. They are very effective solvents, readily penetrating cloth either as a liquid or vapor. Other materials, including leather and wood, are fairly well penetrated. Butyl rubber and synthetics, such as polyesters, are much more resistant. Pharmacologically, the nerve agents are cholinesterase inhibitors (interfering with normal transmission of nerve impulses in the parasympathetic autonomic nervous system). Their reaction with cholinesterase tends to be irreversible, and reaction time varies with the agent.

**SIGNS AND SYMPTOMS OF EXPOSURE** - Nerve-agent intoxication can be readily identified by its characteristic signs and symptoms. If a vapor exposure has occurred, the pupils will constrict, usually to a pinpoint. If the exposure has been through the skin, there will be local muscular twitching where the agent was absorbed. Other symptoms will include rhinorrhea, dyspnea, diarrhea and vomiting, convulsions, hypersalivation, drowsiness, coma, and unconsciousness.

**TREATMENT** - Specific therapy for nerve agent casualties is atropine, an acetylcholine blocker. When exposed, each member of the Navy and Marine Corps is issued three 2 mg autoinjectors of atropine and three 600 mg autoinjectors of 2-PAM Cl. **DO NOT** give nerve agent antidotes for preventive purposes **before** contemplated exposure to a nerve agent.

The atropine autoinjector consists of a hard plastic tube containing 2 mg (0.7 ml) of atropine in solution for intramuscular injection. It has a pressure-activated coiled-spring mechanism that triggers the needle for injection of the antidote

solution. These injectors are designed to be used by individuals on themselves when symptoms appear. For medical personnel, the required therapy is to continue to administer atropine at 15-minute intervals until a mild atropinization occurs. This can be noted by tachycardia and a dry mouth. Atropine alone will not relieve any respiratory muscle failure. Prolonged artificial respiration may be necessary to sustain life. A second autoinjector containing oxime therapy (using pralidoxime chloride, or 2-PAMCl) can also be used for regeneration of the blocked cholinesterase. Since 2-PAM Cl is contained in the kit of autoinjectors, additional oxime therapy is not generally medically recommended for those who have already received treatment by autoinjection. The 2-PAM Cl autoinjector is a hard plastic tube

that, when activated, dispenses 600 mg of 2-PAM Cl (300 mg/ml) solution. It also has a pressure-activated coiled-spring mechanism identical to that in the atropine autoinjector

**Self-Aid.** If you experience the **mild** symptoms of nerve-agent poisoning, you should **IMMEDIATELY** hold your breath and put on your protective mask. Then, administer **one set** of (atropine and 2-PAM Cl) injections into your lateral thigh muscle or buttocks, as shown in Appendix H-4. Position the needle end of the **atropine** injector against the injection site and apply firm, even pressure (not jabbing motion) to the injector until it pushes the needle into your thigh (or buttocks). Make sure you **do not** hit any buttons or other objects. Using a jabbing motion may result in an improper injection or injury to the thigh or buttocks. Hold the **atropine** injector firmly in place for **at least 10 seconds**. Firm pressure automatically triggers the coiled mechanism and plunges the needle through the clothing into the muscle and at the same time injects the atropine antidote into the muscle tissue. Next, inject yourself in the same manner with the **2-PAM Cl** injector, using the same procedure as you did for the atropine. This will now complete one set of nerve-agent antidotes. Attach the used injectors to your clothing (Appendix H-4) to indicate the number of injections you have already received. After administering the first set of injections, wait 10 to 15 minutes (since it takes that long for the antidote to take effect) before administering a second set, if needed. If the symptoms have not disappeared within 10 to 15 minutes, give yourself the second set of injections. If the symptoms still persist after an additional 15 minutes, a third set of injections may be given by nonmedical personnel. After administering each set of injections, you should decontaminate your skin, if necessary, and put on any remaining protective clothing.

**Buddy Aid.** If you encounter a service member suffering from severe signs of nerve-agent poisoning, you should provide the following aid:

- Mask the casualty, if necessary. Do not fasten the hood.
- Administer, in rapid succession, **three** sets of the nerve-agent antidotes. Follow the procedures for administration as described previously in the self-aid section.

**NOTE:** Use the casualty's own autoinjectors when providing aid. Do not use your injectors on a casualty. If you do, you may not have any antidote available when needed for self-aid.

**Blister agents**, or vesicants, exert their primary action on the skin, producing large and painful blisters that are incapacitating. Although vesicants are classed as nonlethal, high doses can cause death. Common blister agents include mustard (HD), nitrogen mustard (HN), and Lewisite (L). Each is chemically different and will cause significant specific symptoms. They are all similar in their physical characteristics and toxicology. Mustards are particularly insidious because they do not manifest their symptoms for several hours after exposure. They attack the eyes and respiratory tract as well as the skin. There is no effective therapy for mustard once its effects become visible. Treatment is largely supportive: to relieve itching and pain, and to prevent infection.

**MUSTARD (HN)** - HD and HN are oily, colorless or pale yellow liquids, sparingly soluble in water. HN is less volatile and more persistent than HD but has the same blistering qualities.

**Signs and Symptoms of Exposure** -The eyes are the most vulnerable part of the body to mustard gas. Contamination insufficient to cause injury elsewhere may produce eye inflammation. Because the eye is the most sensitive part of the body, the first noticeable symptoms of mustard exposure will be pain and a gritting feeling in the eyes, accompanied by spastic blinking of the eyelids and photophobia. Vapor or liquid may burn any area of the skin, but the burns will be most severe in the warm, sweaty areas of the body: the armpits, groin, and on the face and neck. Blistering begins in about 12 hours but may be delayed for up to 48 hours. Inhalation of the gas is followed in a few hours by irritation of the throat, hoarseness, and a cough. Fever, moist rales, and dyspnea may develop. Bronchopneumonia is a frequent complication. The primary cause of death is massive edema or mechanical pulmonary obstruction.

**Treatment.** - There is no specific antidotal treatment for mustard poisoning. Physically removing as much of the mustard as possible, as soon as possible, is the only effective method for mitigating symptoms before they appear. All other treatment is symptomatic, that is, the relief of pain and itching, and control of infection.

**LEWISITE (L)** - Lewisite is an **arsenical** (an arsenic-based compound). This blistering compound is a light- to dark-brown liquid that vaporizes slowly.

**Signs and Symptoms of Exposure** - The vapors of arsenicals are so irritating that conscious persons are immediately warned by discomfort to put on the mask. No severe respiratory injuries are likely to occur, except in the wounded who are incapable of donning a mask. The respiratory symptoms are similar to those produced by mustard gas. While distilled mustard and nitrogen mustard cause no pain on the skin during absorption, Lewisite causes intense pain upon contact.

**Treatment** - Immediately decontaminate the eyes by flushing with copious amounts of water to remove liquid agents and to prevent severe burns. Sodium sulfacetamide, 30 percent solution, may be used to combat eye infection within the first 24 hours after exposure. In severe cases, morphine may be given to relieve pain. In cases of systemic involvement, British Anti-Lewisite (BAL), dimercaprol, is available in a peanut oil suspension for injection. BAL is a specific antiarsenical that combines with the heavy metal to form a water-soluble, nontoxic complex that is excreted. However, BAL is somewhat toxic, and an injection of more than 3 mg/kg will cause severe symptoms. Aside from the use of dimercaprol for the systemic effects of arsenic, treatment is the same as for mustard lesions.

**Blood Agents** interfere with enzyme functions in the body, i.e., block oxygen transfer. Hydrocyanic acid (AC) and cyanogen chloride (CK) are cyanide-containing compounds commonly referred to as blood agents. These blood agents are chemicals that are in a gaseous state at normal temperatures and pressures. They are systemic poisons and casualty-producing agents that interfere with vital enzyme systems of the body. They can cause death in a very short time after exposure by interfering with oxygen transfer in the blood. Although very deadly, they are nonpersistent agents.

**SIGNS AND SYMPTOMS OF EXPOSURE** - These vary with concentration and duration of exposure. Typically, either death or recovery takes place rapidly. After exposure to high concentrations of the gas, there is a forceful increase in the depth of respiration for a few seconds, violent convulsions after 20 to 30 seconds, and respiratory failure with cessation of heart action within a few minutes.

**TREATMENT** - There are two suggested antidotes in the treatment of cyanides: amyl nitrite in crush ampules (provided as first aid) and intravenous sodium thiosulfate solution. In an attack, if you notice sudden stimulation of breathing or an almond-like odor, hold your breath and don your mask immediately. In treating a victim, upon notification by competent authority that there are no blood agents remaining in the atmosphere, crush two ampules of amyl nitrite in the hollow of your hand and hold it close to the victim's nose. You may repeat this procedure every few minutes until eight ampules have been used. If the atmosphere is contaminated and the victim must remain masked, insert the crushed ampules into the mask under the face plate. Whether amyl nitrite is used or not, sodium thiosulfate therapy is required after the initial lifesaving measures. The required dose is 100 to 200 mg/kg, given intravenously over a 9-minute period. The key to successful cyanide therapy is speed; cyanide acts rapidly on an essential enzyme system. The antidotes act rapidly to reverse this action. If the specific antidote and artificial respiration are given soon enough, the chance of survival is greatly enhanced

**Choking Agents.** The toxicity of lung agents is due to their effect on lung tissues; they cause extensive damage to alveolar tissue, resulting in severe pulmonary edema. This group includes phosgene (CG) and chlorine (Cl), as well as chloropicrin and diphosgene. However, CG is most likely to be encountered, and its toxic action is representative of the group. Phosgene is a colorless gas with a distinctive odor similar to that of new-mown hay or freshly cut grass. Unfortunately, even at minimal concentrations in the air (i.e., below the threshold of olfactory perception), CG can cause damage to the eyes and throat. Generally speaking, CG does not represent a hazard of long duration; therefore, an individual exposed to a casualty-producing amount should be able to smell it.

**SIGNS AND SYMPTOMS OF EXPOSURE** - There may be watering of the eyes, coughing, and a feeling of tightness in the chest. More often, however, there will be no symptoms for 2 to 6 hours after exposure. Latent symptoms are rapid, shallow, and labored breathing; painful cough; cyanosis; frothy sputum; clammy skin; rapid, feeble pulse; and low blood pressure. Shock may develop, followed by death.

**TREATMENT** - Once symptoms appear, complete bed rest is mandatory. Keep victims with lung edema only moderately warm, and treat the resulting anoxia with oxygen. Because no specific treatment for CG poisoning is known, treatment has to be symptomatic.

**Incapacitating agents**, which are mainly comprised of psychochemicals, produce mental confusion and an inability to function intelligently. The psychochemicals temporarily prevent an individual from carrying out assigned actions. These agents may be administered by contaminating food or water, or they may be released as aerosols. The following are characteristics of the incapacitants:

- High potency (i.e., an extremely low dose is effective) and logistic feasibility

- Effects produced mainly by altering or disrupting the higher regulatory activity of the central nervous system
- Duration of action comprising hours or days, rather than momentary or transient action. No permanent injury produced.

**SIGNS AND SYMPTOMS OF EXPOSURE** - *The first symptoms appear in 30 minutes to several hours and may persist for several days. Abnormal inappropriate behavior may be the only sign of intoxication. Those affected may make irrational statements and have delusions or hallucinations. In some instances, the victim may complain of dizziness, muscular incoordination, dry mouth, and difficulty in swallowing. The standard incapacitant in the United States is 3-quinuclidinyl benzilate (BZ), a cholinergic blocking agent, which is effective in producing delirium that may last several days. In small doses it will cause an increase in heart rate, pupil size, and skin temperature, as well as drowsiness, dry skin, and a decrease in alertness. As the dose is increased to higher levels, there is a progressive deterioration of mental capability, ending in stupor.*

**TREATMENT.** - The first aid is to prevent victims from injuring themselves and others during the toxic psychosis. Generally, there is no specific therapy for this type intoxication. However, with BZ and other agents in the class of compounds known as glycolates, physostigmine is the drug treatment of choice. It is not effective during the first 4 hours following exposure; after that, it is very effective as long as treatment is continued. However, treatment does not shorten the duration of BZ intoxication, and premature discontinuation of therapy will result in relapse.

**Riot control/harassing agents** is the collective term used to describe a collection of chemical compounds, all having similar characteristics which, though relatively nontoxic, produce an immediate but temporary effect in very low concentrations. These agents are used to harass enemy personnel or to discourage riot actions. Generally, patients require no therapy; removal from the environment is sufficient to effect recovery in a short time. There are two classes of riot-control/harassment agents: lacrimators and vomiting agents.

**LACRIMATORS** - Lacrimators (or tear gases) are essentially local irritants that act primarily on the eyes. In high concentrations, they also irritate the respiratory tract and the skin. The principal agents used are chloracetophenone (CN) and orthochlorobenzilidene malanonitrile (CS). Although CS is basically a lacrimator, it is considerably more potent than CN and causes more severe respiratory symptoms. CN is the standard training agent and is the tear gas most commonly encountered because it is not as potent. CS is more widely used by the military as a riot-control agent. Protective masks and ordinary field clothing secured at the neck, wrists, and ankles provide protection against all tear agents. Personnel handling CS should wear rubber gloves for additional protection.

**Signs and Symptoms of Exposure** - Lacrimators produce intense pain in the eyes with excessive tearing. The symptoms following the most severe exposure to

vapors seldom last over 2 hours. After moderate exposure, they last only a few minutes.

**Treatment** - First aid for lacrimators is generally not necessary. Exposure to fresh air and letting wind blow into wide-open eyes, held open if necessary, is sufficient for recovery in a short time. Talking can relieve any chest discomfort after CS exposure. An important point to remember is that this material adheres tenaciously to clothing, and a change of clothing may be necessary. Do not forget the hair (both head and facial) as a potential source of recontamination.

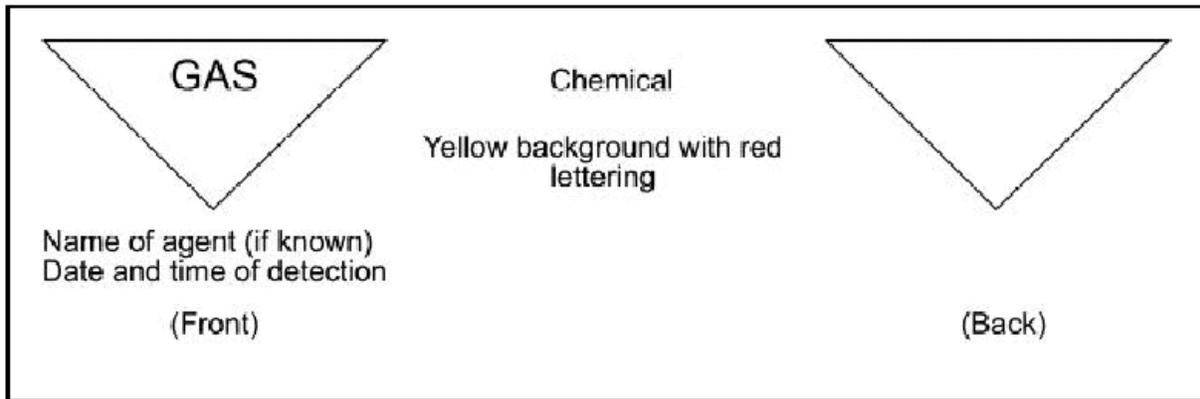
**VOMITING AGENTS** - Vomiting agents comprise the second class of agents in the riot-control category. The principal agents of this group are diphenylaminochloroarsine (Adamsite (DM)), diphenylchloroarsine (DA), and diphenylcyanoarsine (DC). They are used as training and riot-control agents. They are dispersed as aerosols and produce their effects by inhalation or by direct action on the eyes. All of these agents have similar properties and pathology.

**Signs and Symptoms of Exposure** – Vomiting agents produce a strong pepper-like irritation in the upper respiratory tract, with irritation of the eyes and lacrimation. They cause violent uncontrollable sneezing, coughing, nausea, vomiting, and a general feeling of malaise. Inhalation causes a burning sensation in the nose and throat, hypersalivation, and rhinorrhea. The sinuses fill rapidly and cause a violent frontal headache.

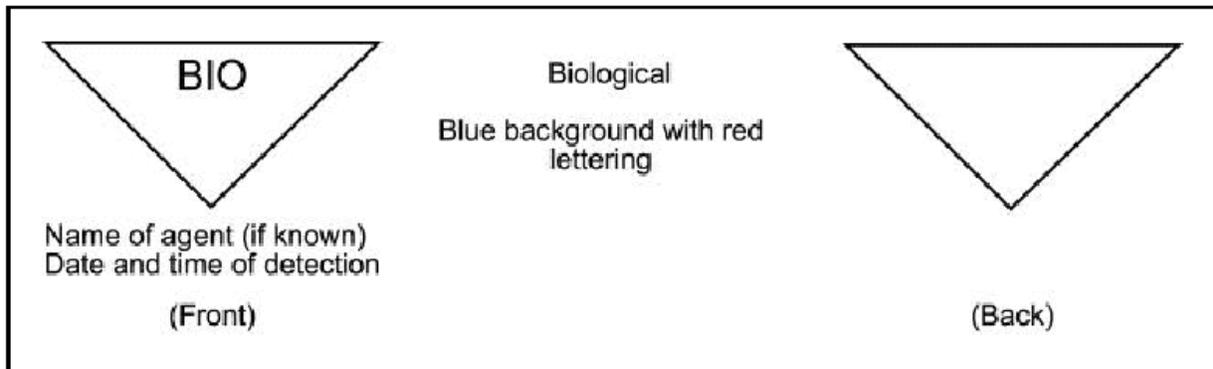
**Treatment** - It is of the utmost importance that the mask be worn in spite of coughing, sneezing, salivation, and nausea. If the mask is put on following exposure, symptoms will increase for several minutes in spite of adequate protection. As a consequence, victims may believe the mask is ineffective and remove it, further exposing themselves. While the mask must be worn, it may be lifted from the face briefly, if necessary, to permit vomiting or to drain saliva from the face piece. Carry on duties as vigorously as possible. This will help to lessen and shorten the symptoms. Combat duties usually can be performed in spite of the effects of vomiting agents if an individual is motivated. First aid consists of washing the skin and rinsing the eyes and mouth with water. A mild analgesic may be given to relieve headache. Recovery is usually spontaneous and complete within 1 to 3 hours.

**SCREENINGSMOKES**. - Screening smokes fit in with riot-control agents. Their primary use is to obscure vision and to hide targets or areas. When used for this purpose outdoors, they are not generally considered toxic. However, exposure to heavy smoke concentration for extended periods, particularly near the source, may cause illness or death. Under no circumstances should smoke munitions be activated indoors or in closed compartments. Symptomatic treatment of medical problems or discomfort resulting from exposure to screening smokes will generally suffice.

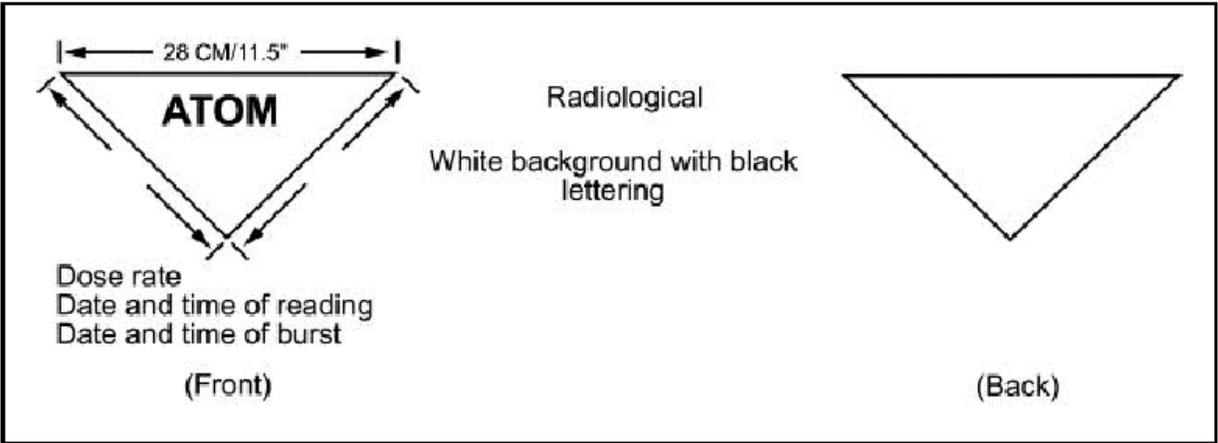
**WHITE PHOSPHORUS** - White phosphorus (WP) is a pale, waxy solid that ignites spontaneously on contact with air to give a hot, dense, white smoke composed of phosphorus pentoxide particles. While field concentrations of the smoke may cause temporary irritation to the eyes, nose, and throat, casualties from the smoke have not occurred in combat operations. No treatment is necessary, and spontaneous recovery is rapid once the patient is removed from the WP source. White phosphorus smoke not only creates an obscuring smoke, but it also has a secondary effect upon personnel if it contacts the skin. When burning particles of WP embed in the skin, they must be covered with water, a wet cloth, or mud. A freshly mixed 0.5 percent solution of copper sulfate (which produces an airproof black coating of copper phosphide) may be used as a rinse but must not be used as a dressing. The phosphorus particles must be removed surgically.



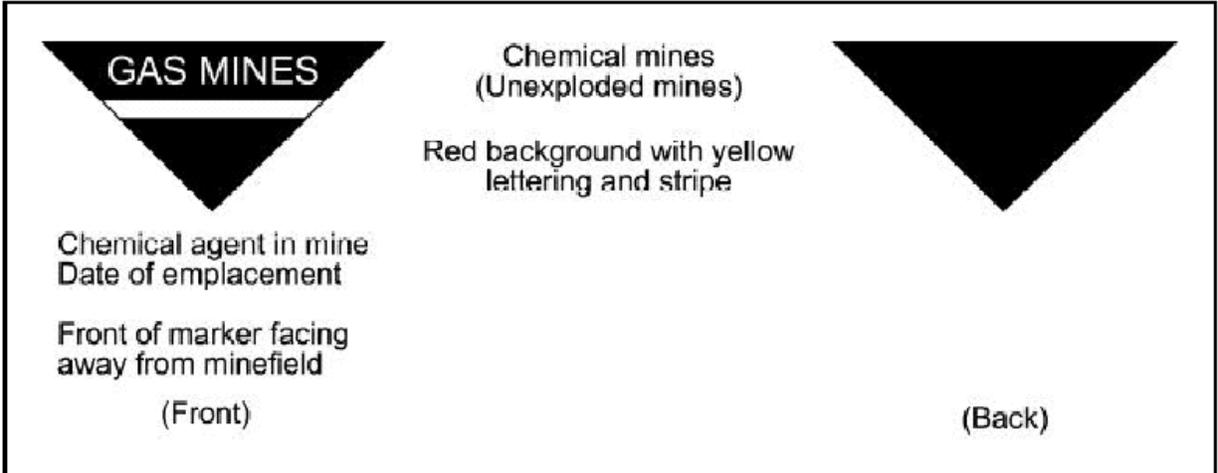
### NATO Chemical Marker



### NATO Biological Marker



### NATO Radiological Marker



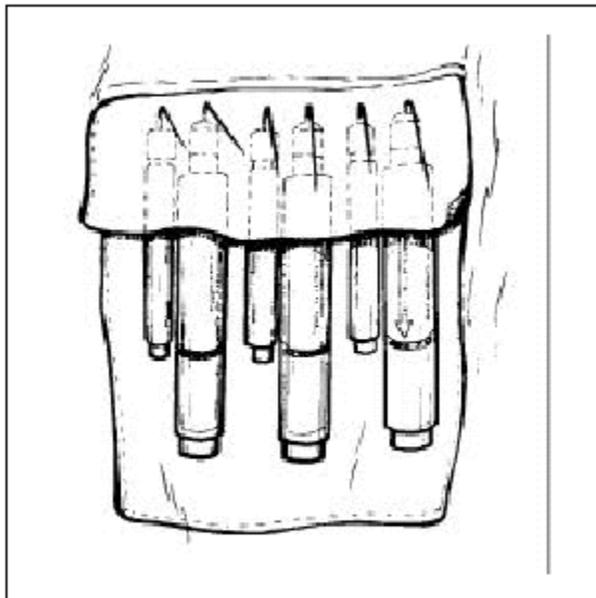
### NATO Chemical Mines Marker

<b>MOPP LEVELS</b>				
<b>Levels</b>	<b>Overgarment</b>	<b>Booties</b>	<b>Mask</b>	<b>Gloves</b>
<b>1</b>	Worn open or closed	Carried	Carried	Carried
<b>2</b>	Worn open or closed	Worn	Carried	Carried
<b>3</b>	Worn open or closed	Worn	Worn with hood open or closed	Carried
<b>4</b>	Worn	Worn	Worn	Worn

### **MOPP Level Chart**



**Atropine Injection**



**Atropine Placement in Pocket**

**H-4**

References:

- [a] USMC, Marine Corps University Sergeant's Course 0503  
[b] Marine Corps Drill and Ceremonies Manual (PCN10001337900)  
[c] USMC, Marine Corps University Career Course 0401
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114.1 Explain the five purposes of close order drill. [ref. a, p. 0503H-2]

**The purpose of close order drill is to enable a commander to:**

Move his unit from one place to another in a standard, orderly manner, while maintaining the best appearance possible.

Provide simple formations from which combat formations may be readily assumed.

Teach discipline by instilling habits of precision and automatic response to orders.

Increase the confidence of his junior officers and of his noncommissioned officers through the exercise of command, by giving the proper commands and the control of drilling troops.

Give Marines an opportunity to handle individual weapons

114.2 Discuss the meaning of the following drill terms:  
[ref. a, pp. 0503H-2, 0503H-3]

**Element** - An individual, squad, section, platoon, company, or other unit which is part of a larger unit.

**Formation** - An arrangement of elements on line, in column, or in any other prescribed manner.

**Line** - A formation in which the elements are abreast, except that a section or platoon is in line when its squads are in line and one behind the other.

**Rank** - A line of Marines or vehicles placed side by side.

**Column** - A formation in which elements are placed one behind the other, except that a section or platoon is in column when its squads are in column and abreast of each other.

**File** - A single column of Marines or vehicles one behind the other.

**Flank** - The right or left extremity of a unit either on line or in column. The element on the extreme right or left of the line. A direction at a right angle to the direction an element of a formation is facing.

**Interval** - The lateral space between elements on the same line. Interval is measured between individuals from shoulder to shoulder. It is measured between elements rather than individuals and between formations from flank to flank. Unit commanders and those with them are not considered in measuring interval between elements of the unit with which it is posted.

**Normal Interval** - Normal interval between individuals is one arm's length.

**Close Interval** - Close interval is the horizontal distance between shoulder and elbow when the left hand is placed on the left hip.

**Alignment** - The dressing of several elements on a straight line.

**Guide** - The individual (base) upon whom a formation, or other elements, thereof, regulates its march. "To guide" means to regulate the interval, direction, alignment and cadence on a base file (right, left, or center).

**Center** - The middle element of a formation within an odd number of elements or the left center element of a formation with an even number of elements. Remember the guide will be included in the count.

**Pace** - The length of a full step at quick time, which is 30 inches and is measured from the back of one heel to the back of the other heel.

**Step (half, back, right-left, quick & double time)** - The distance from heel to heel between the feet of a marching man. The half step and back step are 15 inches. The right and left steps are 12 inches. The steps in quick and double time are 30 and 36 inches respectively.

**Cadence (slow time, quick time & double time)** - A rhythmic rate of march at a uniform step.

114.3 Discuss the four characteristics of command voice. [ref. a, p. 0503H-4]

### **Voice Control**

- The voice is controlled by opening the throat, using the mouth to shape the words, and using the diaphragm to control the volume.
- The loudness of a command is adjusted to the number of men in the unit.
- The only position for giving commands is at the position of attention. Here is a point in leadership. If you demonstrate military bearing, so will your men. If you slouch, your men will have a tendency to do likewise.
- The most important muscle used in breathing is the diaphragm. This is the large muscle that separates the chest cavity from the abdominal cavity.
- The cavities of the throat, mouth, and nose act as amplifiers and help to give fullness and projection to the voice.

### **Distinctness**

- All commands can be pronounced correctly without loss of effect.
- Distinctness depends on the correct use of your tongue, lips, and teeth which form the separate sounds of a word.
- To develop the ability to give clear, distinct commands, practice giving commands slowly and carefully, prolonging the syllables. Gradually increase your rate of

delivery until you develop the proper cadence, while continuing to enunciate each syllable distinctly

**Inflection** is the rise and fall in pitch and tone in the voice.

**Cadence** when speaking in regards to commands means a uniform and rhythmic flow in words. The interval between commands is generally of uniform length for any given troop unit. This is necessary so that everyone in the unit will be able to understand the preparatory command and will know when to expect the command of execution. Except when supplementary commands need to be given, the best interval of time for the squad or platoon on the march is that which allows one step to be taken between the preparatory command and the command of execution

114.4 Discuss the two types of drill commands: [ref. a, p. 0503H-4]

**Preparatory command** is the command which indicates the movement to be executed.

Beginning Pitch - Normal speaking voice.

Inflection - Rising inflection

**Command of execution** is the command which indicates when a movement is to be executed.

Beginning Pitch - Higher than the last pitch of the preparatory command.

Inflection - None.

Snap - Given sharply and succinctly.

114.5 Discuss the positions of individuals in the following color guards: [ref. b, p. 12-1]

**The color guard consists of four men.** Two noncommissioned officers are the color bearers, and two other men, junior to the color bearers, are the color guards. The color bearers are unarmed, but the color bearer carried the national color and commands the color guard. He gives the necessary commands for movements and rendering honors. The junior color bearer carries the organizational color, which is always on the left of the national color. When only the national color is carried, the color guard will include only one color bearer. The position of individuals in the Marine Corps color guard, Navy-Marine Corps color guard, and Joint Armed Forces color guard are shown in Appendix I-1.

114.6 Discuss the following recognized Marine Corps traditional events:  
[ref. c, pp. 0401H-1 thru 0401H-4]

**Wet down** is a party thrown by a newly promoted Staff NCO or officer to celebrate his new rank. It must be pointed out that this is not an initiation. At no time will any one be humiliated, hazed, or forced to do something against their will. The following general guidelines should be followed:

- The Wet Down should be held soon after the promotion, usually within a month or so. It is usually held at the Staff NCO Club.

- The amount of money spent by the recently promoted Marine is normally one month's pay raise. If several Marines from the same unit have been promoted within a short period of time they can get together and have one single Wet Down. This permits a more lavish celebration. The money is spent on beverages and sometimes on food.

- The invited guests are usually fellow Marines of equal or superior rank to that of the recently promoted Marine.

- The warrant of the newly promoted Marine is displayed prominently. In the past, the warrant was doused with alcohol at some point during the gala, thus the term "Wet Down." This practice is rarely followed today.

**Hail and farewell** serves the purpose of introducing any SNCO's and their spouses who have arrived since the last Hail and Farewell and saying good-bye to any SNCO's who are leaving before the next Hail and Farewell. These functions can be scheduled periodically, such as monthly or quarterly, or they can be scheduled on a case-by-case basis. It can be scheduled to coincide with a SNCO Call. It often is given at the SNCO Club, though some units schedule Farewell Luncheons at the section level to make the Farewell more personal.

- **Hail.** This is usually a brief introduction of any newly arrived SNCO's with comments on where they are coming from and where they will be working.

- **Farewell.** This normally takes longer than a Hail. The Marine's current section should be mentioned as well as where he is going. This is also an appropriate time to present him with any plaques or mementos. If he/she is given a Farewell Luncheon, then the Marine who is leaving should be permitted to select the location of the meal. Further, since he/she is the Guest of Honor, the other attendees should pick up the tab for his/her meal. If the number of Marines present is small, then each Marine may be given the chance to make comments on the character of the departing Marine. Additionally, the departing Marine should be given the chance to make comments.

**Promotions and Re-enlistment's** are required ceremonies to recognize milestones in an individual Marines career. First the time, date, and place for the ceremony must be designated and the information disseminated. The size of the unit and the space available for the formation will determine whether the unit will be formed at close interval or at normal interval. Once the unit has been formed, the individual or individual's to be recognized will form up in the rear of the formation. They form according to precedence of award, medals, certificate of commendation, meritorious mast, letter of appreciation, etc

- Personal awards presented first.
- Promotions second.
- Re-enlistments third.

When the unit is formed, the formation of Marines to be recognized will be formed normally in one rank behind the formation. The formation is reported to the Commander by the senior enlisted. The commander will then command "**POST**". The senior enlisted marches in a most direct route to the left of the Commander. The senior enlisted will then command

**"PERSONNEL TO RECEIVE AWARDS, PROMOTIONS, etc., CENTER** (Marines to be recognized will execute a right face) **MARCH**". They will march to a position in front of the formation approximately 5 paces in front and centered on the Commander, at which time the senior enlisted will command "**MARK TIME MARCH**", "**DETAIL HALT**", "**RIGHT FACE**", "**HAND SALUTE**"; after the Commander has returned the salute, the senior enlisted will command "**READY TWO**".

The designated Marine will read the orders and citations to be presented. After the reading of the first citation, the senior officer, accompanied by designated necessary

staff personnel, advances to the first person to be recognized. The commander will then hand or attach the appropriate award to the Marine and then moves to the next person to receive a promotion or citation and that promotion or re-enlistment citation is read. The commander will also congratulate each person with a handshake for receiving a promotion or re-enlistment. Immediately after shaking hands, the person being promoted or re-enlisted salutes the senior officer. The commander returns the salute before proceeding to the next person. After shaking hands with the last person, the commander and the senior enlisted returns to their post. Once the commander is positioned, the senior Marine of the detail will give the command "**HAND SALUTE**"; after the commander renders his/her salute, the senior Marine of the detail gives the command "**READY TWO, LEFT FACE, FORWARD MARCH**", the detail will then march by the most direct route to the rear of the formation.

**Dining-in** - The Commanding Officer may desire to conduct a formal dinner in honor of recognizing a new member to the unit, or saying farewell to a departing member. This has commonly been referred to as a Dining In. It may be given in recognition of a dignitary, or to individual or unit achievements. It can also simply be used as a means for the members of a command to get together in a formal setting to become more acquainted. When conducting a Dining In, the guidelines for a Mess Night are adhered to, but adjustments for attire are allowed.

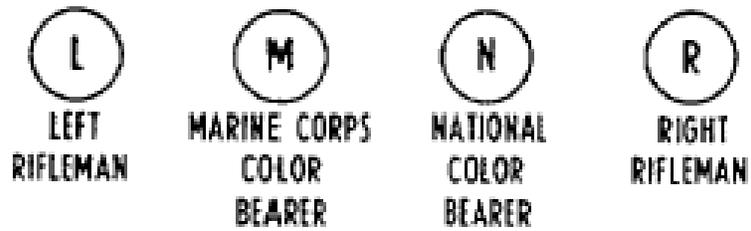
- When a Dining In is conducted spouses, boyfriends, girlfriends, and other non-military guests may attend.
- The attendance of these individuals makes the event a Dining In, rather than a Mess Night. The Mess Night is a stag affair. In other words, non-military guests are not invited unless they are being recognized at the dinner.
- The spouses of the members of the Mess are considered guests of the Mess and must be treated as such. When determining the official guest(s) of the Mess, care must be taken to include the spouse(s). Ideally, the Guest of Honor should be a military or civilian couple that has, by their example, jointly contributed to the nation.
- The invitations may include spouses and will indicate the attire to be worn. For the ladies, it is a formal occasion, and as such, formal dresses are expected. Bare shoulders are not considered appropriate.
- Seating Arrangement. Care must be taken not to place a lady at the end of the table.
- Miscellaneous. Flowers may be ordered for each of the ladies and the after dinner speeches should be of interest to both Marines and their spouses

**Marine Corps birthday** - The following is prescribed as a guide for the conduct of the Marine Corps Birthday Ceremony.

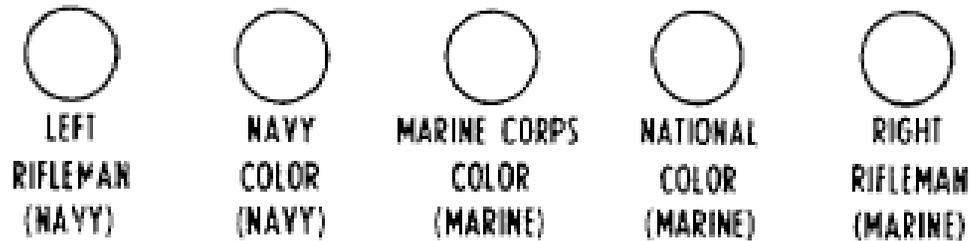
- When the ceremony is conducted at posts where there is no general officer commanding, the senior line officer will follow the procedure outlined for the commanding general. At such posts, the escorts will be formed from appropriate ranks present.
  - When the ceremony is conducted at NCO's or other enlisted messes, appropriate ranking NCO's will preside and form the escort.
  - Where the ballroom is of sufficient size, two officers or enlisted personnel of each rank will be assigned to the escort
  - Where practicable, the uniform worn will be evening dress or blue dress.
  - The birthday cake will be mounted on a mess serving cart or similar conveyance covered with scarlet and gold bunting.

- Where swords are not available, escorts will execute hand salute at appropriate commands.

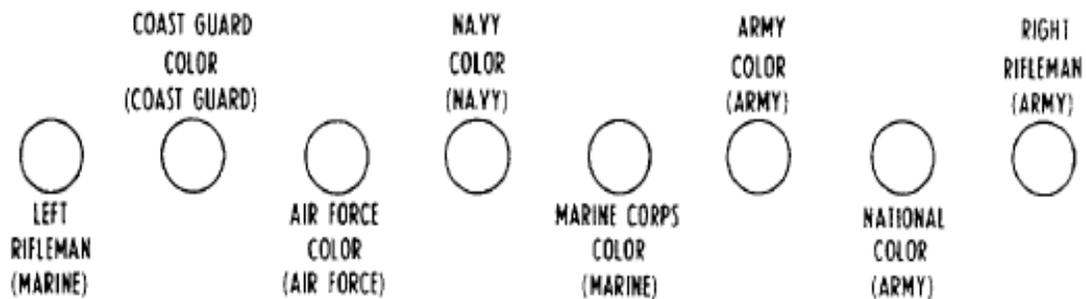
### MARINE CORPS COLOR GUARD



### NAVY-MARINE CORPS COLOR GUARD



### JOINT ARMED FORCES COLOR GUARD



References:

[a] USMC, Marine Corps University Sergeants' Course 1201

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115.1 Explain the following components of a map: [pp. 1201H-2, 1201H-3]

**Sheet Name** - A map is named after the most prominent cultural or geographical feature. Whenever possible, the name of the largest city on the map is used. The sheet name is found in two places: the center of the upper margin and either the right or left side of the lower margin.

**Sheet Number** - The sheet number is used as a reference number for that map sheet. It is found in two places: the upper right margin and the lower left margin.

**Scale** - The scale note is a representative fraction that gives you the ratio of a distance on the map to the corresponding distance on the earth's surface. For example, the scale note 1:50,000 indicates that one inch on the map equals 50,000 inches on the ground. Maps with different scales will display different degrees of topographical detail. For example, a map with a scale of 1:25,000 will give more detail than a 1:50,000 map because one inch on the map represents only 25,000 inches on the ground, rather than the 50,000 inches of the 1:50,000 map. The scale is found both in the upper left margin after the series name and in the center of the lower margin.

**Elevation Guide** - The elevation guide is a miniature characterization of the terrain shown. The terrain is shown by bands of elevation, spot elevations, and major drainage features. The elevation guide helps you rapidly identify major landforms. It is normally found in the lower right margin

**Declination Diagram** - This indicates the angular relationships of true north, grid north, and magnetic north. Recent edition maps have a note indicating how to convert azimuths from grid to magnetic and from magnetic to grid next to the declination diagram. The declination diagram is located in the lower margin.

**Bar Scales** - Bar scales are used to convert map distance to ground distance. Maps may have three or more bar scales, each in a different unit of measure. The bar scales are located in the center of the lower margin.

**Legend** - The legend illustrates and identifies the topographic symbols used to depict some of the more prominent features on the map, such as railroad tracks, buildings, and swamps. The symbols are not always the same on every map. Always refer to the legend to avoid error when reading a map. The legend is located in the lower left margin

115.2 Explain the following as they apply to map reading: [p. 1201H-3]

**Grid Lines** - Grid lines are a series of straight lines intersected at right angles and forming a series of squares. It furnishes the map-reader with a system of squares similar to the block system of most city streets. Two digits are printed in large type at each end of the grid lines, and these same two digits appear at intervals along the grid lines on the face of the map. They are called principal digits. They are of major importance to the map-reader because they are the numbers he will use most often for referencing points.

**Grid Squares** - These intersect at right angles of the horizontal and vertical grid lines. The most common military map contains grid squares that measure 1000 meters by 1000 meters (not 1000 square meters as many people think). Any point located within the grid square is considered to be part of the grid square.

**Basic Map Reading Rule** - The designation of a point is based on the principle: Read right then up. Always read right on the vertical grid lines then up on the horizontal grid lines.

**Grid Square Identification** - It is important that all of you understand how to apply the map reading rule to identify a grid square and locate a point within a grid square.

115.3 The following grid coordinates will locate a point on a map within how many meters: [pp. 1201H-3, 1201H-4]

**A four-digit grid coordinate** locates a point to within 1000 meters.

**A six-digit grid coordinate** will locate a point on a map within 100 meters.

**An eight-digit grid coordinate** will locate a point on a map within 10 meters

115.4 Explain the difference between true north, magnetic north, and grid north. [p. 1201H-20]

**True North** is a line from any point on the earth's surface to the North Pole. True north can be found at night by locating the North Star, which always points towards true north. True north is usually represented on the declination diagram by a line ending with a star. True north is used almost exclusively when navigating without a compass.

**Magnetic North.** The earth has a magnetic field that is close to (but not exactly on) the North Pole. The north-seeking arrow of your lensatic compass indicates the direction to this north magnetic pole. Magnetic north is usually symbolized on the declination diagram by a line ending with a half arrowhead. Anytime you use the compass to plan or follow an azimuth in the field, you must work with azimuths measured from magnetic north.

**Grid North** is established by using the vertical grid lines on the map. Grid north may be symbolized on the declination diagram by the letters GN. Anytime you use a protractor in conjunction with a vertical grid line to determine or plot an azimuth on a map, you must work with an azimuth measured from grid north.

115.5 Identify the following type of terrain features found on a map:  
[pp. 1201H-9 thru 1201H-14]

**Hill** - A hill is an area of high ground. From a hilltop, the ground slopes down in all directions. A hill is shown on a map by contour lines forming concentric circles. The inside of the smallest closed circle is the hilltop. See Appendix J-1.

**Ridge** - A ridge is a series of hills that are connected to each other near the top. A ridgeline may extend for many miles. It may be winding or quite straight. It may have a reasonably uniform elevation along its top or it may vary greatly in elevation. See Appendix J-1.

**Saddle** - This is a dip or low point between two areas of higher ground. A saddle is not necessarily the lower ground between two hilltops; it may be simply a dip or break along a level ridge crest. If you are in a saddle, there is high ground in two opposite directions and low ground in the other two directions. A saddle is normally represented as an hourglass or by figure-eight shaped contour lines. See Appendix J-1.

**Finger/Spur** - A finger is a short, continuous sloping line of higher ground, normally jutting out from the side of a ridge or hill. A finger is often formed by two roughly parallel draws. The ground slopes down in three directions and up in one. Contour lines on a map depict a finger with the U or V pointing away from high ground. See Appendix J-2.

**Draw** - A draw is a short, continuous sloping line of low ground, normally cut into the side of a ridge or hill. Often, there is a small stream running down the draw. In a draw, there is essentially no level ground. Therefore, little or no maneuver room exists within its confines. If you are standing in the middle of a draw, the ground slopes upward in three directions and downward in the other direction. Contour lines on a map depict a draw with the U or V pointing toward high ground. See Appendix J-2.

**Depression** - This is a low point in the ground or a sinkhole. It is an area of low ground surrounded by higher ground in all directions, or simply a hole in the ground. Usually only depressions that are equal to or greater than the contour interval will be shown. On maps, depressions are represented by closed contour lines that have tick marks pointing toward low ground. See Appendix J-2.

115.6 Identify and explain the following as they relate to the lensatic compass:  
[pp. 1201H-23, 1201H-24]

**Cover** - This protects the floating dial and the glass encasement. It contains the sighting wire and two luminous sighting dots for night navigation.

**Base -**

**Floating Dial.** This is mounted on a pivot so that it rotates freely when the compass is held level. It contains the magnetic needle. A luminous arrow and the letters "E" and "W" are printed on the dial. The arrow points to magnetic north. There are two scales: outer - denotes MILS (black); inner - denotes DEGREES (red).

**NOTE:** Mil is another unit of measure. The mil (abbreviated m) is mainly used in artillery, tank, and mortar gunnery. The mil expresses the size of an angle formed when a circle is divided into 6,400 angles with the vertex of the angles at the center of the circle.

**Glass Encasement.** This houses the floating dial and contains a fixed black index line.

**Bezel Ring.** This device that clicks when turned. It contains 120 clicks when rotated fully. Each click equals 3 degrees. A short luminous line is used in conjunction with the north-seeking arrow during night navigation.

**Thumb Loop.** This is attached to the base.

**Rear Sight -** This is used to lock the floating dial. The rear sight must be opened more than 45 degrees to allow the floating dial to float freely.

**Lens.** This is used to read the floating dial.

**Rear Sight Slot:** This is used in conjunction with the front sighting wire when aiming at objects.

See Appendix J-3.

115.7

Explain how to convert a magnetic azimuth to a grid azimuth.  
[pp. 1201H-26, 1201H-27]

**Azimuths** measured with a protractor are grid azimuths and azimuths determined with the compass are magnetic azimuths. You cannot follow a grid azimuth with a compass, nor can you plot a magnetic azimuth with a protractor because of the angular difference between grid north and magnetic north. This angular difference is called the G-M ANGLE (Grid-Magnetic angle). **The G-M angle varies for each map.**

Because of this angular difference, before you can plot a magnetic azimuth on a map, you must convert it to a grid azimuth. Likewise, before you can use a grid azimuth to navigate, you must convert it to a magnetic azimuth. Declination diagrams display the difference between grid and magnetic north.

Conversion Notes. Refer to the conversion notes that appear with the declination diagrams explaining the use of the G-M angle. One note provides instructions for converting a magnetic azimuth to a grid azimuth. The other provides instructions for converting a grid azimuth to a magnetic azimuth. The conversion (addition or subtraction) is governed by the direction of magnetic north relative to grid north.

Use the acronym **LARS** (left add; right subtract) when converting from grid azimuths (G) to magnetic azimuths (M). When looking at the declination diagram, if the (M) is to the Left of the (G), the **Add** the G-M angle. If the (M) is to the Right of the (G), then **Subtract**.

115.8 Discuss the technique used to orient a map using the following methods:  
[pp. 1201H-32, 1201H-33]

**Compass** - When orienting a map with a compass, remember that compasses measure magnetic azimuths.

- **With the map flat on the ground**, place the straightedge (on the left side of the compass) along the magnetic north arrow on the declination diagram so that the cover of the compass is pointing toward the top of the map. This will put the fixed black index line of the compass parallel to the magnetic north arrow of the declination diagram

- **Keeping the compass aligned** as directed above, rotate the map and compass simultaneously until the north-seeking arrow is below the fixed black index line on the compass. Your map is now oriented.

**Terrain Association** - You can orient your map using terrain association when a compass is not available or when you have to make quick references as you move across country. Using this technique requires careful examination of the map and the features on the ground.

- **Identify prominent terrain features** on the map that you can find on the ground.

- **Align terrain features with the map.** If there is a tower to your right front, then orient the map so that the tower is to your right front. If there is a road off to your left, then ensure the road on the map is parallel to the road on the ground. Once all of the features are lined up, your map is oriented

115.9 Discuss the technique for determining your position using the following methods:  
[pp. 1201H-33, 1201H-34]

**Location by inspection** – is used if you are standing in the vicinity of several prominent features which can easily be located on the map. By orienting the map and estimating your relation to these features, you should have no difficulty in determining your location.

**Location by One-Point Resection** - One-point resection is an accurate technique of determining your location when you are on or near a linear feature that you can identify both on the ground and on the map. You must also be able to identify another prominent feature, both on ground and on the map. To determine your location by one-point resection follow these steps

- Identify the linear terrain feature that you are located on or near in respect to the ground on your map.

- Identify a prominent feature on the ground and locate that feature on your map.

- Using the compass-to-cheek technique, sight in on the feature and read the magnetic azimuth

- Convert the magnetic azimuth to a grid azimuth.

- Convert this grid azimuth to a grid back azimuth.

- With your protractor, plot this grid back azimuth from the feature on the map and extend it until it crosses the linear feature.

- Conduct a map inspection to verify your resection.

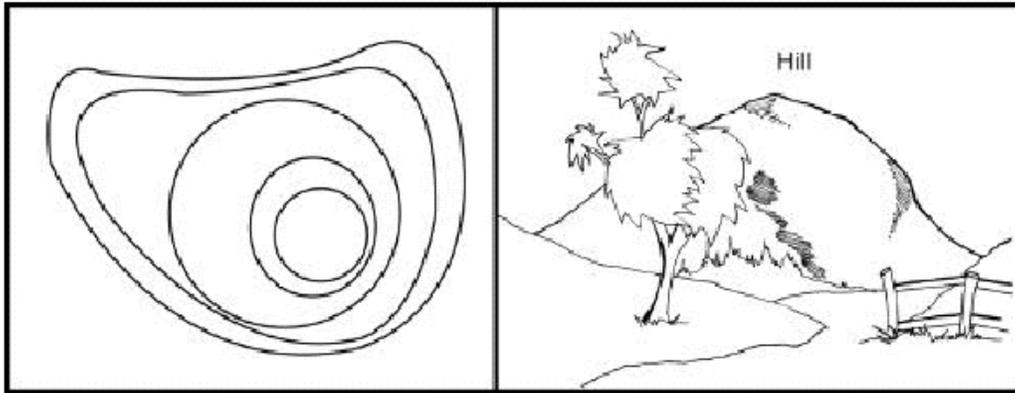
- When selecting a terrain feature, choose one that is perpendicular to the axis of the linear terrain feature so that when you plot the back azimuth on the map, the line will cross the linear feature more or less at a right angle.

**Location by Two-Point Resection** - Usually you will find that you are not located on or near a prominent linear feature. Since the accuracy of a one-point resection

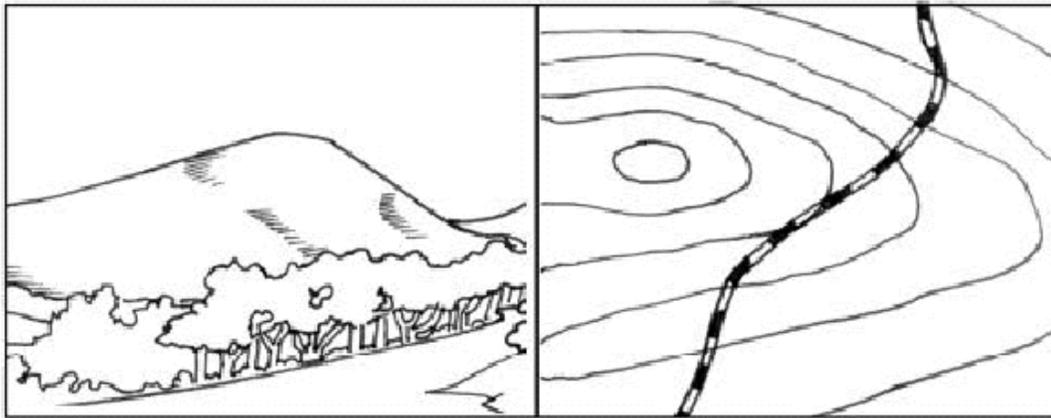
under these conditions depends on your ability to accurately estimate distance, it is better to use a two-point resection. The procedures for two-point resections are basically the same as for one-point resections except you must select two features instead of one. The back azimuths from each feature is determined and plotted on your map. You are located at the point where these lines cross.

If you have a compass and a protractor then follow these steps.

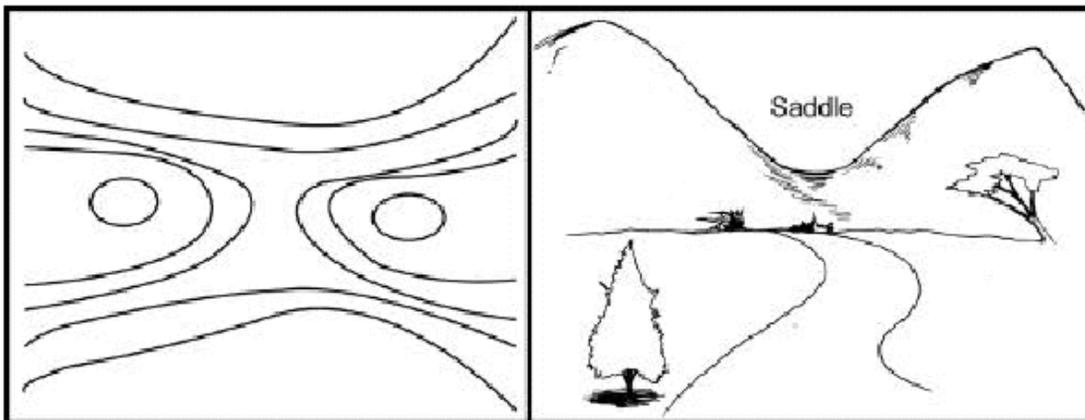
- Select two prominent features on the ground whose positions can be located on the map. These features should be at least  $30^{\circ}$  but not greater than  $150^{\circ}$  apart.
- Using the compass-to-cheek technique, determine the magnetic azimuth to each object.
- Convert these magnetic azimuths to grid back azimuths.
- With your protractor, draw the respective back azimuths from these two points on your map.
- Extend the azimuth lines from these two points until they intersect. You are located at the point where these two lines cross.
- Conduct a map inspection to verify your position.



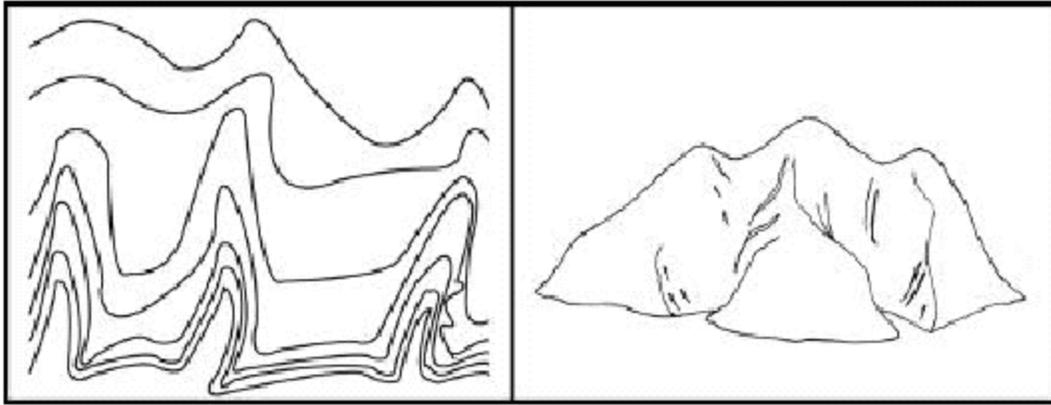
**Hill**



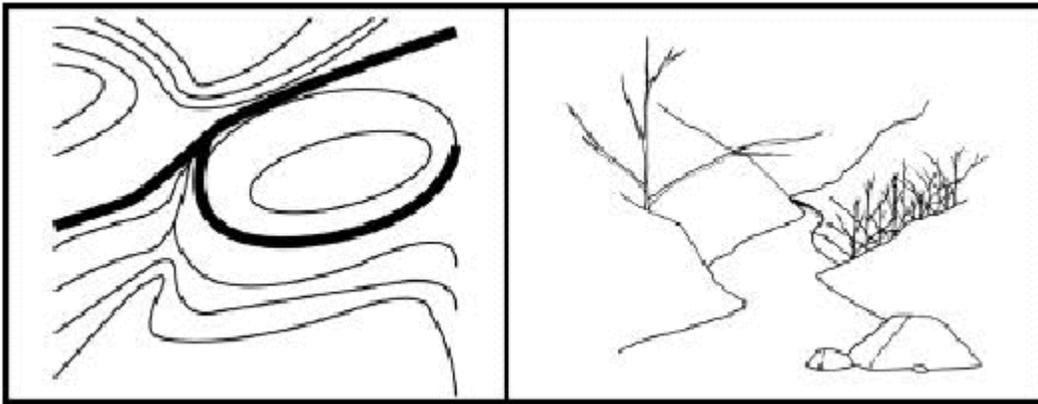
**Ridge**



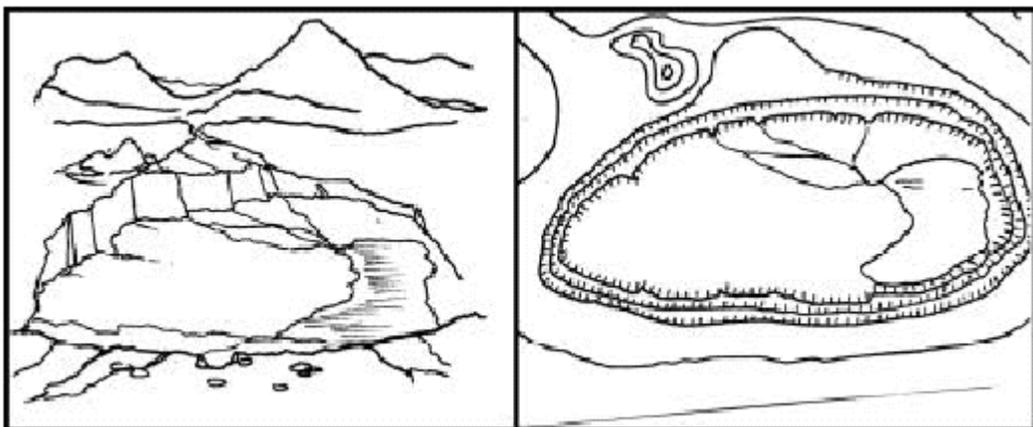
**Saddle**



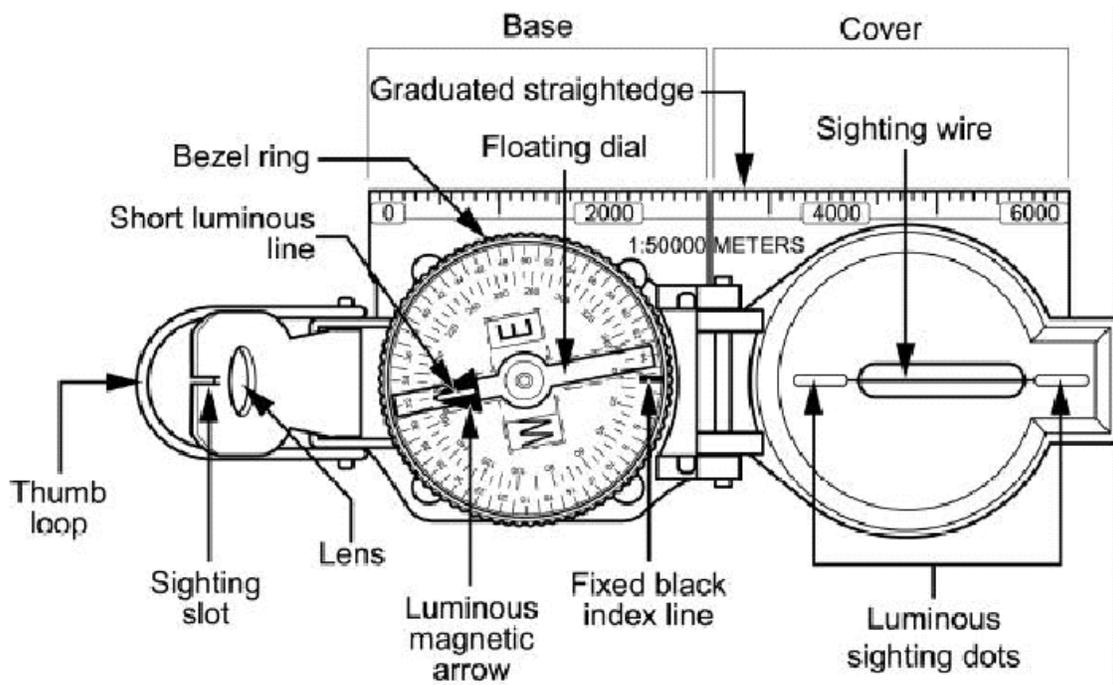
**Finger/Spur**



**Draw**



**Depression**



**Lensatic Compass**

**J-3**

References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] FMFM 6-5, Marine Rifle Squad (PCN 13900050000)
- 

116.1 Discuss the mission and organization of a Marine division. [ref. a, p. 4-1]

**The mission of the Marine division** is to execute amphibious assault operations and such other operations as may be directed. The Marine division must be able to provide the ground amphibious forcible-entry capability to an amphibious task force (ATF) and conduct subsequent land operations in any operational environment. The division commander fights by using combined-arms tactics and tailors the force to the demands of each mission.

The Marine division is employed as the GCE of the MEF or may provide task-organized forces for smaller MAGTFs. A Marine Division consists of 3 Infantry Regiments, an Artillery Regiment, a Headquarters Battalion, a Tank Battalion, an Assault Amphibian Battalion, a Combat Engineer Battalion, and a Light Armored Reconnaissance Battalion. See Appendix K-1 for Marine Division organization.

116.2 Define the mission and organization of Headquarters Battalion of a Marine division [ref. a, p. 4-2]

**The primary mission of the Headquarters Battalion** is to exercise command, control, and administration of the Marine division. It contains an H&S company, a division headquarters with an H&S company, a reconnaissance company, a special security communications team, a communications company, a military police (MP) company, the division band, and a truck company.

**The H&S Company** provides command, administrative, and security functions as well as organic supply for the headquarters battalion.

**The Reconnaissance Company** provides ground reconnaissance and surveillance in support of the division or its subordinate elements.

**The MP Company** provides route reconnaissance, evacuation and control of enemy prisoners of war (EPW), beach and perimeter defense, area security, crowd control, and investigative services.

**The Communications Company** installs, operates, and maintains communications facilities for the division headquarters, including multi-channel radio, wire, and communications center facilities

**The Truck Company** provides general support motor transport to the Marine division.

See Appendix K-1 for Headquarters Battalion organization.

- 116.3 Discuss the mission and organization of the Marine Corps Infantry Regiment. [ref. a, pp. 4-3, 4-4]

**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.**

The infantry regiment consists of a headquarters company and two or more infantry battalions (normally 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. The basic means of ground mobility of the regiment is by foot. All elements are helicopter transportable and compatible with other means of transportation (e.g., assault amphibious vehicles (AAVs), motor transport, fixed-wing aircraft, and ships).

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.

The regiment medical platoon 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. Normally, a regiment aid station (RAS) serves as the hub for medical support. Headquarters company medical personnel provide emergency treatment and preparation for evacuation for the company.

See Appendix K-2 for Infantry Regiment organization.

- 116.4 Discuss the organization of the Headquarters Company, Infantry Regiment. [ref. a, p. 4-4]

The headquarters company of the infantry regiment contains a regimental headquarters and a reconnaissance platoon. Command and staff functions for the regiment are exercised through a compact operational command group that consists of the commander and an executive staff. The staff is capable of integrating the efforts of attached units with those of supporting units. The staff can support a tactical, main, and rear command echelon during displacement.

See Appendix K-2 for Headquarters Company organization.

- 116.5 Discuss the mission and organization of the Marine Corps Infantry Battalion, Infantry Regiment. [ref. a, pp. 4-5 thru 4-8]

**The primary mission of the infantry battalion is to locate, close with, and destroy the enemy by fire and maneuver or to repel his assault by fire and close combat.**

The infantry battalion consists of an H&S company, a weapons company, and three rifle companies. The rifle companies are the basic tactical units with which the battalion accomplishes its mission. When the battalion is combined with combat support and CSS units, it forms a battalion landing team (BLT).

The basic means of mobility is by foot. All elements are helicopter transportable and are compatible with other means of transportation (e.g., AAVs, motor transport, fixed-wing aircraft, and ships).

The battalion is the basic tactical unit of ground combat power and the nucleus of the BLT. As a balanced firepower and maneuver team, it attacks and destroys all targets in the assigned area of responsibility. With detachments, it is capable of independent, sustained operations for a period of several days as permitted by combat conditions. It is capable of conducting a coordinated deliberate defense.

See Appendix K-3 for Infantry Battalion organization.

116.6 Discuss the organization of the H & S Company, Infantry Battalion. [ref. a, p. 4-6]

The H&S Company of an Infantry Battalion consists of a Company Headquarters, a BLT Headquarters, a Communications Platoon, a Service Platoon, a Medical Platoon, and a Chaplain Section. The Medical Platoon consists of 2 Medical Officers and 65 Corpsman. The Chaplain Section consists of 1 Chaplain and 1 Religious Programming Specialist.

See Appendix K-3 for H&S Company organization.

116.7 Discuss the organization of the Weapons Company, Infantry Battalion. [ref. a, p. 4-7]

A Weapons Company consists of a Company Headquarters, a Mortar Platoon, an Anti-Armor Platoon, and a Heavy Machine Gun Platoon.

The weapons company mortar platoon has 8 M252 81-mm mortars, the antiarmor platoon has 12 M47 Dragons, and its tube-launched, optically tracked, wire command link guided missile (TOW) section has 8 TOWs. The heavy machine gun platoon has six each of M2 .50-cal machine guns and MK19 40-mm grenade machine guns.

See Appendix K-4 for Weapons Company organization.

116.8 Discuss the organization of the Rifle Company, Infantry Battalion. [ref. a, p. 4-7]

A Rifle Company consists of a Company Headquarters, a Weapons Platoon, and 3 Rifle Platoons. The Weapons Platoon consists of a mortar section, an assault section, and a machine gun section. Each Rifle Platoon consists of 3 squads composed of 3 four-man fire teams.

See Appendix K-4 for Rifle Company organization.

116.9 Discuss the weapons distribution within a rifle company. [ref. a, pp. 4-8, 4-9]

**Within the rifle company**, the fire team leader carries an M16A2 rifle and an M203 grenade launcher. The squad automatic rifleman carries the M249 squad automatic weapon (SAW); all other riflemen, including the assistant automatic rifleman, carry an M16A2. Squad leaders and the officers and enlisted personnel of the platoon headquarters carry M16A2 rifles. The weapons platoon machine gun section has six M240G machine guns, the mortar section has three M224 60-mm mortars, and the assault section has six MK153 83-mm shoulder-launched multipurpose assault weapons (SMAWs). See Appendices K-5 and K-6.

116.10 Discuss the mission of a rifle squad. [ref. b, p. 1-1]

**The mission of the rifle squad** is to locate, close with, and destroy the enemy by fore and maneuver, or repel the enemy's assault by fire and close combat.

116.11 Discuss the organization of a rifle squad. [ref. b, p. 1-1]

**The rifle squad consists** of three fire teams, each of which is built around an automatic weapon and controlled by a fire team leader

116.12 Discuss the duties and responsibilities of the following: [ref. b, p. 1-5]

**Squad leader** carries out the orders issued to him by the platoon commander. He is responsible for the discipline, appearance, training, control, conduct, and welfare of his squad at all times, as well as the condition, care, and economical use of its weapons and equipment. In combat, he is also responsible for the tactical employment, fore discipline, fire control, and maneuver of his squad. He takes position where he can best carry out his orders of the platoon commander and observe and control the squad.

**Fire team leader/grenadier** carries out the orders of the squad leader. He is responsible for the fire discipline and control of his fire team and economical use of its weapons and equipment. In carrying out the orders of the squad leader, he takes a position to best observe and control the fire team. Normally, he is close enough to the automatic rifleman to exercise effective control of his fires. In addition to his primary duties as a leader, but not to the detriment of them, he serves as a grenadier and is responsible for the effective employment of the grenade launcher, his rifle, and for the condition and care of his weapon and equipment. The senior fire team leader in the squad serves as assistant squad leader

**Automatic rifleman** carries out the orders of the fire team leader. He is responsible for the effective employment of the automatic rifle and for the condition and care of his weapon and equipment

**Assistant automatic rifleman** assists in the employment of the automatic rifle. He carries additional magazines and/or ammunition boxes for his automatic rifle and is prepared to assume the duties of the automatic rifleman. He is responsible for the effective employment of the automatic rifle and for the condition and care of his weapon and equipment

**Rifleman** in the fire team carries out the orders of the fire team leader. He is responsible for the effective employment of his rifle and for the condition and care of his weapon and equipment. The rifleman is trained as a scout

116.13 State the three fighting positions. [ref. b, pp. 5-3, 5-4]

**Primary Fighting Position** – is the best available position from which the assigned sector of fire can be covered. Individuals, fire teams, squads, and crew-served weapons are assigned primary fighting positions.

**Alternate Fighting Positions** – are not normally assigned to individuals or units within the platoon. They are used primarily by crew-served weapons. An alternate fighting position is located so that a crew-served weapon can continue to accomplish its original mission when the primary position becomes untenable or unsuited for carrying out that mission.

**Supplementary Fighting Position** – Supplementary positions are prepared to guard against attack from directions other than those from which the main attack is expected. A supplementary position is a secondary position and does not cover the same sector of fire as the primary position. Supplementary positions actually provide security. When occupied, they insure protection against attack from directions other than those covered by primary positions.

116.14 State the eight guidelines that should be observed when clearing the fields of fire. [ref. b, pp. 5-21 thru 5-23]

**In clearing fields of fire** forward of each fighting position, the following guidelines should be observed:

- Do not disclose the squad's fighting position by excessive or careless clearing.
- Starts clearing near the fighting position and work forward to the limits of effective small arms fire.
- In all cases, leave a thin natural screen of foliage to hide fighting positions.
- In sparsely wooded areas, remove the lower branches of scattered large trees. It may be desirable to remove entire trees which might be used as reference points for enemy fire.
- In heavy woods, complete clearing of the field of fire is neither possible nor desirable. Restrict work to thinning undergrowth and removing lower branches of large trees. In addition, clear narrow lane of fire for automatic weapons.
- If practical, demolish buildings and walls forward of the fighting position which may obstruct fields of fire or provide cover and concealment to the enemy.
- Move cut brush to locations where it will not furnish concealment to the enemy or disclose the squad's fighting position.
- Extreme care must be taken by the fire team leader to insure that fields of fire are cleared of obstructions which might cause premature detonation of M203 projectiles

116.15 Define the acronym FPF. [ref. b, p. 5-31]

**Final Protective Fires** are the final attempt to stop the enemy attack before he reaches the platoon's battle position. When final protective fires are called for, all squad members fire in their assigned sectors. Rifles and M203's continue to fire at an average rate; the automatic rifleman will increase their volume of fire to the rapid rate, if they have not yet reached this rate prior to the calling for final protective fires. Riflemen engage enemy personnel within the fire team sector; fire team leaders fire the M-203 at the largest concentration of enemy personnel within the fire team sector.

116.16 Define the term checkpoint. [ref. b, p. 8-23]

**A checkpoint** is a predetermined point on the ground used as a means of controlling movement. During his map study or physical reconnaissance, the patrol leader decides the number and locations of checkpoints plotted along the patrol route. These are coordinated with his parent unit before the patrol leaves. Checkpoints are assigned numbers, not in sequential order. Normally, the patrol leader will call upon reaching checkpoints so that the parent unit will be able to follow the progress of the patrol toward the objective and on its return to friendly lines/area

116.17 Define the term rally point. [ref. b, p. 8-23]

**A rally point** is an easily identifiable point on the ground, designated by the patrol leader, where the patrol can reassemble/reorganize if it becomes dispersed. It should provide cover and concealment and be defensible for a short time.

116.18 Define the following types of rally points: [ref. b, pp. 8-23, 8-24]

**Initial** - This is a point within the friendly area where the patrol can reassemble if it becomes dispersed before departing the friendly area or before reaching the first rally point designated en route. It may be the patrol assembly area. The initial rally point location must be coordinated with the commander in whose area it lies.

**En route** - These are points selected along the patrol's route to the objective and from the objective back to friendly lines/area. The patrol leader selects them as the patrol passes through likely areas for which rally points are needed.

**Objective** - This is the rally point nearest the objective at which the patrol reassembles after the mission is accomplished. It may be located short of, to a flank, or beyond the objective. This may also be used as the final preparation point.

116.19 Discuss and explain the tactics used to react to an ambush. [ref. b, pp. 8-28, 8-29]

**COUNTERAMBUSH DRILLS** - When a patrol is ambushed, the Immediate Action drill used is determined by whether the ambush is near (enemy within fifty meters of the patrol) or far (enemy beyond fifty meters of patrol). Fifty meters is considered the limit from which the ambush can launch an assault against the enemy.

**In a NEAR ambush**, the killing zone is under very heavy, highly concentrated, close range fires. There is little time or space for men to maneuver or seek cover. The

longer they remain in the killing zone, the more certain of their deaths. If attacked from a near ambush:

- Men in the killing zone immediately assault the enemy's position without waiting for any order or signal. The assault should be swift, violent and destructive. The men fire their weapons at the maximum rate, throw hand grenades, and yell as loudly as possible - anything to kill as many enemy as they can, and confuse the enemy survivors. Once they reach the ambush position, they continue with their assault, or break contact, as directed.
- Men not in the killing zone maneuver against the ambush force, firing in support of those assaulting.
- If the ambush force is small enough to be routed or destroyed, the patrol members should continue with their assault and supporting fire. If the force is well-disciplined and holds its ground, then the patrol members should make every effort to break contact as quickly as possible, and move to the last en route rally point to reorganize.

**In a FAR ambush**, the killing zone is also under very heavy, highly concentrated fires, but from greater range. The greater range precludes those caught in the killing zone from conducting an assault. The greater range does, however, permit some opportunity for the men to maneuver and seek cover. If attacked from a FAR ambush:

- Men in the killing zone immediately return fire, take the best available cover, and continue firing until directed otherwise.
- Men not in the killing zone maneuver against the ambush force, as directed.
- The patrol leader either directs his unit and team leaders to fire and maneuver against the ambush force, or to break contact, depending on his rapid assessment of the situation.

116.20 Identify the five types of patrols used by the Marine Corps rifle squad. [ref. b, p. 8-34]

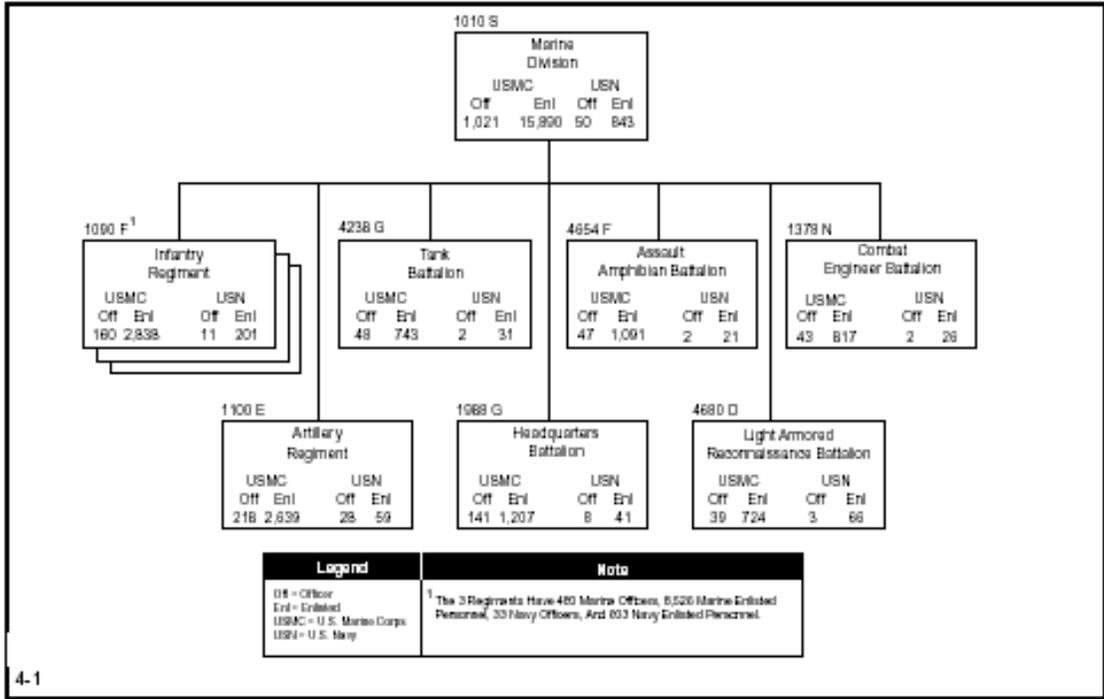
**Raid patrols** – destroy or capture enemy personnel or equipment, destroy installations, or free friendly personnel who have been captured by the enemy.

**Contact Patrols** – establish and/or maintain contact with friendly or enemy forces.

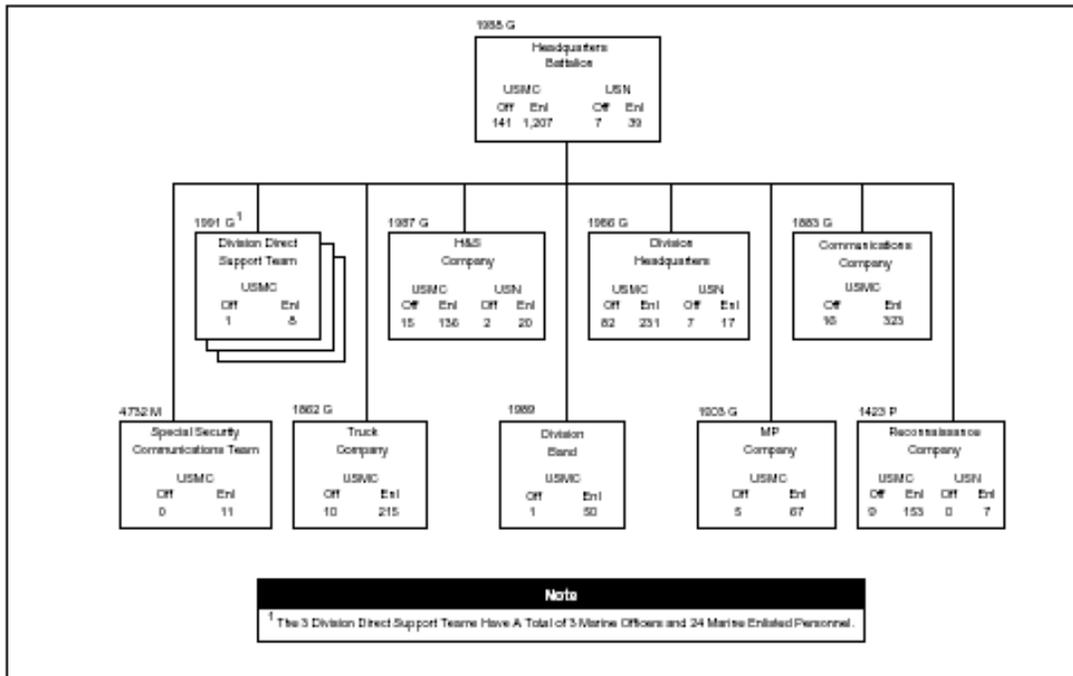
**Economy of Force Patrols** – perform limited objective missions such as seizing and holding key terrain to allow maximum forces to be used elsewhere.

**Ambush patrols** – conduct ambushes of enemy patrols, carrying parties, foot columns, and convoys.

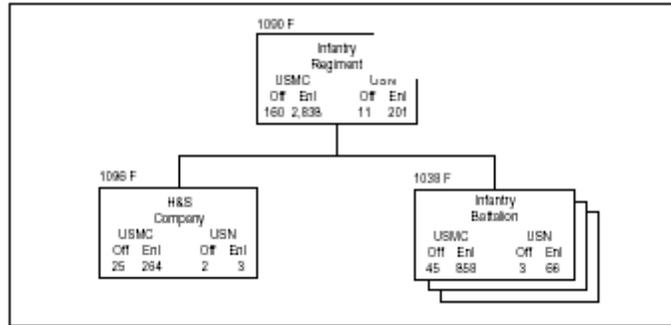
**Security patrols** – detect infiltration by the enemy, kill or capture infiltrators, and protect against surprise or ambush.



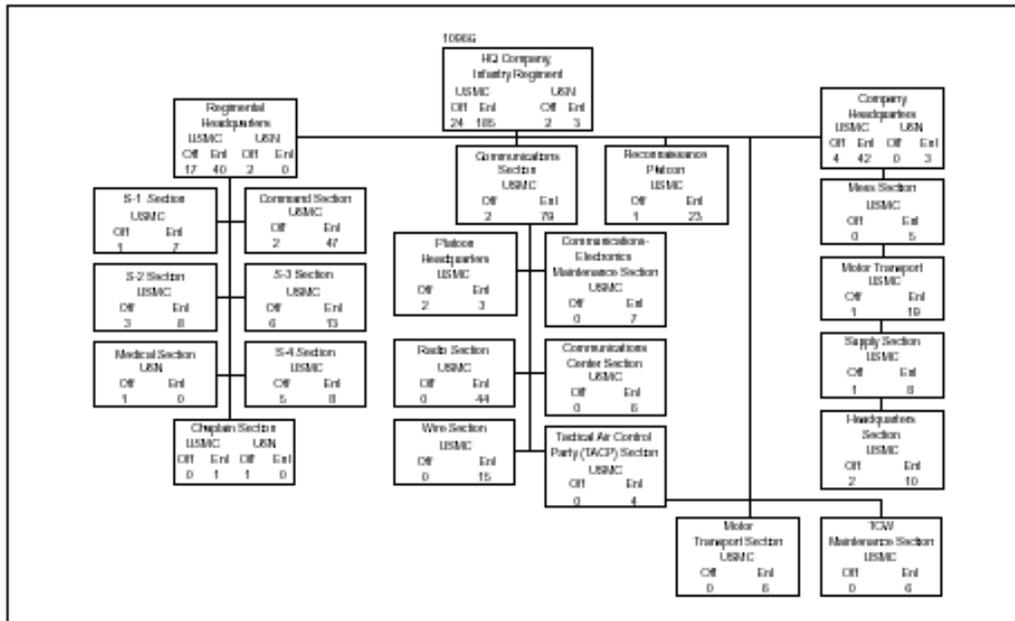
**Marine Division Organization Chart**



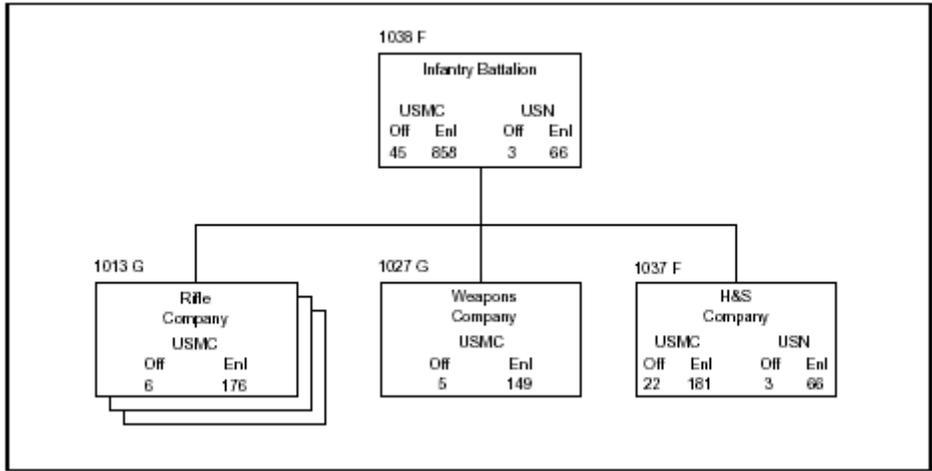
**Headquarters Battalion Organization Chart**



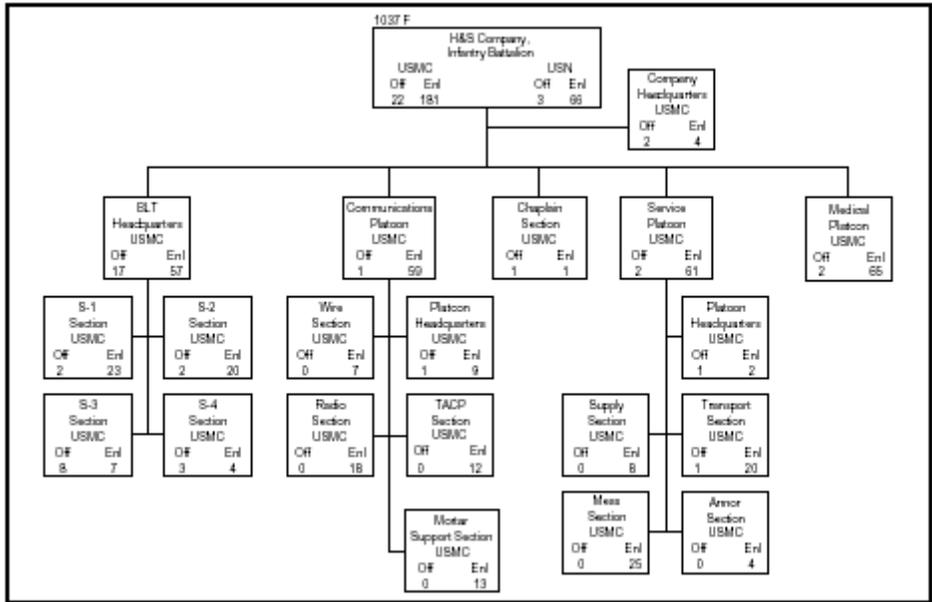
**Infantry Regiment Organization Chart**



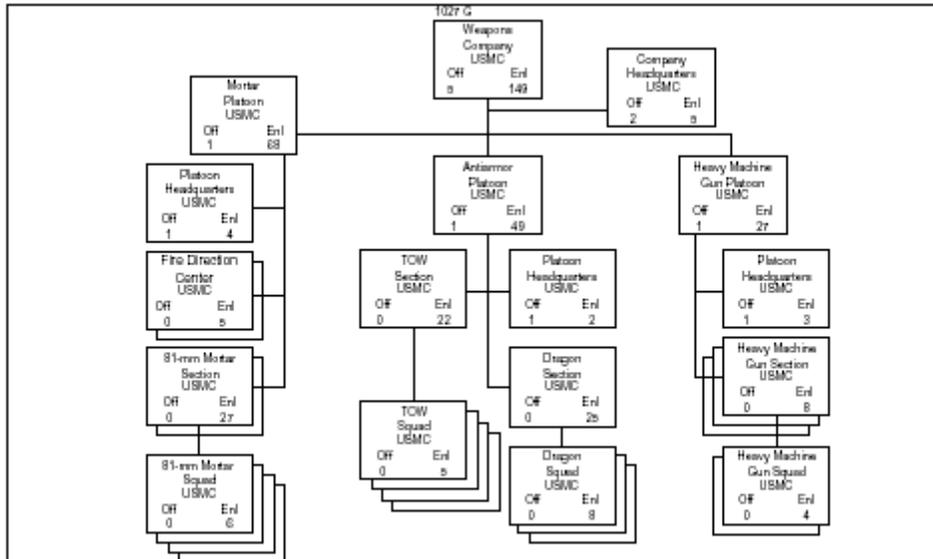
**Headquarters Company Organization Chart**



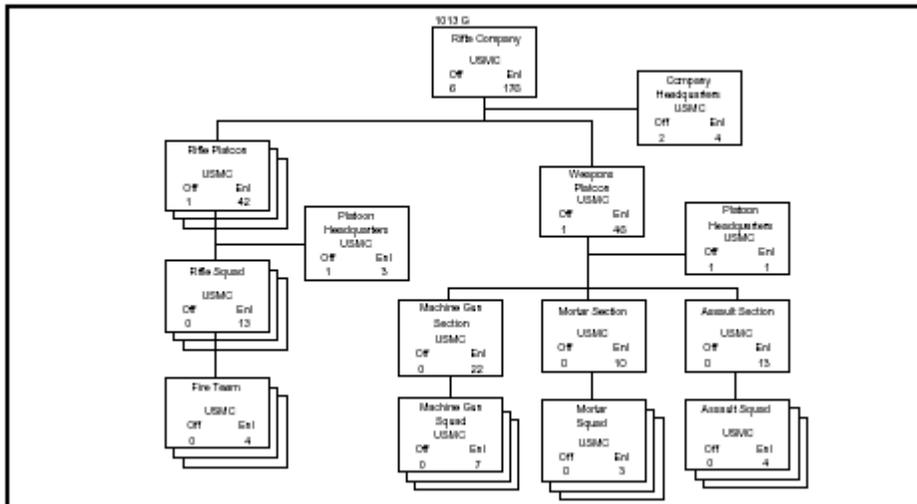
**Infantry Battalion Organization Chart**



**H&S Company Organization Chart**



**Weapons Company Organization Chart**



**Rifle Company Organization Chart**



**M252 81mm Mortar**



**M224 60mm Mortar**

**K-5**



**MK153 SMAW**

References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] USMC Fact Files (<http://www.hqmc.usmc.mil/factfile.nsf/AVE?openview&count=3000>)
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- 117.1 Discuss the mission and organization of an artillery regiment. [ref. a, p. 4-9]

**The mission of artillery in the Marine division** is to furnish close and continuous fire support by neutralizing, destroying, or suppressing targets that threaten the success of the supported unit.

All artillery regiments have a headquarters battery. There are four artillery battalions in the 10th and 11th Marine Regiments and two in the 12th Marine Regiment. Each of these battalions is capable of performing the responsibilities associated with any of the four standard artillery tactical missions. Artillery regimental functions are discharged through a command group, which consists of the commander and executive staff, augmented by sufficient technical personnel. Medical personnel provide emergency treatment and preparation for evacuation of all casualties, treat minor illnesses and injuries, and supervise disease prevention and control measures.

The artillery regiment is the primary source of fire support for the Marine division. Its operations and actions are closely integrated with those of the infantry to be responsive to rapidly changing tactical situations. The basic means of ground mobility is organic vehicular transportation.

See Appendix L-1 for Artillery Regiment organization.

- 117.2 Discuss the mission and organization of an artillery battalion. [ref. a, pp. 4-10, 4-11]

**The mission of the artillery battalion** in the Marine division is to furnish close and continuous fire support by neutralizing, destroying, or suppressing targets that threaten the success of the supported unit.

An artillery battalion consists of a headquarters battery and firing batteries. The headquarters battery provides the equipment and personnel to assist the battalion commander in controlling and supporting his battalion. Artillery battalions have three or four firing batteries of six howitzers. Marine artillery currently employs the M198, 155mm towed howitzer.

The artillery battalion is the basic tactical unit of the artillery. It has enough firing units to effectively mass its fires and to engage several targets simultaneously. The battalion is normally employed as a unit to meet the fire support requirements that are defined by its assigned tactical mission.

117.3 Discuss the primary function of the M198 howitzer. [ref. b]

**Provides field artillery fire support for all Marine Corps Air Ground Task Force (MAGTF) organizations.**

See Appendix L-1

117.4 Discuss the following characteristics of the M198 howitzer: [ref. b]

**Bore diameter - 155mm**

**Rate of fire - Maximum: 4 rounds per minute**

**Sustained: 2 rounds per minute**

**Crew: - 9 enlisted**

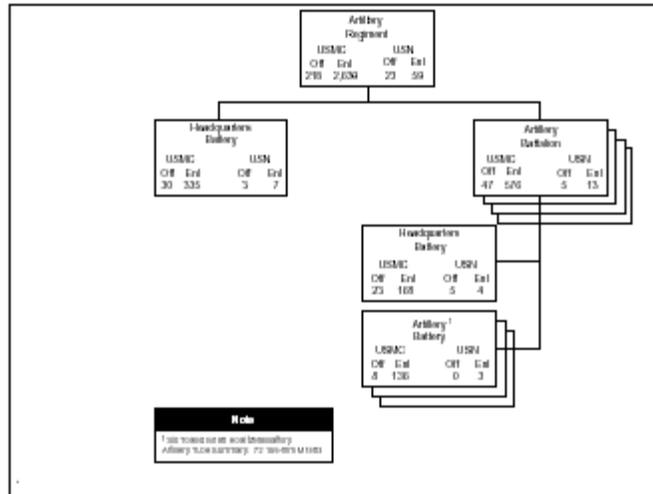
117.5 Discuss the maximum effective ranges for the following munitions: [ref. b]

**Conventional ammunition - 22,400 meters (13.92 miles)**

**Rocket assisted projectiles- 30,000 meters (18.64 miles)**

117.6 Discuss the features for the M198 howitzer. [ref. b]

It is constructed of aluminum and steel, and is air transportable by CH-53E helicopter, and C-130 or larger fixed-wing aircraft. The M198 provides increased range, and improved reliability and maintainability over the former standard towed 155mm howitzer, the M114A2. The use of rocket-assisted projectiles significantly extends the range, lethality, and counter-battery fires of the direct support artillery battalions.



## Artillery Regiment Organization Chart



**M198 155mm Howitzer**

**L-1**

References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] USMC Fact Files (<http://www.hqmc.usmc.mil/factfile.nsf/AVE?openview&count=3000>)
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- 118.1 Discuss the mission and organization of a Marine tank battalion. [ref. a, p. 4-11]

**The mission of the tank battalion is to close with and destroy the enemy by using armor-protected firepower, shock effect, and maneuver and to provide anti-mechanized fire in support of the Marine division.**

A typical tank battalion consists of an H&S company, one antitank platoon, and four tank companies. The tank companies are the basic tactical unit with which the battalion accomplishes its mission. The antitank platoon provides anti-mechanized support to the division. The tank battalion has 58 M1A1 tanks, 26 TOW weapons systems, and 5 M88A1 tank recovery vehicles.

The battalion is best employed as a maneuver force without detaching units. However, the division commander may task organize forces of tanks, mechanized infantry, and other division resources based on mission, enemy, terrain and weather, troops and support available-time available that require cross-attachment of tank battalion and infantry regiment assets. Employment of the tank battalion must take advantage of the speed, mobility, and firepower of the organization.

See Appendix M-1 for Tank Battalion organization.

- 118.2 Discuss the primary function of the M1A1. [ref. b]

Main Battle Tank

See Appendix M-1

- 118.3 Discuss the following characteristics of the M1A1: [ref. b]

**Cruising range** - 289 miles (465.29 kilometers) without NBC system  
279 miles (449.19 kilometers) with NBC system

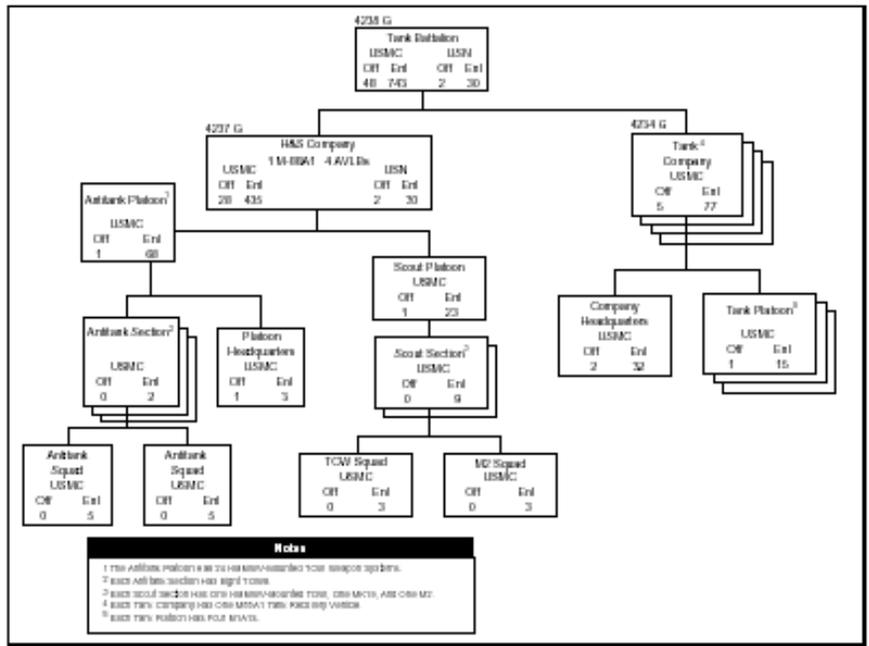
**Speed - Maximum:** 42 miles (67.72 kilometers) per hour (Governed)  
**Cross Country:** 30 miles (48.3 kilometers) per hour

**Crew** - A four-man crew composed of a driver, loader, gunner, and tank commander

- 118.4 Discuss the following characteristics of the M1A1 armaments: [ref. b]
- Warheads** - M1A1 tank is capable of delivering both kinetic energy (sabot) and chemical energy (heat) rounds.
- Main weapon** -120mm M256 main gun
- Secondary weapons** -.50 caliber M2 machine guns  
7.62mm M240 machine guns
- 118.5 Discuss the features for the M1A1 main battle tank. [ref. b]
- It includes a 120mm smoothbore main gun, an NBC overpressure protection system, and an improved armor package. This tank significantly increases the capabilities of the Fleet Marine Forces across the full spectrum of conflict in the near and midterm. Engagement ranges approaching 4000 meters were successfully demonstrated during Operation Desert Storm. The M1A1 has the capability to conduct operations ashore. It is compatible with all US Navy amphibious ships and craft (to include the LCAC) and Maritime Pre-positioning Ships (MPS).
- 118.6 Discuss the mission of Marine Tube Launched, Optically Tracked, Wire Guided (TOW) missile weapons system. [ref. b]
- To engage and destroy enemy armored vehicles, primarily tanks. Secondary mission is to destroy other point targets such as non-armored vehicles, crew-served weapons and launchers.**
- See Appendix M-2
- 118.7 State the maximum effective range of the TOW missile weapons system. [ref. b]
- 2.33 miles (3.75 kilometers)
- 118.8 Discuss the features of the TOW missile weapons system. [ref. b]
- The basic TOW Weapon System** was fielded in 1970. This system is designed to attack and defeat tanks and other armored vehicles. It is primarily used in antitank warfare, and is a command to line of sight, wire-guided weapon. The system will operate in all weather conditions and on the "dirty" battlefield. The TOW 2 launcher is the most recent launcher upgrade. It is compatible with all TOW missiles. The TOW 2 Weapon System is composed of a reusable launcher, a missile guidance set, and sight system. The system can be tripod mounted. However, because it is heavy, it is generally employed from the HMMWV and LAV-AT.
- 118.9 Discuss the primary role and features of the following vehicles: [ref. b]
- M88A1E1 Hercules Recovery Vehicle (M88A1E1 HRV)** - Improved recovery vehicle for main battle tanks. The Hercules will be transportable worldwide by highway, rail, marine, and air.
- See Appendix M-2.
- M60A1 Armored Vehicle Launched Bridge (M60A1 AVLB)**- The M60A1 AVLB is an armored vehicle used for launching and retrieving a 60-foot scissors-type bridge.

The AVLB consists of three major sections: the launcher, the hull, and the bridge. The launcher is mounted as an integral part of the chassis. The bridge, when emplaced, is capable of supporting tracked and wheeled vehicles with a military load bearing capacity up to Class 60. The bridge can be retrieved from either end. The roadway width of the AVLB is 12 feet, 6 inches. Bridge emplacement can be accomplished in 2 to 5 minutes, and retrieval can be accomplished in 10 minutes under armor.

See Appendix M-3.



## Tank Battalion Organization Chart



**M1A1 Tank**

**M-1**



**TOW Missile System**



**M88A1E1 Hercules Recovery Vehicle**



**M60A1 Armored Vehicle Launched Bridge**

References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] USMC Fact Files (<http://www.hqmc.usmc.mil/factfile.nsf/AVE?openview&count=3000>)
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- 119.1 Discuss the mission and organization of the Assault Amphibian Battalion.  
[ref. a, pp. 4-13, 4-14]

**The mission of the assault amphibian battalion is 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 and to conduct mechanized operations and related combat support in subsequent operations ashore. The battalion is organized with an H&S company and four assault amphibian companies.**

The battalion and its subordinate units are assigned to or in support of a MAGTF to provide ship-to-shore lift capability during the amphibious assault. During operations ashore, the battalion elements provide mobility equal to that of tanks to the assaulting elements of the MAGTF. AAVs are primarily used to transport personnel in tactical operations. If assets permit, they may be used as cargo carriers forward of the forward edge of the battle area (FEBA).

An Assault Amphibian Battalion has 213 AAVP7's, 14 AAVC7's, and 6 AAVR7's. See Appendix N-1.

- 119.2 Discuss the following for the Assault Amphibian Vehicle Personnel Model 7A1 (AAVP7A1): [ref. b]

**Primary mission** - The AAVP7A1 is an armored assault amphibious full-tracked landing vehicle. The vehicle carries troops in water operations from ship to shore, through rough water and surf zone. It also carries troops to inland objectives after ashore.

**Cruising ranges** (land/water) - Land at 25 MPH: 300 Miles  
Water at 2600 RPM: 7 Hours

**Cruising speeds** (land/water) - Land: 20 to 30 MPH  
Water: 6 MPH

**Maximum Speed Forward** - Land: 45 MPH  
Water: 8.2 MPH

**Maximum Speed Reverse** - Land: 12 MPH  
Water: 4.5 MPH

**Crew** - 3

**Armaments** - HBM2 Caliber.50 Machine Gun and MK 19 MOD3 40 MM Machine Gun

**Troop Capacity** - 21 Combat Equipped Troops (@ 285 Pounds)

See Appendix N-1.

119.3 Discuss the following for the Assault Amphibian Vehicle Command Model 7A1 (AAVC7A1): [ref. b]

**Primary mission** - The AAVC7A1 is an assault amphibious full-tracked landing vehicle. The vehicle gives you a mobile task force communication center in water operations from ship to shore and to inland objectives after ashore.

**Cruising ranges** (land/water) - Land at 25 MPH: 300 Miles  
Water at 2600 RPM: 7 Hours

**Cruising speeds** (land/water) - Land: 20 to 30 MPH  
Water: 6 MPH

**Maximum Speed Forward** - Land: 45 MPH  
Water: 8.2 MPH

**Maximum Speed Reverse** - Land: 12 MPH  
Water: 4.5 MPH

**Crew** - 3

**Armaments** - 7.62 Machine Gun

See Appendix N-2.

119.4 Discuss the following for the Assault Amphibian Vehicle Command Model 7A1 (AAVR7A1): [ref. b]

**Primary mission** - The AAVR7A1 is an armored assault amphibious full-tracked vehicle. The vehicle is designed to recover similar or smaller size vehicles. It also carries basic maintenance equipment to provide field support maintenance to vehicles in the field.

**Cruising ranges** (land/water) - Land at 25 MPH: 300 Miles  
Water at 2600 RPM: 7 Hours

**Cruising speeds** (land/water) - Land: 20 to 30 MPH  
Water: 6 MPH

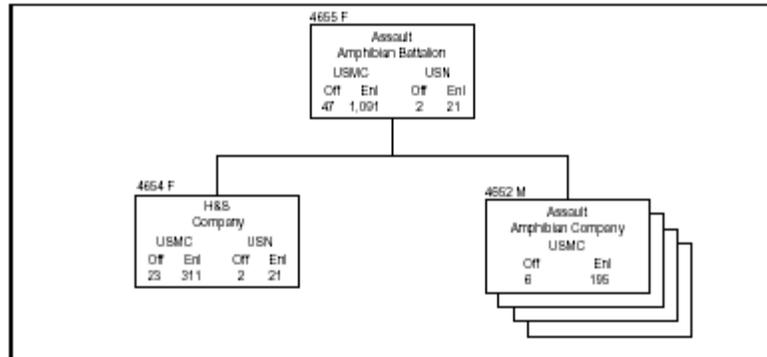
**Maximum Speed Forward** - Land: 45 MPH  
Water: 8.2 MPH

**Maximum Speed Reverse**- Land: 12 MPH  
Water: 4.5 MPH

**Crew - 5**

**Armaments - M60D Machine Gun**

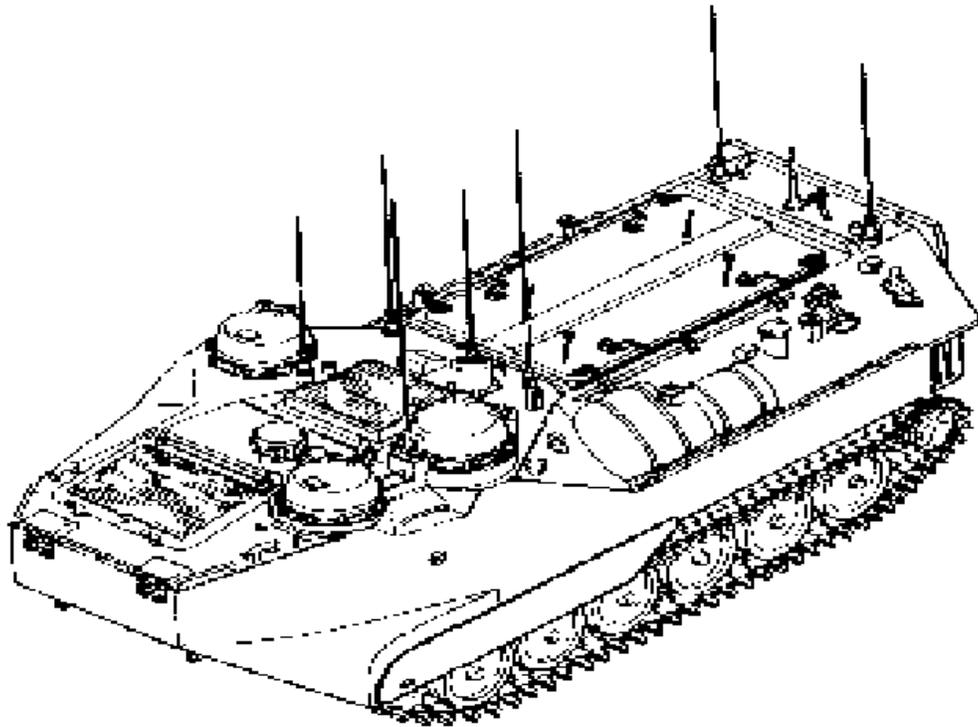
See Appendix N-2.



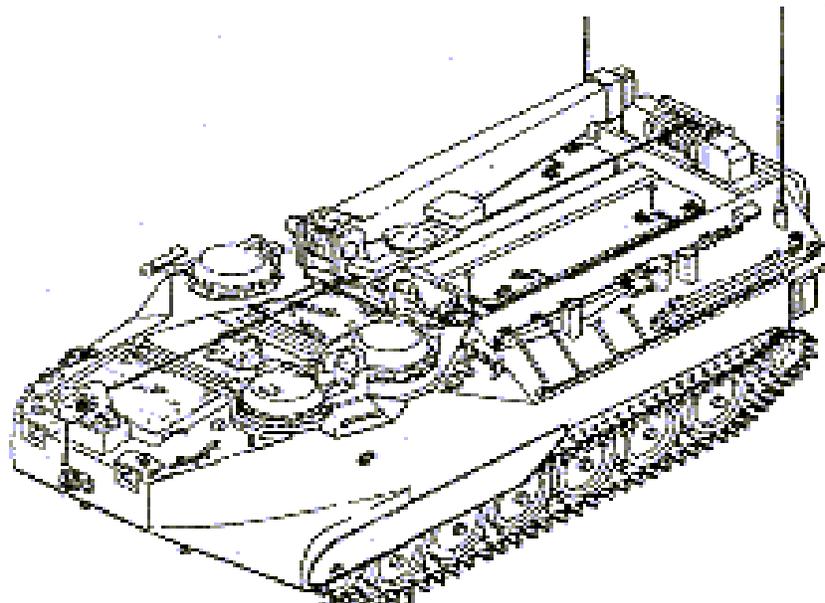
## Assault Amphibian Battalion Organization Chart



**AAVP7**



**AAVC7**



**AAVR7**

**N-2**

References:

[a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)

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120.1 Discuss the mission and organization of a combat engineer battalion.  
[pp. 4-14, 4-15]

**The mission of the Combat Engineer Battalion** is to enhance the mobility, counter-mobility, and survivability of the Marine division through close combat engineer support and to provide the limited general engineering support that is required for the functioning of the Marine division.

**The Combat Engineer Battalion consists** of an H&S company, an engineer support company, and four combat engineer companies.

The Combat Engineer Battalion provides close combat support and limited general engineer support for the division through task-organized combat engineer elements for GCE units. Operation of those elements supporting forward units is generally decentralized. Engineer support requirements to the rear of forward elements will be performed under centralized engineer battalion control. The engineer support company provides augmentation in the form of personnel and specialized engineering equipment to the combat engineer companies.

See Appendix O-1 for Combat Engineer Battalion organization.

120.2 Discuss the six mobility tasks of a combat engineer battalion. [p. 4-15]

**Conduct engineer reconnaissance** and support intelligence collection within the division zone or sector. In areas not under division control, support will be required when conducting this reconnaissance. Provide personnel to augment other division elements conducting reconnaissance missions that include requirements for engineer intelligence.

**Plan, organize, and coordinate** the assault breaching of explosive and non-explosive obstacles from the high-water mark inland.

**Employ assault bridge systems.** When augmented, employ other standard bridge systems.

**Provide expedient** repair and reinforcement of existing bridges.

**Construct expedient,** short-span bridges from local materials in support of ground combat operations.

**Provide temporary repair** of existing roads and limited new construction of combat roads and trails, including the maintenance that is necessary to support combat operations of the division.

120.3 Discuss the three counter-mobility tasks of a combat engineer battalion. [p. 4-15]

**Plan, organize, and coordinate** the construction of simple and compound explosive and nonexplosive obstacle systems.

**Plan and construct obstacles** that require special engineering equipment and technical skills.

**Perform specialized demolition missions** that are beyond the capability of other division units

120.4 Discuss the survivability task of a combat engineer battalion. [p. 4-15]

**The Combat Engineer Battalion** should provide technical assistance and the necessary equipment for the development of temporary protective positions for personnel and equipment.

120.5 Discuss the three general engineering tasks of a combat engineer battalion. [p. 4-15]

**Provide essential construction** support that is temporary and designed to meet minimum combat requirements.

**Provide utility support**, including mobile electric power equipment and potable water for essential troop consumption, bath services, and equipment operational and maintenance requirements.

**Construct and improve** expedient VTOL sites in support of division operations.

120.6 Discuss the mission and organization of the H & S Company, Combat Engineer Battalion. [pp. 4-16, 4-17]

**The mission of the H&S Company** is to provide command, control, and administrative elements to supervise the operations of the battalion, including the provision of supply, food services, communications, chaplain services, administration, and medical support.

**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; a mess section; a communications platoon; a medical section; a chaplain section; and a company headquarters

The H&S Company consists of elements that provide the battalion commander with facilities for command and control functions and communications support for subordinate elements of the Battalion.

See Appendix O-1 for H&S Company organization.

120.7 Discuss the mission and organization of the Engineer Support Company, Combat Engineer Battalion. [pp. 4-18, 4-19]

**The mission of the engineer support company** is to provide personnel, equipment, and appropriate task units to other elements of the battalion in support of operational requirements and to provide minimum potable water for the Marine division and electrical power for designated elements of the Marine division.

**The engineer support company consists** of a company headquarters, an equipment platoon, a 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 organization of the equipment and personnel as required.

The engineer support company provides assistance in the accomplishment of essential engineer support functions in rear areas of the division. It also augments companies with motor transport vehicles, heavy equipment, utilities equipment operators, and support personnel when required by specific missions. The company provides motor transport for the H&S Company and for operation of battalion headquarters. The company provides specialist personnel for service as individuals or for task elements tailored for specific missions. The utilities platoon provides power generation and electrical distribution, water, and bathing and decontamination facilities that are essential to division operations.

See Appendix O-2 for Engineer Support Company organization.

120.8 Discuss the four tasks of the Engineer Support Company, Combat Engineer Battalion. [p. 4-18]

**Provide construction, materials handling and lifting equipment, and operators** in support of other battalion elements or to perform separate mission assignments within the battalion.

**Provide potable water and hygienic services** to the Marine division.

**Provide electrical power** to division organizations that are not authorized generators and provide backup power to the division, as required.

**Provide motor transport equipment and operations, as required, to support all battalion elements.**

120.9 Discuss the mission and organization of the Combat Engineer Company, Combat Engineer Battalion. [pp. 4-20, 4-22]

**The mission of the Combat Engineer Company** is to provide close combat support of an engineering nature as necessary to meet the essential requirements of an infantry regiment and other division elements in combat operations.

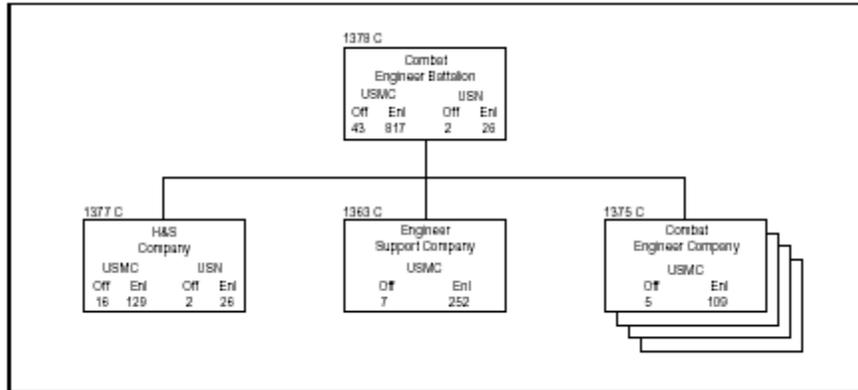
**The Combat Engineer Company** consists of a company headquarters and three combat engineer platoons. The company provides direct combat engineer support to infantry task groupings for operations. It can provide one combat engineer platoon for close support of each infantry battalion and associated task elements.

A combat engineer company is generally 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 the 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.

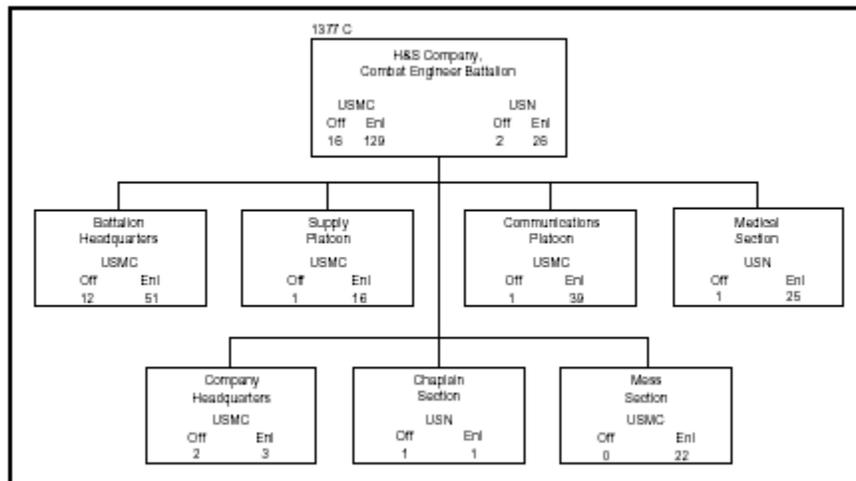
See Appendix O-2 for Combat Engineer Company organization.

120.10 Discuss the thirteen tasks of the Combat Engineer Company, Combat Engineer Battalion. [p. 4-20]

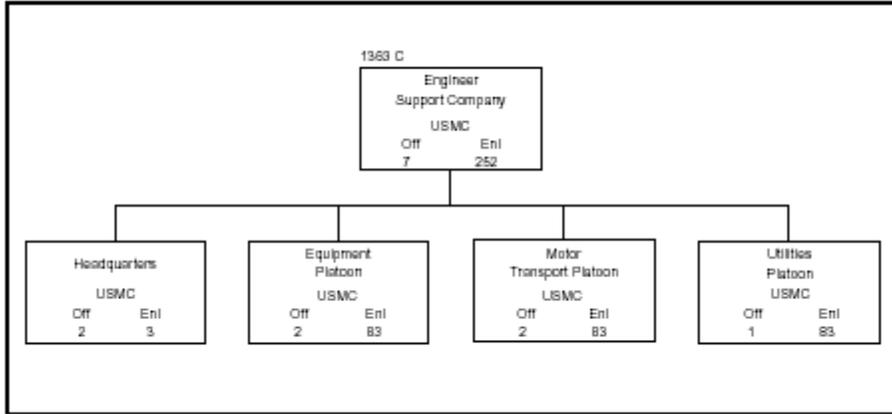
- Provide engineer reconnaissance, as required.
- Provide assistance for the cross-country movement of tracked and light wheeled vehicles.
- Erect temporary engineer-type structures to assist in the movement of light vehicles and personnel across dry and wet gaps, subject to the availability of local materials.
- Construct and operate light rafts, subject to the availability of materials.
- Reinforce and repair existing bridges with local materials for the passage of light vehicles.
- Improve existing terrain for use as helicopter terminal points.
- Furnish technical assistance in the fabrication and positioning of light obstacles.
- Supervise the emplacement of minefields and booby traps.
- Furnish technical and mechanical assistance in the installation of temporary cut-and-cover type field fortifications.
- Perform specialized demolition missions that are beyond the capability of the infantryman.
- Provide specialized assistance in breaching obstacles, including mines, from the high-water mark inland.
- Supervise extensive or sensitive minefield clearance.
- Perform any combat engineer related tasks when augmented with the necessary elements of the engineer support company.



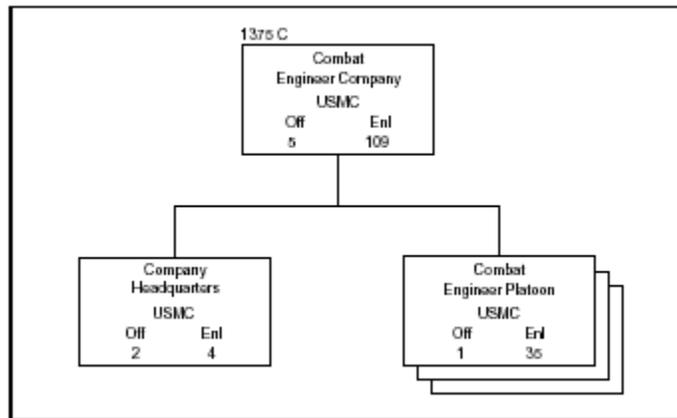
**Combat Engineer Battalion Organization Chart**



**H&S Company Organization Chart**



**Engineer Support Company Organization Chart**



**Combat Engineer Company Organization Chart**

# 121 GROUND COMBAT ELEMENT (GCE), LIGHT ARMORED RECONNAISSANCE (LAR) BATTALION FUNDAMENTALS

## References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] USMC Fact Files (<http://www.hqmc.usmc.mil/factfile.nsf/AVE?openview&count=3000>)
- 

- 121.1 State the mission and organization of the Light Armored Reconnaissance Battalion. [ref. a, pp. 4-22, 4-23]

**The mission of the LAR battalion** is to conduct reconnaissance, security, and economy-of-force operations and, within capabilities, conduct limited offensive or delaying operations that exploit the unit's mobility and firepower.

**The LAR battalion consists** of an H&S company and four LAR companies.

The LAR battalion and its subordinate companies are capable of being employed separately or as part of a GCE. Speed and firepower, combined with maneuver, are used to exploit the offense in all types of combat operations. The LAR battalion assets emphasize the mobility and firepower that are characteristic of light armored vehicles (LAVs).

See Appendix P-1 for Light Armored Reconnaissance Battalion organization.

- 121.2 Discuss the following for the Light Armored Vehicle-25 (LAV-25): [ref. b]

**Primary function** is to provide strategic mobility to reach and engage the threat, tactical mobility for effective use of fire power, fire power to defeat soft and armored targets, battlefield survivability to carry out combat missions.

**Ranges** – 410 miles (660.1 kilometers)

**Speeds** (land/water) – Land = 62 mph (99.2 km/hr)  
Water = 6 mph (9.6 km/hr)

**Crew / Troop Capacity** – Driver, gunner, commander and 6 troops

**Armaments** – M242 25mm chain gun, M240 7.62mm machine gun mounted coaxial to the main gun

**Features** – The LAV-25 is an all-terrain, all-weather vehicle with night capabilities. It is air transportable via C-130, C-141, C-5 and CH-53E. A supplementary M240E1 7.62mm machine gun can be pintle-mounted at the commander's station in the turret. The LAV-25 is fully amphibious with a maximum of 3 minutes preparation.

See Appendix P-2.

- 121.3 Discuss the following for the Light Armored Vehicle-Anti-Tank (LAV-AT): [ref. b]
- Primary function** is to provide highly mobile, protected anti-armor fire support to light infantry and reconnaissance forces; provide capability to defeat heavy, armored targets at long ranges.
- Armaments** - M901A1 TOW II ATGM, and M240E1 7.62 machine gun
- Features** - Same as LAV-25.
- See Appendix P-2.
- 121.4 Discuss the following for the Light Armored Vehicle-Command and Control (LAV-C2): [ref. b]
- Primary function** is a mobile command station providing field commanders with all necessary resources to control and coordinate light armored units in all assigned roles.
- Armaments** - M240E1 7.62mm machine gun
- Features** - Same as LAV-25.
- See Appendix P-3.
- 121.5 Discuss the following for the Light Armored Vehicle-Logistics (LAV-L): [ref. b]
- Primary function** provides ammunition, rations and POL (petroleum, oil and lubricant) supplies required to sustain operations of first-line armored vehicles is a
- Armaments** – M240E1 7.62mm machine gun
- Features** - Same as LAV-25.
- See Appendix P-3.
- 121.6 Discuss the following for the Light Armored Vehicle-Mortar (LAV-M): [ref. b]
- Primary function** is to provide indirect fire support to light infantry and reconnaissance forces; providing high explosive area fire, covering smoke and illumination for first line-units.
- Armaments** – M252 81mm mortar, M240E1 7.62mm machine gun
- Features** - Same as LAV-25.
- See Appendix P-4.

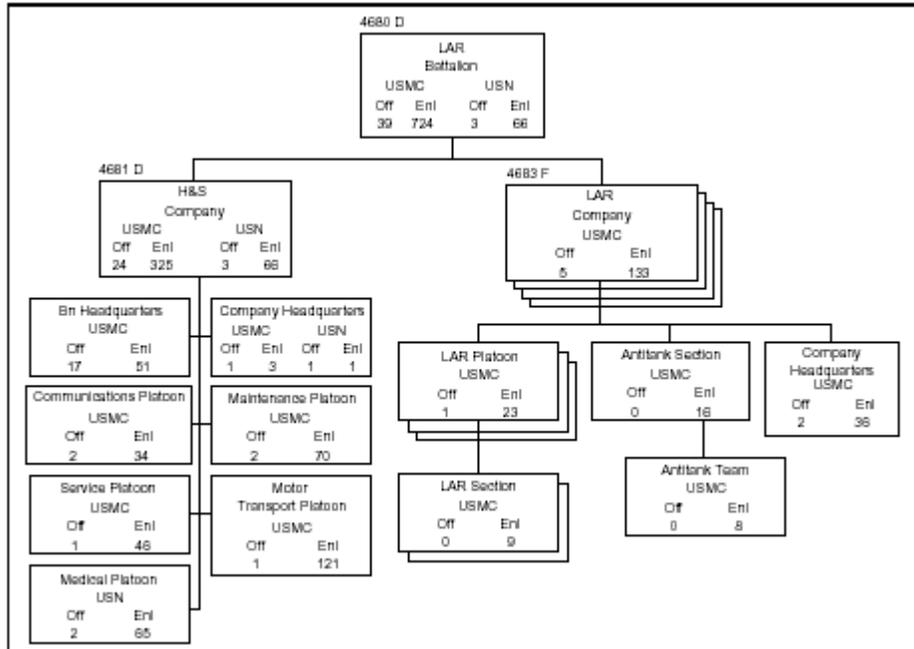
121.7 Discuss the following for the Light Armored Vehicle-Recovery (LAV-R): [ref. b]

**Primary function** is a tactical mobility to reach and recover/support disabled vehicles

**Armaments** –M240E1 7.62mm machine gun

**Features** - Same as LAV-25.

See Appendix P-4.



**Light Armored Reconnaissance Battalion Organization Chart**



**LAV-25**



**LAV-AT**

**P-2**



**LAV-C2**



**LAV-L**

**P-3**



**LAV-M**



**LAV-R**

**P-4**

References:

[a] MCI 03.32G, Reconnaissance Marine (<http://www.doctrine.quantico.usmc.mil>)

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122.1 Discuss the primary mission of a reconnaissance battalion. [p. 1-4]

**The primary mission** of the reconnaissance battalion is to conduct ground reconnaissance and observation in support of the Marine division and its elements.

**NOTE:** There is a very basic mission difference between the two reconnaissance units. The force reconnaissance unit performs its mission farther behind enemy lines and is employed by the Marine Expeditionary Force. Battalion reconnaissance performs its mission closer to friendly lines and is employed by the division.

122.2 State the seven tasks performed by a reconnaissance battalion. [p. 1-4]

- Conduct pre-H-hour reconnaissance.
- Engage the enemy with supporting arms as directed or authorized by the division commander.
- Implant and monitor sensors.
- Capture selected prisoners.
- Conduct specialized terrain reconnaissance including beach, road/route, and HLZ/DZ reconnaissance missions.
- Conduct initial terminal guidance.
- Perform special missions

122.3 Discuss the organization of a reconnaissance battalion. [pp. 1-4, 1-5]

**The reconnaissance battalion is an organic unit** of the Marine division and is composed of a headquarters and service company and four reconnaissance companies. Each reconnaissance company includes a headquarters section and three platoons consisting of surface swimmers and as many inflatable boat handlers as necessary. A limited number are trained as underwater swimmers and parachutists.

See Appendix Q-1 for Reconnaissance Battalion organization.

122.4 Discuss the sole objective of reconnaissance training. [p. 1-6]

**The sole objective of reconnaissance** training is successful execution of the reconnaissance combat mission. Successful employment of pre-assault and post-assault ground reconnaissance requires that training programs develop reconnaissance teams which are capable of conducting undetected activities on enemy ground under conditions of limited support from sources outside the teams. Such undetected activities include entry into a reconnaissance area of operations (RAO), patrol movement within the operating area, execution of information collection and terminal guidance tasks, submission of patrol reports from within the operating areas, debriefing, and submission of final reports. These training concepts are accomplished by stressing team integrity, balance, and realism throughout all phases of reconnaissance training

122.5 Explain the following progressive phases of reconnaissance training:  
[pp. 1-6 thru 1-10]

**Reconnaissance training progresses** through four phases: basic individual training, advanced individual training, basic unit training and advanced unit training.

### **Basic Individual Training**

**Phase one** – Basic Individual training provides the Marine with information in several areas:

**Preparatory parachute training:** Prior to assignment to Army airborne courses, Marines should complete a concentrated parachute-training course conducted by the reconnaissance unit. Completion of such a preparatory course ensures that the Marine will have no difficulty passing the actual airborne school.

**Demolitions:** Although reconnaissance units do not perform tasks requiring extensive use of demolitions, sometimes it may be necessary for them to carry out demolition assignments. Therefore, reconnaissance personnel should acquire basic training by attending demolition schools located throughout the Marine Corps.

**Weapons training and requalification:** Familiarization training for the reconnaissance Marine includes firing all infantry weapons and annual marksmanship requalification training with the service rifle and/or pistol. Also included is instruction in the identification and characteristics of foreign weapons.

**Reporting routes of communication:** Reconnaissance units are frequently assigned the task of reporting the natural and manmade characteristics of roads and bridges. Therefore, reconnaissance personnel must be familiar with basic road and bridge construction and classification.

**Communications training:** Basic communications training for reconnaissance personnel involves classroom training in the characteristics of organic communications equipment and in the way a reconnaissance team uses this equipment.

**Survival, evasion, resistance and escape training (SERE):** In general, reconnaissance units are not capable of providing the level of training offered by a formal course in survival, evasion, resistance, and escape training. However, this training is such a basic requirement for the reconnaissance Marine, that all newly assigned reconnaissance Marines should receive at least familiarization training prior to team assignment or shortly thereafter.

**Intelligence training:** It's necessary that the reconnaissance Marine understands how his job pertains to intelligence production.

**Preliminary SCUBA training:** Basic SCUBA diver qualifications may be acquired only at a formal Navy school. The reconnaissance Marine may or may not have had such training prior to his assignment to the reconnaissance unit. Therefore, local pre-SCUBA conditioning and familiarization training is conducted for reconnaissance Marines before their assignment to a formal SCUBA school. This training includes pool and open water instruction and is conducted according to Navy standards.

### **Advanced Individual Training**

**Phase two** – The majority of the advanced individual training is conducted concurrently with basic training. Advanced individual training is designed to improve

proficiency. Various subjects are covered by advanced individual training to include the following:

**Physical training:** both unit physical fitness and basic individual physical fitness should be maintained. The entire unit should perform daily training to maintain a desired level of unit physical fitness. To ensure overall physical fitness, vary and alternate the type of physical exercise as appropriate. Approximately one hour per day of scheduled physical training is considered ample.

**Parachute training:** Advanced individual parachute training consists of three weeks of formal airborne training, as prescribed by the Department of the Army.

**Swimmer equipment training:** The reconnaissance team must be thoroughly familiar with all the equipment they will use in open water operations. Teams are familiarized and trained in the use of boats and related boat equipment.

**SCUBA qualification training:** Marine Corps Order 1500.16C contains information on the SCUBA qualifications and proficiency requirements.

**Surf and Open Water training:** As individuals and teams gain confidence and ability as swimmers, the training program expands to surf and open water swimming. The training emphasis is on endurance and concealment in both heavy surf and calm water by each team member.

**Submarine training:** Both day and night training should be conducted in the lock-out and lock-in techniques of leaving and entering a submerged submarine. Officers, SNCO's, and NCO's are trained in the operation of a submarine escape trunk.

**Inflatable boat handling:** Marines are assigned to boat teams for training in handling inflatable boats during motorized, towing, launch, and recovery operations. Marines should remain with the same boat team throughout training.

**Reconnaissance patrolling:** Teams are assigned missions which require the member to apply the skills they learned at basic individual training. This training emphasizes how the responsibilities and duties of the individual member contribute to the success of the team as a whole.

**Initial terminal guidance training:** Initial terminal guidance is conducted on both the platoon and the team level. The platoon or team provides initial terminal guidance to assault helicopters. Training consists primarily of reconnaissance techniques employed in the general area of the helicopter landing zone, including marking helicopter landing sites, using pyrotechnics, and clearing minor obstructions and obstacles within the landing zone.

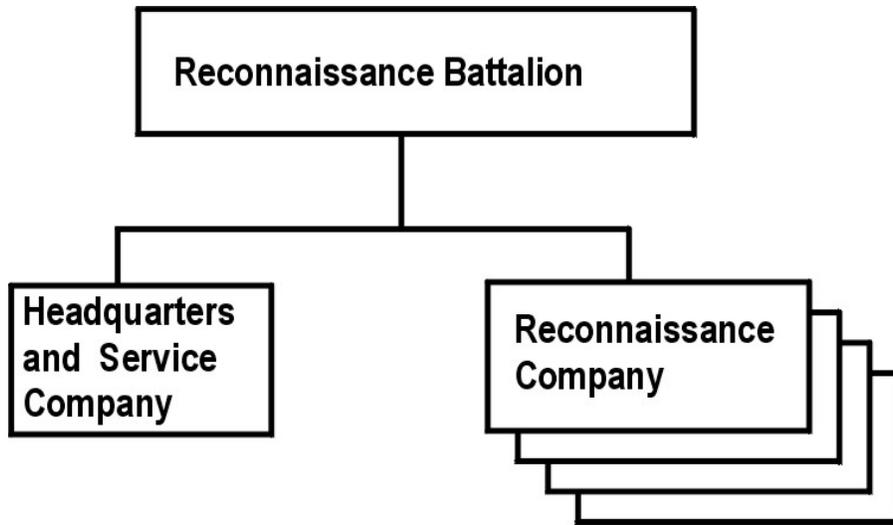
### **Basic unit training**

**Phase three** – Basic Unit Training is conducted to weld individuals into effective operating teams. Subject training, as mentioned previously, is conducted concurrently with advanced individual training.

### **Advanced unit training**

**Phase four** – Advanced Unit Training may be conducted in support of landing exercises planned by other units or during exercises planned and executed solely by the reconnaissance unit

**Note:** Unit off base training: When the same general area is used for both training and exercises, the team members often gain an artificial sense of confidence and capability. To avoid this false security, conduct the majority of training exercises on different beaches, drop zones and other locations different from those used for the various exercises. Conduct at least half of the training and exercises at night. During this phase of training, teams should practice special landing, withdrawal, and recover techniques, as well as evasion, escape, survival and patrolling. The staff and service support elements should participate in training as appropriate.



**Reconnaissance Battalion Organization Chart**

## AIR COMBAT ELEMENT (ACE), MARINE CORPS AVIATION FUNDAMENTALS

Reference:

[a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)

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123.1 Define the primary mission of Marine Corps Aviation. [ref. a, p. 3-1]

The primary mission of Marine Corps aviation is to participate as the air component of the MAGTF in the seizure and defense of advance naval bases and to conduct such land operations as may be essential for the prosecution of a naval campaign.

.2 Define the collateral mission of Marine Corps Aviation. [ref. a, p. 3-1]

A collateral mission is to participate as an integral component of naval aviation in the execution of such other Navy functions as the fleet commanders so direct.

.3 Discuss the expeditionary aspects of Marine Corps Aviation. [ref. a, p. 3-1]

Marine Corps aviation is organized, trained, and equipped to function as the MAGTF ACE. The ACE must be prepared to operate from a variety of sea- and shore-based facilities (from naval shipping to austere forward operating bases (FOBs)) to support MAGTF expeditionary operations. The focus of the ACE is to support the MAGTF during the assault landing and subsequent operations ashore. Initially, support could be furnished by Marine aircraft squadrons operating from FOBs within striking distance of the amphibious objective area or by V/STOL aircraft operating from amphibious shipping.

.4 Define the following Marine Air/Ground Task Force (MAGTF) aviation functional areas and discuss their associated missions. [ref. a, pp. 3-1 to 3-3]

a. **OAS** - Offensive Air Support- is “those air operations conducted against enemy installations, facilities, and personnel to directly assist the attainment of MAGTF objectives by the destruction of enemy resources or the isolation of his military force.”(MCRP 5-12C, Marine Corps Supplement to the DOD Dictionary of Military and Associated Terms). OAS includes the categories of close air support (CAS) and deep air support (DAS).

b. **AAW - Anti-air Warfare-** is “that action required to destroy or reduce to an acceptable level the enemy air and missile threat. It includes such measures as the use of interceptors, bombers, anti-aircraft guns, surface-to-air and air-to-air missiles, electronic attack, and destruction of the air or missile threat both before and after it is launched. Other measures which are taken to minimize the effects of hostile air action are cover, concealment, dispersion, deception (including electronic), and mobility.” (Joint Pub 1-02) The primary purpose of AAW is to gain and maintain some degree of air superiority.

c. **Assault Support - Assault support** is “the use of aircraft to provide tactical mobility and logistic support for the MAGTF, the movement of high priority cargo and personnel within the immediate area of operations, in-flight refueling, and the evacuation of personnel and cargo.” (Fleet Marine Force

manual (FMFM) 5-30, Assault Support) The tasks of assault support fall within the following seven categories:

(1) Combat assault transport provides mobility and logistic support to the MAGTF. It can be used to rapidly deploy forces, bypass obstacles, or redeploy forces to meet the enemy threat, thus allowing for a rapid buildup of combat power at a specific time and location.

(2) Air Defense. Air defense includes all defensive measures designed to destroy attacking enemy aircraft or missiles in the earth’s atmosphere or to nullify or reduce the effectiveness of such attack. There are two forms of air defense: active and passive.

(a) Active air defense is direct defensive action taken to destroy attacking enemy aircraft or missiles or to nullify or reduce the effectiveness of such an attack. Active air defense includes the use of aircraft, air defense weapons, supporting weapons (weapons not typically used in an air defense role), and EW.

(b) Passive air defense constitutes all measures, other than active defense, taken to minimize the effects of hostile air action. These include the use of cover, concealment, camouflage, deception, dispersion, electronic protection, and protective construction. Passive air defense is a command responsibility of every unit commander.

(2) Aerial delivery operations transport equipment and supplies to FOBs or remote areas either by landing at the desired location or through air drop.

(3) Aerial refueling allows MAGTF aircraft to conduct flight-ferrying operations, extend time on station, and extend mission range. In addition, aerial refueling aids in the recovery of damaged or low-fuel aircraft by extending their time in the air, when required.

(4) Air evacuation provides transportation of personnel and equipment from FOBs or remote areas by using transport helicopters and fixed-wing aircraft.

(5) TRAP facilitates the recovery of personnel and equipment while preventing additional loss. The TRAP mission is an implied task associated with all MAGTF operations. Specially briefed aircrews are assigned to perform TRAP missions. TRAP missions are conducted when the tactical

situation prevents the use of traditional search and rescue techniques. TRAP is normally conducted only when survivors and their locations are confirmed.

(6) Air logistical support operations are conducted by using fixed-wing aircraft to provide assault support of MAGTF forces on the ground in much the same manner as helicopters. Air logistical support delivers troops, equipment, and supplies to areas beyond helicopter range and lift capability or when surface transportation is slow or unavailable.

(7) Battle space illumination can be provided by both fixed-wing and rotary-wing aircraft and is used to provide light in the battle space area.

d.

**Air Reconnaissance** - Air reconnaissance is “the acquisition of intelligence information by employing visual observation and/or sensors in air vehicles.” (FMFM 5-10, Air Reconnaissance)

e.

**EW - Electronic Warfare**-EW is “any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy.” (Joint Pub 1-02) The three major subdivisions of EW are electronic attack (EA), electronic protection, and EW support.

(1) EA is “that division of electronic warfare involving the use of electromagnetic, directed energy, or antiradiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability.” (Joint Pub 1-02)

(2) Electronic protection involves “actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability.” (Joint Pub 1-02)

(3) EW support involves “actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition.” (Joint Pub 1-02)

f. **Control Of Aircraft And Missiles** - The control of aircraft and missiles involves the coordinated employment of facilities, equipment, communications, procedures, and personnel that allows the ACE commander to plan, direct, and control the efforts of the ACE to support accomplishment of the MAGTF's mission. Control of aircraft and missiles is executed through the Marine Air Command and Control System (MACCS). The control of aircraft and missiles function serves to integrate the activities of the other five functions of Marine aviation into a coordinated effort.

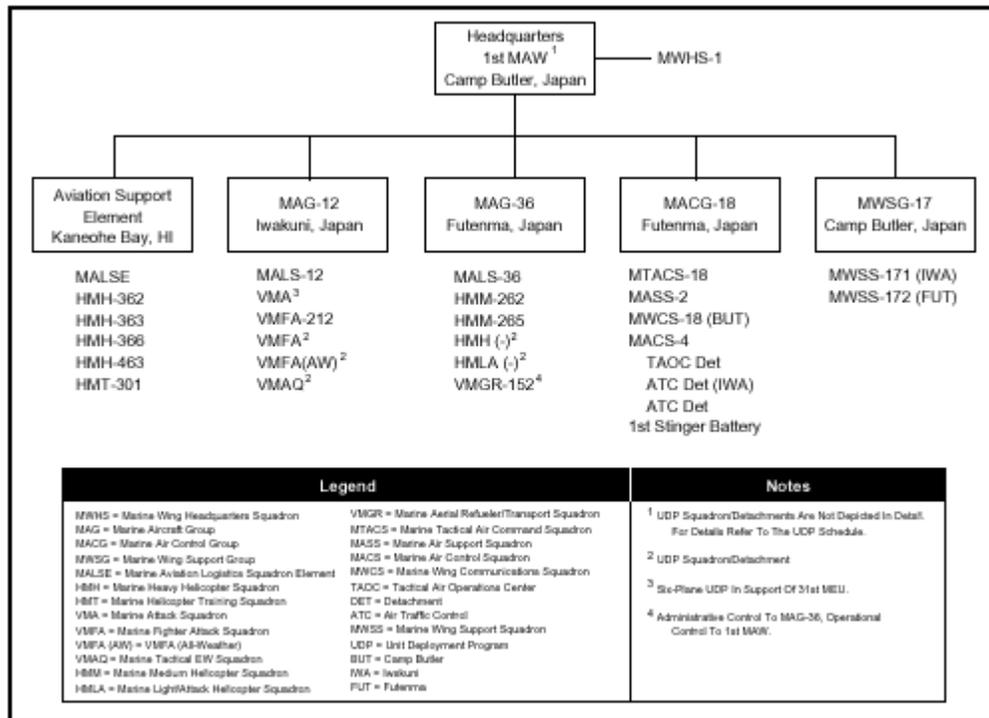
.5

Discuss the organizational structure of the following MAWs.

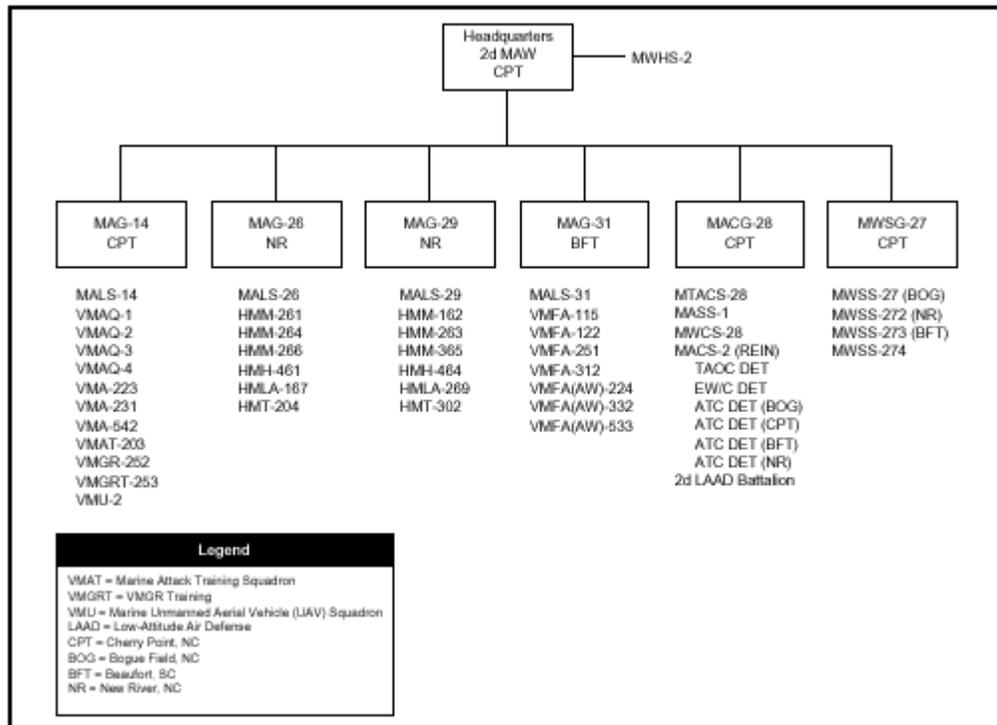
[ref. a, pp. 3-3 to 3-7]

a.

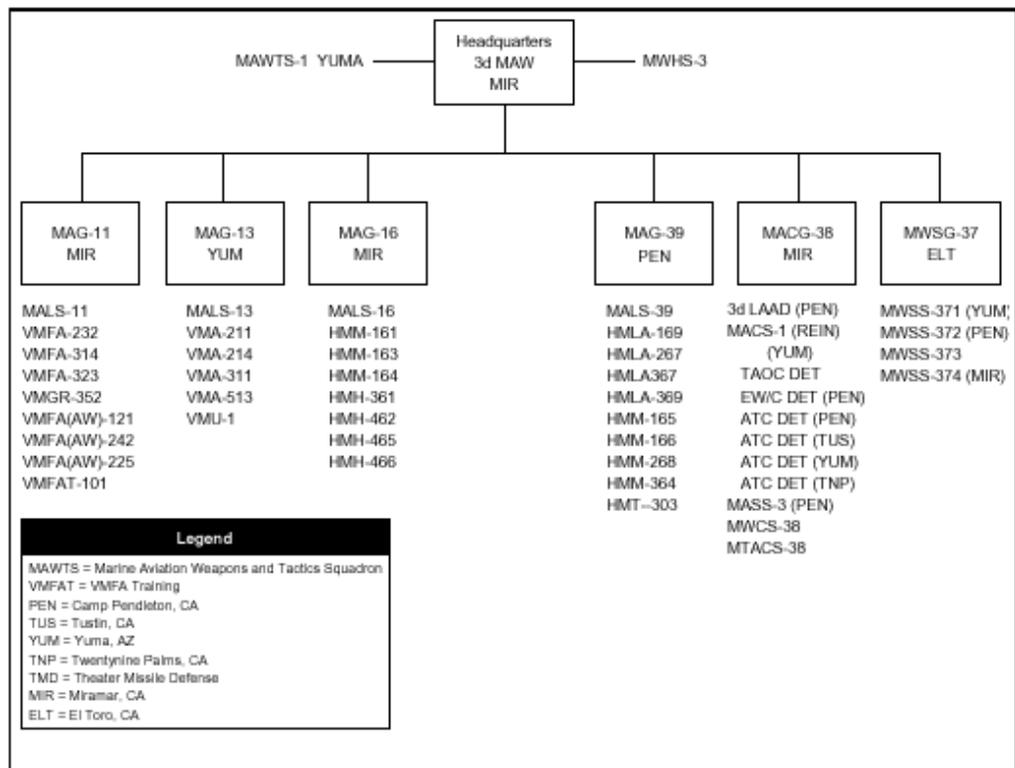
**1st MAW**



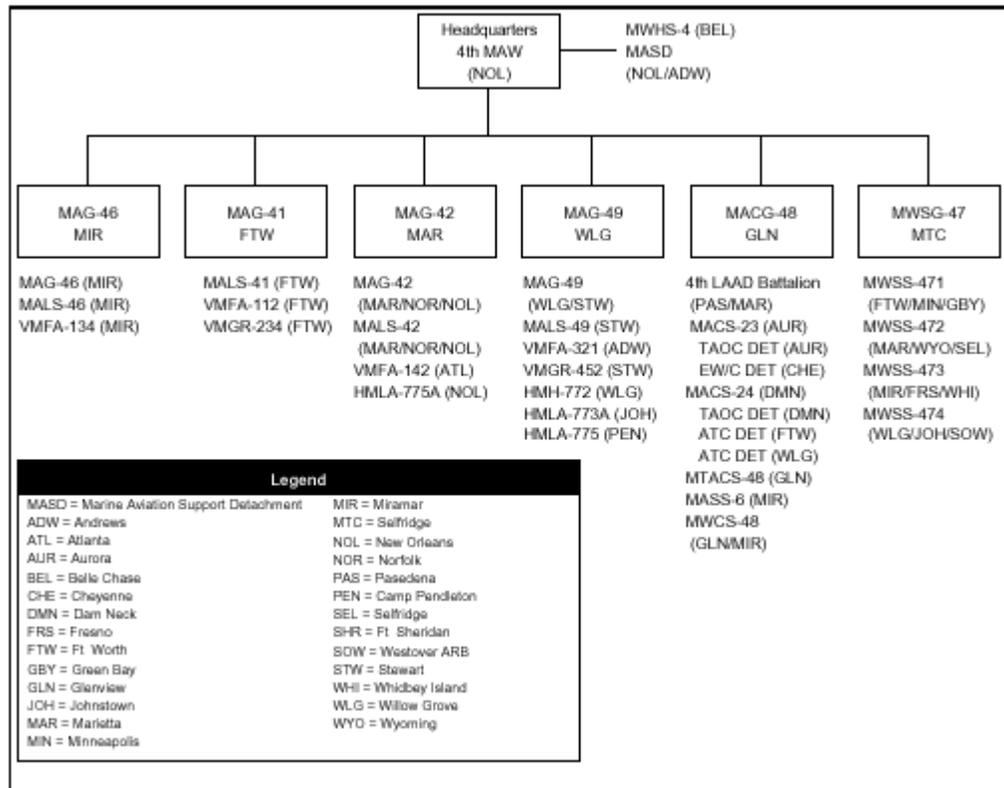
b. 2nd MAW



c. 3rd MAW



d. 4th MAW



## 124 AIR COMBAT ELEMENT (ACE), MARINE WING HEADQUARTERS SQUADRON (MWHS) FUNDAMENTALS

Reference:

[a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)

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124.1

Define the mission of a marine Wing Headquarters Squadron (MWHS).

[ref. a, p. 3-8]

The MWHS provides command, administrative, and supply support for a MAW headquarters and certain elements of the MACG.

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Discuss the four primary tasks of a MWHS. [ref. a, p. 3-8]

- Provide camp facilities and services, including food service, for all elements of the Marine wing headquarters and for the Marine tactical air command squadron (MTACS) and Marine wing communications squadron (MWCS) of the MACG.
- Provide for internal security of the MAW headquarters.
- Maintain the capability of deploying as an integral unit when augmented with maintenance support personnel.
- Provide detachments for supported units as required.

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Discuss the following logistic capabilities of a MWHS. [ref. a, p. 3-9]

- Maintenance** - The MWHS is capable of organizational (1st echelon) maintenance on all assigned equipment and organizational (2d echelon) maintenance on organic infantry weapons. Organizational maintenance (2d echelon) on motor transport and engineer equipment is provided by the Marine wing support group (MWSG). Organizational (2d echelon) maintenance support for communications equipment is provided by the MWCS.
- Supply** - The MWHS is capable of organic supply functions.
- Medical** - The MWHS is capable of providing routine and emergency medical support for all elements of the wing It headquarters.

- d. **Transportation** - The MWHS has no logistic transportation capabilities; support is provided by the MWSG.
- e. **Messing** - The MWHS provides food service support for all elements of the wing headquarters, MTACS, and MWCS.
- f. **Selected items of equipment** - ***For selected items of equipment, see table 3-1.***

## **125 AIR COMBAT ELEMENT (ACE), MARINE AIR CONTROL GROUP (MACG) FUNDAMENTALS**

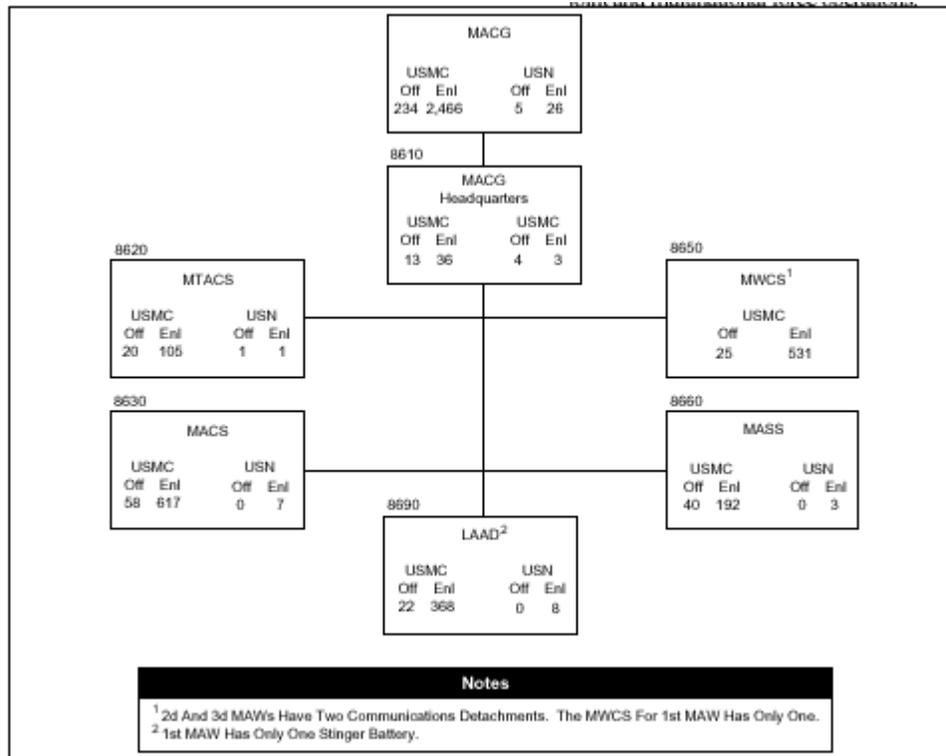
References:

[a] MCRP 5-12D, Organization of the Marine Corps Forces (PCN 144000050000)

125.1 Define the mission of a Marine Air Control Group (MACG). [p. 3-9]

**The mission of the MACG** is to provide, operate, and maintain the MACCS. The MACG contains subordinate units that provide the major facilities of the MACCS. It normally consists of a MTACS, a Marine air support squadron (MASS), one Marine air control squadron (MACS), a low-altitude air defense (LAAD) battalion, and an MWCS

125.2 Discuss the organizational structure of an MACG. [p. 3-10]



125.3 Define the mission of an MACG headquarters. [p. 3-10]

**MACG headquarters coordinates all aspects of air command and control and air defense within the MAW.** It provides the command and staff functions for the MACG commander when deployed as part of the MAGTF ACE.

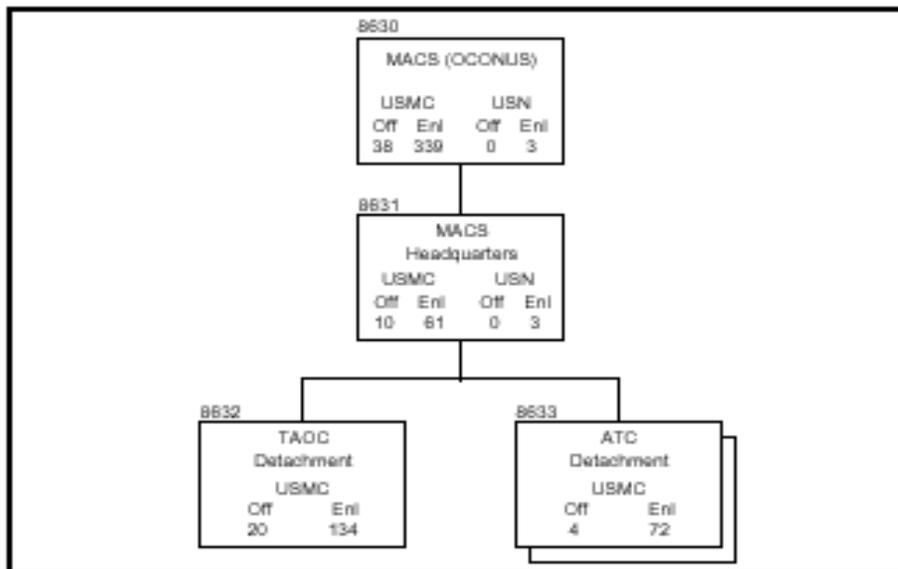
- 125.4 Discuss the nine tasks of an MACG headquarters. [pp. 3-10, 3-11]
- Provide** the CE of the MACG or MACG detachment for the MAGTF ACE.  
**Plan and coordinate** the operations, maintenance, and supply of the MACCS.
- Plan and coordinate** the air defense operations of the MAGTF.  
**Coordinate** with appropriate commands to plan for the deployment and employment of the MACG and its separately deployable detachments as the MACCS of an ACE.
- Coordinate** with other U.S. Services and allies for planning and conducting MAGTF air operations in joint and multinational force operations.  
**Advise** the ACE commander on applicable matters pertaining to the employment of agencies comprising the MACCS.
- Perform** command and staff functions associated with fulfilling the MACG's mission.  
**Conduct** operations while in a nuclear, biological, and chemical (NBC) and/or EW environment.  
**Maintain** the capability for deploying independent units.
- 125.5 Define the mission of a Marine Tactical Air Control Squadron (MTACS). [p. 3-11]
- The MTACS provides equipment, maintenance, and operations** for the TACC of the ACE as a component of the MAGTF. It equips, mans, operates, and maintains the current operations section of the TACC. It also provides and maintains a facility for the TACC future operations and future planning sections and installs and maintains associated automated systems.
- 125.6 Discuss the nine tasks of an MTACS. [pp. 3-11, 3-12]
- Provide** the operational command post (CP) for the ACE commander of a MEF or the forward element of a MEF.  
**Assist** in coordinating air operations to meet the operational requirements of the MEF.  
**Assist** in planning air operations.  
**Maintain** the capability to accomplish TACC functions while displacing.  
**Conduct** operations while in an NBC and/or EW environment.  
**Assist** in coordinating with other U.S. Services and allies for the conduct of MAGTF air operations in joint and multinational force operations.  
**Perform** command and staff functions associated with fulfilling the MTACS mission.  
**Coordinate** with the appropriate commands to plan for the deployment and employment of the squadron.  
**Provide** logistical and supply support for the MACG headquarters.
- 125.7 Define the mission of a Marine Air Control Squadron (MACS). [p. 3-12]
- The MACS provides air surveillance** and control of aircraft and surface-to-air weapons for AAW; continuous all weather radar and non-radar ATC services and airspace management in support of a MAGTF.

125.8 Discuss the six tasks of an MACS. [p. 3-12]

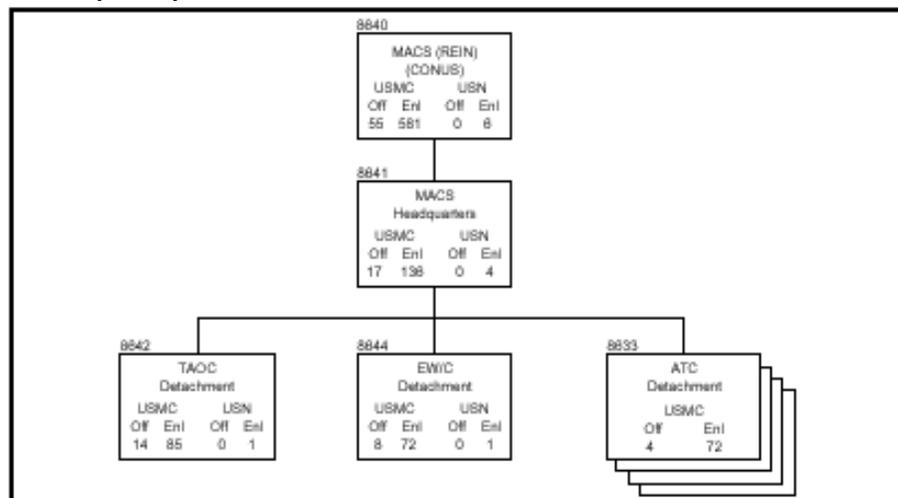
**Perform** command and staff functions associated with fulfilling the MACS mission  
**Coordinate** with appropriate commands to plan for the deployment and employment of the squadron and its separately deployable detachments.  
**Provide** deployable detachments that are capable of air surveillance, airspace management, and control of aircraft and SAMs for AAW in support of the MAGTF.  
**Provide** deployable detachments that are capable of providing ATC services at existing or expeditionary airfields and remote area landing sites.  
**When reinforced with a TMD detachment, provide** SAM fires in assigned zones in defense of vital areas and installations therein against theater missile attack, and be prepared to engage surviving fixed-wing aircraft and helicopter threats.  
**Serve as** the operational point of contact between the MACCS and national/international ATC agencies.

125.9 Discuss the organizational structure of the following: [pp. 3-13, 14]

**MACS**



**MACS (REIN)**



- 125.10 Define the mission of a Marine Wing Communication Squadron (MWCS). [p. 3-14]
- The MWCS provides** expeditionary communications for the ACE of a MEF, including the phased deployment of task-organized elements thereof.
- 125.11 Discuss the twelve tasks of an MWCS. [pp. 3-14,15]
- Provide** for the effective command of subordinate detachments.
- Assist** in the systems planning and engineering of ACE communications. Install, operate, and maintain expeditionary communications for command and control of the MEF ACE.
- Provide** operational systems control centers, as required, to coordinate communication functions internally and externally to the ACE.
- Provide** calibration and repair facilities for all ground-common test measurement diagnostic equipment (TMDE) in the MAW.
- Provide** the digital backbone communications support for the ACE CE, FOBs, and MACCS agencies for up to two airfields per detachment.
- Provide** tactical automated switching and telephone services for the ACE CE and the TACC.
- Provide** electronic message distribution for the ACE CE, primary MACCS agencies, and tenant units.
- Provide** external single-channel radio and radio retransmission communications support for ACE operations as required.
- Provide** deployed wide area network (WAN) and deployed local area network (LAN) server support for the ACE CE and primary MACCS agencies
- Provide** the support cryptographic site for all ground-common and MACCS-assigned communications security equipment within the ACE.
- Plan and coordinate** individual and unit training as required to qualify subordinate detachments for tactical deployment and combat operations.
- Provide** maintenance support for ground-common communications equipment in the MAW.
- 125.12 Define the mission of an Marine Air Support Squadron (MASS). [p. 3-16]
- The MASS provides** DASC capabilities for control and coordination of fixed-and rotary-wing aircraft operating in direct support of MAGTF forces.
- 125.13 Discuss the seven tasks of an MASS. [pp. 3-16, 17]
- Provide** operational planning for MAGTF air support operations.
- Receive, coordinate, and process** immediate requests for direct air support.
- Provide** equipment, facilities, and personnel for the operation of air support elements.
- Conduct** air support control as required to meet MAGTF operational requirements.
- Maintain the ability** to provide continuous control of direct air support while displacing by echelon.
- Provide personnel** and facilities for the simultaneous operation of the DASC and DASC (airborne).
- Coordinate and integrate** MAGTF direct air support operations with those of other Services, allies, and nations.

125.14 Define the mission of a Low Altitude Air Defense (LAAD). [p. 3-17]

**The LAAD battalion provides** close-in, low-altitude, surface-to-air weapons fires in defense of MAGTF assets defending forward combat areas, maneuver forces, vital areas, installations, and/or units engaged in special/independent operations.

125.15 Discuss the six tasks of an LAAD. [p. 3-17]

**Provide** for the effective command, administrative, communications, supply, and logistic support of subordinate batteries.

**Maintain a primary capability as a highly mobile,** vehicle-mounted, and man-portable surface-to-air weapons component of the MAGTF with the ability to rapidly deploy in the assault echelon of an expeditionary operation.

**Provide surface-to-air weapons** support for units engaged in special/independent operations

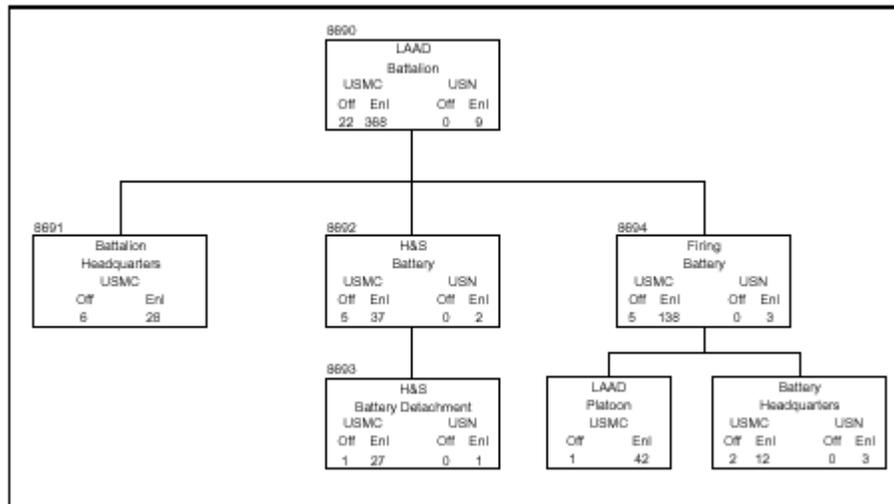
**Provide for the separate deployment** of subordinate batteries and platoons to accommodate special tactical situations and task organizations.

**Plan and coordinate** requirements for liaison and combinations with appropriate commands to ensure the most effective integration of LAAD units within the integrated air defense system

**Provide early warning** of hostile air threats to other elements of the air defense system.

125.16 Discuss the organizational structure of an LAAD. [pp. 3-17, 19]

**The LAAD battalion is comprised** of a battalion headquarters, a headquarters and service (H&S) battery, and two firing batteries. The H&S battery has been divided into an H&S battery (-) and an H&S battery detachment. This organization facilitates the logistical support of separately deployed firing batteries.



125.17 State the primary and secondary weapons of an LAAD. [p. 3-19]

**Primary –** Control central, battery, missile, guided, AVENGER AN/TWQ1

**Secondary –** Machine guns, 50 Cal M2, 7.62mm M60E3

**126 AIR COMBAT ELEMENT (ACE), MARINE AIRCRAFT GROUP (MAG) FUNDAMENTALS**

References:

[a] MCRP 5-12D, Organization of the Marine Corps Forces (PCN 144000050000)

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126.1 Define the primary missions of the following Marine Aircraft Groups (MAGs):  
[pp. 3-18, 3-19] :

**There are two types of MAGs within the MAW: Rotary-wing (MAG VH) and Fixed-wing (MAG VF/VA).**

**MAG rotary (VH):** The primary mission of the MAG VH is to provide assault support. Normally, the MAG VH includes one Marine light/attack helicopter squadron (HMLA), three Marine medium helicopter squadrons (HMMs), and two Marine heavy helicopter squadrons (HMHs), and one MALS (rotary wing). Each fixed- and rotary-wing MAG has a MALS.

**MAG fixed wing VF/VA:** The primary mission of a MAG VF/VA is to conduct AAW and OAS operations from advance bases, FOBs, and aircraft carriers. MAG VF/VAs may consist of any combination of Marine attack squadron (VMAs), Marine fighter attack squadrons (VMFAs), Marine all-weather fighter attack squadrons (VMFA(AW)s), Marine aerial refueler transport squadrons (VMGRs), Marine unmanned aerial vehicle (UAV) squadrons (VMUs), Marine tactical EW squadrons (VMAQs), or MALS (fixed wing).

126.2 Define the mission of an MAG headquarters. [pp. 3-19, 3-20] :

**The MAG headquarters provides the staff support necessary for the effective command of subordinate squadrons of the MAG.**

126.3 Discuss the five tasks of an MAG headquarters. [p. 3-20]

**Perform** those command and staff functions that are necessary to accomplish the MAG mission.

**Plan and coordinate** the deployment and employment of the MAG and its separately deployable squadrons.

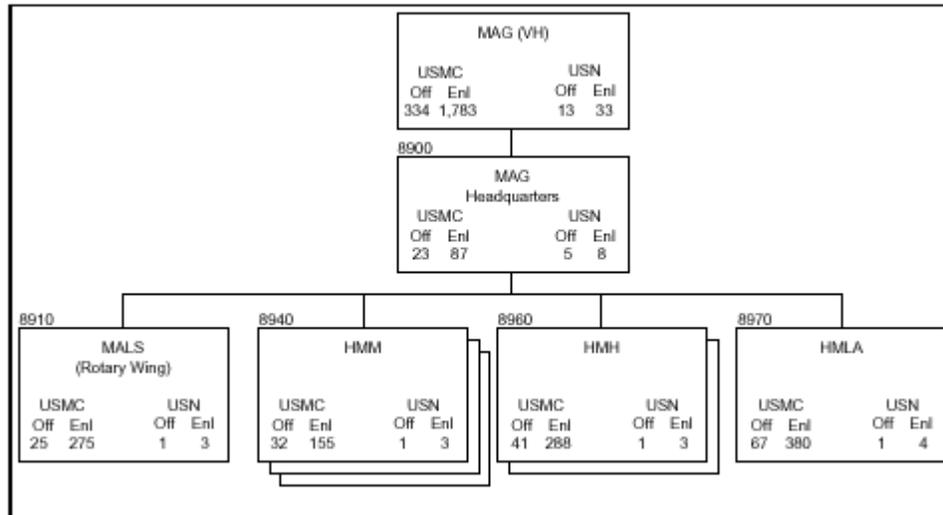
**Plan and coordinate** individual and unit training to prepare subordinate squadrons for tactical deployment and combat operations.

**Provide** Marine Corps property supply support for subordinate squadrons.

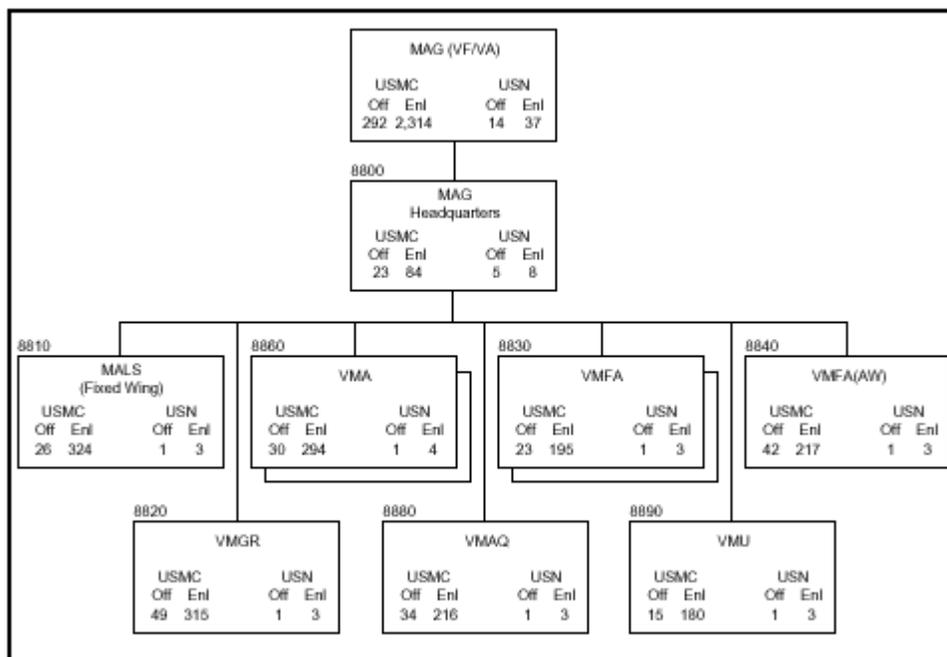
**Maintain cognizance** over all fiscal functions accomplished within the MAG.

Discuss the organizational structure of the following: [pp. 3-18, 3-21]

**MAG VH :** The primary mission of the MAG VH is to provide assault support. Normally, the MAG VH includes one Marine light/attack helicopter squadron (HMLA), three Marine medium helicopter squadrons (HMMs), and two Marine heavy helicopter squadrons (HMHs), and one MALS (rotary wing). Each fixed- and rotary-wing MAG has a MALS.



**MAG VF/VA:** The primary mission of a MAG VF/VA is to conduct AAW and OAS operations from advance bases, FOBs, and aircraft carriers. MAG VF/VAs may consist of any combination of Marine attack squadron (VMAs), Marine fighter attack squadrons (VMFAs), Marine all-weather fighter attack squadrons (VMFA(AW)s), Marine aerial refueler transport squadrons (VMGRs), Marine unmanned aerial vehicle (UAV) squadrons (VMUs), Marine tactical EW squadrons (VMAQs), or MALS (fixed wing).



126.5 Define the mission of an MALS. [p. 3-22]

**The MALS provides** aviation-logistic support, guidance, and direction to MAG squadrons on behalf of the commanding officer, as well as logistic support for Navy-funded equipment in the supporting MWSS, MACS, and Marine wing mobile calibration complex.

126.6 Discuss the nine tasks of an MALS. [p. 3-22]

**Provide intermediate-level maintenance** for aircraft and aeronautical equipment of all supported units and, when authorized, perform first- degree repair on specific engines.

**Provide aviation supply support** for aircraft and Navy-funded equipment to all supported units.

Provide class V(A) ammunition logistic support to the MAG's squadrons. This support encompasses the requisitioning, storage, handling, assembly, transportation, and inventory reporting of class V(A) ammunition. Be capable of planning for and operating an airfield ammunition issue point at expeditionary airfields.

**Interpret, implement, audit, inspect, and provide oversight** for the MAG commanding officer of all policies and procedures relating to the administration and management of operations and maintenance, Navy funds (except temporary additional duty funds), aviation supply, aircraft maintenance, aircraft ordnance, avionics, and cryogenics production for all units/squadrons within a MAG.

**Coordinate with the** MWSSG, the MACG, the MAW calibration complex, and other supporting Navy and Marine Corps activities/agencies in planning for the support required to execute the Marine aviation logistic support program (MALSP).

**Screen and inspect** non-serviceable aeronautical materiel for testing and repair, shipment to another repair facility, or disposal.

**Maintain the capability** to deploy and provide MALSP support packages (including personnel) as an integral unit or as tailored logistic assigned to another MALS to support MAG aircraft assigned to a different MAG/ ACE.

**Conduct individual** and unit training to qualify organic and supported squadron personnel for performing assigned missions and tasks.

**Provide data processing** support to facilitate execution of the aviation supply, aircraft maintenance, and Navy-funded (except temporary additional duty funds) financial management functions of the MAG.

126.7 Define the mission of a Marine Aerial Refueler/Transport (VMGR) squadron. [p. 3-23]

**The VMGR provides** aerial refueling service in support of Fleet Marine Force (FMF) air operations and provides assault air transport of personnel, equipment, and supplies.

126.8 Define the seven tasks of a VMGR squadron. [p. 3-23]

**Provide tactical aerial refueling** service to FMF units.

**Provide long-range aerial refueling** service for air movement of FMF squadrons when other suitable means of aerial refueling services are not readily available

**Provide assault air transport** for air-landed and air-delivered troops, supplies, and equipment when other suitable means of assault air transport are not readily available.

**Provide an aircraft platform** for the airborne DASC.

**Provide ground refueling** service to aircraft when other suitable means of aircraft refueling are not available.

**Provide air transport service** for the evacuation of casualties and noncombatants when other means of transportation are not available.

**Within the capability of assigned aircraft and equipment, maintain the capability to operate under day, night, and all weather flying conditions; operate to/from a logistic air head, advance base, expeditionary airfield, or tactical landing zone in the objective area or battle area; and operate with or without the assistance of airborne, surface, or ground controllers.**

126.9 State the type(s) and quantity of aircraft assigned to a VMGR squadron. [p. 3-23]:

**VMGR has 12 KC-130 aircraft.**

126.10 Define the mission of a Marine Tactical EW (VMAQ) squadron. [p. 3-23] :

**VMAQ conducts airborne EW in support of FMF operations.**

126.11 Discuss the seven tasks of a VMAQ squadron. [pp. 3-23, 3-24]

**Conduct airborne EA and EW support operations.**

**Conduct EA in support of training of FMF units or other forces as assigned.**

**Process and provide mission data from tape recordings obtained on EW missions for updating and maintaining an electronic order of battle**

**Maintain the capability of operating from aircraft carriers, advance bases, and expeditionary airfields.**

**Maintain the capability to operate during darkness and under all weather conditions.**

**Maintain the capability to deploy or conduct extended-range operations that require aerial refueling.**

**Perform organizational maintenance on assigned aircraft.**

126.12 State the type(s) and quantity of aircraft assigned to a VMAQ squadron. [p. 3-24]

**Each squadron has five EA-6B aircraft.**

126.13 Define the mission of a Marine Unmanned Aerial (VMU) squadron. [p. 3-24]

**The VMU operates and maintains a UAV system to provide unmanned aerial**

reconnaissance support to the MAGTF.

126.14 Discuss the seven tasks of a VMU squadron. [p. 3-24]

**Conduct reconnaissance, surveillance, and target acquisition (RSTA).** This includes performing airborne surveillance of designated target areas, MAGTF areas of interest/influence, and other areas as directed; airborne surveillance for search and rescue (SAR) and TRAP; and reconnaissance of helicopter approach and retirement lanes in support of vertical assaults.

**Provide real-time target information** to the DASC and fire support coordination center (FSCC) to facilitate adjusting fire missions and CAS.

**Provide information** to assist adjusting indirect- fire weapons and to support and facilitate DAS and air interdiction.

**Collect battle damage assessments (BDAs).**

**Support rear area security.**

**Provide remote receive capability and liaison** to designated units.

**Conduct individual and unit training** to prepare for tactical employment and combat operations.

126.15 State the type of system used and the quantity of Unmanned Aerial Squadrons (UAVs) assigned to a VMU squadron. [p. 3-24]:

**The VMU has one Pioneer system with five UAVs.**

126.16 Define the mission of a Marine Fighter Attack (VMFA) squadron. [p. 3-25]

**The VMFA intercepts and destroys enemy aircraft under all weather conditions and attacks and destroys surface targets.**

126.17 Discuss the eight tasks of a VMFA squadron. [p. 3-25]

**Intercept and destroy** enemy aircraft in conjunction with ground or airborne fighter control under all weather conditions.

**Maintain the capability to attack and destroy surface targets** by using all types of conventional weapons that are compatible with assigned aircraft.

**Provide escort** of friendly aircraft under all weather conditions.

**Maintain the capability to deploy and operate from aircraft carriers and advance bases.**

**Conduct day and night CAS** under adverse weather conditions.

**Maintain the capability to deploy or conduct extended-range operations** by using aerial re-fueling.

**Maintain the capability to conduct suppression of enemy air defense (SEAD) operations.**

**Perform organizational maintenance** on assigned aircraft.

126.18 State the type(s) and quantity of aircraft assigned to a VMFA squadron. [p. 3-25]

**Each squadron has 12 F/A-18A/C aircraft.**

126.19 Define the mission of a VMFA (AW) squadron. [p. 3-26]:

**The VMFA (AW) attacks and destroys** surface targets, day or night, under adverse weather conditions; conducts multi-sensor imagery reconnaissance; provides supporting arms coordination; and intercepts and destroys enemy aircraft under all weather conditions.

126.20 Discuss the eleven tasks of a VMFA All Weather (AW) squadron. [p. 3-26]

**Conduct** day and night CAS, under all weather conditions.

**Conduct** day and night DAS, under adverse weather conditions, including armed reconnaissance, radar search and attack, air interdiction, and strikes against enemy installations, by using all types of weapons that are compatible with assigned aircraft.

**Conduct** multisensor imagery reconnaissance, including prestrike and poststrike target damage assessment and visual reconnaissance.

**Conduct** day and night supporting arms coordination, including forward air control, tactical air coordination, and artillery/naval gunfire spotting.

**Intercept** and destroy enemy aircraft in conjunction with ground and airborne fighter direction.

**Conduct** battle space illumination and target illumination.

**Conduct** armed escort of friendly aircraft.

**Maintain** the capability to operate from aircraft carriers, advance bases, and expeditionary airfields.

**Maintain** the capability to deploy or conduct extended-range operations by using aerial re-fueling.

**Maintain** the capability to conduct SEAD operations.

**Perform** organizational maintenance on assigned aircraft.

126.21 State the type(s) and quantity of aircraft assigned to a VMFA (AW) squadron. [p. 3-26] :

**Each squadron has 12 F/A-18D aircraft.**

126.22 Define the mission of a Marine Attack (VMA) squadron. [pp. 3-26, 3-27]:

**The VMA attacks and destroys** surface targets under day and night visual meteorological conditions and provides helicopter escort.

126.23 Discuss the eight tasks of a VMA squadron. [p. 3-27] :

**Conduct** close air support

**Conduct** armed reconnaissance, air interdiction, and strikes against enemy installations by using all types of conventional munitions that are compatible with assigned aircraft.

**Conduct** air defense operations within the capability of assigned aircraft.

**Maintain the capability** to operate during darkness and under instrument conditions.

**Maintain the capability** of deployment or extended operations by employing aerial re-fueling.

**Maintain the capability** to operate from aboard carriers, other suitable seagoing platforms, expeditionary airfields, and remote tactical landing sites.

**Conduct** armed-escort missions in support of helicopter operations.

**Perform** organizational maintenance on assigned aircraft on infantry weapons. It is also capable of performing organizational maintenance on assigned aircraft and support equipment.

126.24 State the type(s) and quantity of aircraft assigned to a VMA squadron. [p. 3-27]:

**Each squadron has 16 AV-8B aircraft, 10 in the squadron and 6 in the detachment.**

126.25 Define the mission of the following Marine Heavy Helicopter (HMH) squadrons: [pp. 3-27, 3-28]

**HMH (CH-53D)** The HMH provides assault helicopter transport of heavy weapons, equipment, and supplies during amphibious operations and subsequent operations ashore.

**HMH (CH-53E):** This squadron provides assault helicopter transport of heavy weapons, equipment, and supplies during amphibious operations and subsequent operations ashore.

126.26 Discuss the eleven tasks of an HMH (CH-53D) squadron. [pp. 3-27, 3-28]

**Provide** combat assault transport of heavy weapons, equipment, and supplies as a primary function.

**Provide** combat assault transport of troops (exclusive of initial assault wave infantry) as a secondary function.

**Conduct** tactical retrieval and recovery operations for downed aircraft, equipment, and personnel.

**Conduct** assault support for evacuation operations and other maritime special operations.

**Provide** support for mobile forward arming and refueling points (FARPs).

**Augment** local SAR and provide aeromedical evacuation of casualties from the field to suitable medical facilities or other aeromedical aircraft.

**Provide** airborne control and coordination for assault support operations.

**Maintain** a self-defense capability from ground-to-air and air-to-air threats.

**Maintain** the capability to operate from amphibious shipping, other floating bases, and austere shore bases, as required.

**Maintain** the capability to operate at night, in adverse weather conditions, and under instrument flight conditions at extended ranges.

**Perform** organizational maintenance on assigned aircraft in all environmental conditions.

- 126.27 Discuss the twelve tasks of an HMH (CH-53E) squadron. [pp. 3-28, 3-29]
- Provide** combat assault transport of heavy weapons, equipment, and supplies as a primary function.
  - Provide** combat assault transport of troops (exclusive of initial assault wave infantry) as a secondary function.
  - Conduct** tactical retrieval and recovery operation for downed aircraft, equipment, and personnel.
  - Conduct** assault support for evacuation operations and other maritime special operations.
  - Provide** support for FARPs.
  - Augment** local SAR assets and provide aeromedical evacuation of casualties from the field to suitable medical facilities or other aeromedical aircraft.
  - Provide** airborne control and coordination for assault support operations.
- Maintain** the capability to deploy and conduct extended-range operations by employing aerial refueling.
- Maintain** a self-defense capability from ground-to-air and air-to-air threats.
- Maintain** the capability to operate from amphibious shipping, other floating bases, and austere shore bases, as required.
- Maintain** the capability to operate at night, in adverse weather conditions, and under instrument flight conditions at extended ranges.
- Perform** organizational maintenance on assigned aircraft in all environmental conditions.
- 126.28 State the quantity of aircraft assigned to the following squadrons: [pp. 3-28, 3-29]
- HMH (CH-53D):** Each squadron has eight CH-53D aircraft organized in two detachments of four aircraft each
  - HMH (CH-53E):** Each squadron has 16 CH-53E aircraft.
- 126.29 Define the mission of a Marine Medium Helicopter (HMM) squadron. [p. 3-29]
- The HMM provides assault transport** of combat troops in the initial assault waves and follow-on stages of amphibious operations and subsequent operations ashore.
- 126.30 Discuss the ten tasks of an HMM squadron. [p. 3-29]
- Provide** combat assault troop transport as a primary function.
  - Provide** combat assault transport of supplies and equipment as a secondary function.
  - Conduct** assault support for evacuation operations and other maritime special operation
  - Provide** support for mobile FARPs.
  - Provide** airborne control and coordination for assault support operations.
  - Maintain** a self-defense capability from ground-to-air and air-to-air threats.
  - Maintain** the capability to operate from amphibious shipping, other floating bases, and austere shore bases.

**Maintain** the capability to operate at night, in adverse weather conditions, and under instrument flight conditions at extended ranges.

**Augment** local SAR assets and provide aeromedical evacuation of casualties from the field to suitable medical facilities or other aeromedical aircraft.

**Perform** organizational maintenance on assigned aircraft in all environmental conditions.

- 126.31 State the type(s) and quantity of aircraft assigned to an HMM squadron.  
[pp. 3-29, 3-30]

**Each squadron** has 12 CH-46E aircraft.

**Tactical HMMs will begin replacing the CH-46E** helicopter with the MV-22 tilt-rotor aircraft beginning in fiscal year 2002. The MV-22 is a dual-piloted, multiengine, self-deployable, medium-lift, vertical takeoff and landing (VTOL) tilt-rotor aircraft that provides combat assault support, CSS, and special operations support worldwide. The aircraft will operate from air-capable ships, main bases ashore, and austere forward operating locations. The MV-22 is capable of in-flight refueling, has a 2,100 nautical mile deployment range, and can carry 24 combat-equipped troops or a 10,000-pound external load. The squadron may have a mission and tasks similar to those of the current unit operating with CH-46E aircraft

- 126.32 Define the mission of a Marine Light/Attack Helicopter (HMLA) squadron. [p. 3-30]

**The HMLA provides** combat utility helicopter support, attack helicopter fire support, and fire support coordination during amphibious operations and subsequent operations ashore.

- 126.33 Discuss the twelve tasks of the utility helicopter assigned to an HMLA squadron.  
[p. 3-30]

**Provide an** airborne command and control platform for CEs.

**Provide armed** escort for assault support operations.

**Provide combat** assault transport of troops, supplies, and equipment.

**Provide airborne** control and coordination for assault support operations.

**Augment local** SAR assets and provide aeromedical evacuation of casualties from the field to suitable medical facilities or other aeromedical aircraft.

**Conduct combat** assault and assault support for evacuation operations and other maritime special operations.

**Control, coordinate, and provide terminal** guidance for supporting arms, including CAS, artillery, mortars, and naval gunfire (NGF).

**Provide** fire support and security for forward and rear area forces.

**Maintain** a self-defense capability from surface-to-air and air-to-air threats.

**Maintain** the capability to operate from amphibious shipping, other floating bases, and austere shore bases, as required.

**Maintain** the capability to operate at night, in adverse weather conditions, and under instrument flight conditions at extended ranges.

**Perform** organizational maintenance on assigned aircraft in all environmental conditions.

126.34 Discuss the eleven tasks of the attack helicopter assigned to an HMLA squadron. [pp. 3-30, 3-31]

**Provide** fire support and security for forward and rear area forces.

**Conduct** point target/antiarmor operations.

**Conduct** antihelicopter operations.

**Provide** armed escort, control, and coordination for assault support operations.

**Control**, coordinate, and provide terminal ordnance for supporting arms, including CAS, artillery, mortars, and NGF.

**Provide** point and limited-area air defense from threat fixed-wing aircraft.

**Conduct** armed and visual reconnaissance.

**Augment** local SAR assets.

**Maintain** the capability to operate from amphibious shipping, other floating bases, and austere shore bases as required.

**Maintain** the capability to operate at night, in adverse weather conditions, and under instrument flight conditions at extended ranges.

**Perform** organizational maintenance on assigned aircraft in all environmental conditions.

126.35 State the type(s) and quantity of aircraft assigned to an HMLA squadron. [p. 3-31]

Each squadron has 18 AH-1W and 9 UH-1N aircraft

## 127 AIR COMBAT ELEMENT (ACE), MARINE WING SUPPORT GROUP (MWSG) FUNDAMENTALS

References:

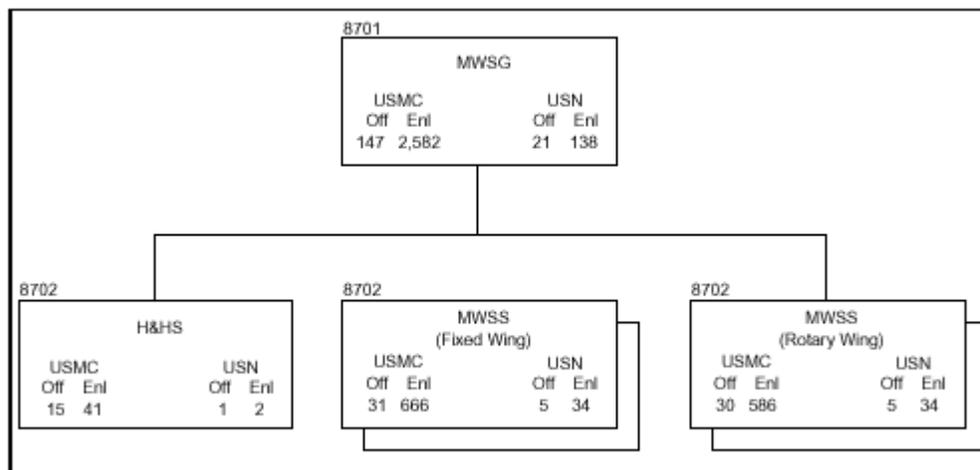
[a] MCRP 5-12D, Organization of the Marine Corps Forces (PCN 144000050000)

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127.1 Define the mission of a Marine Wing Support Group (MWSG). [p. 3-32]:

**The MWSG provides all essential ground support requirements to aid designated fixed- or rotary-wing components of a Marine FOB. The MWSG typically includes a headquarters and headquarters squadron (H&HS), two MWSSs (fixed wing), and two MWSSs (rotary wing). The group is organized to provide motor transport, engineering services, and organizational maintenance (motor transport and engineering) for units of the MAW. 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 or deployed posture of the MAW.**

127.2 Discuss the organizational structure of an MWSG. [p. 3-32] :



127.3 Define the mission of a Headquarters and Headquarters Service (H&HS) squadron. [p. 3-32]:

**The H&HS provides administrative support for the group and squadron headquarters.**

127.4 Discuss the two tasks of an H&HS squadron. [p. 3-32]:

**Provide command, control, administrative, and ecclesiastical support for assigned units.**

**Provide routine and emergency sick call functions.**

127.5 Define the mission of a Marine Wing Support Squadron (MWSS). [p. 3-33]:

**The MWSS provides** all essential aviation ground support requirements to a designated fixed-wing/rotary-wing component of an ACE and all supporting or attached elements of the MACG.

127.6 Discuss the thirteen tasks of an MWSS. [p. 3-33]

**Providing internal airfield communications**, including tactical telephone service in and about the airfield as well as for tenant ACE units, communications for airfield security, communications for ground transportation management, and communications between an airfield and its adjacent facilities (i.e., ammunition dump and petroleum, oils, and lubricants sites).

**Providing weather services.**

**Providing expeditionary airfield services**, including maintaining M-21 aircraft recovery equipment, fresnel lens, communications, airfield lighting, and other related equipment necessary to support air operations.

**Supplying crash/fire/rescue** and structural firefighting equipment.

**Providing aircraft** and ground refueling.

**Providing essential engineer services**, including engineer reconnaissance/survey; repair, improvement, and maintenance of existing road nets within the ACE area of responsibility; construction and maintenance of expedient roads; construction (except for subsurface and surface preparation) improvement and maintenance of V/STOL facilities, not to exceed 900 feet; construction and maintenance of mission-essential base camp requirements, including tactical airfield fuel distribution systems and helicopter expeditionary refueling system installations, temporary bunkers, temporary aircraft revetments, and strong backs; technical and equipment assistance for erection of shelters; utilities support, including essential mobile electric power, water, and hygiene support; development, improvement, and maintenance of drainage systems; supervision of camouflage requirements; equipment and personnel required for rapid runway repair; materials handling equipment to support base operations; limited mine detection capability; and limited combat engineer services.

**Providing motor transport** for operations internal to the air base.

**Providing messing facilities.**

**Providing routine** and emergency sick call and aviation medical functions.

**Providing individual** and unit training or organic personnel and selected personnel of support units.

**Providing organic NBC** defense.

**Providing security** and law enforcement services including security of flight line and critical airfield facilities; traffic control/enforcement, convoy escort, and traffic accident investigations; straggler collection and refugee control and criminal investigation, physical security surveys, and related activities.

**Provide** air base commandant functions.

## 128 AIR COMBAT ELEMENT (ACE), MARINE CORPS AVIATION SAFETY FUNDAMENTALS

### References:

- [a] OPNAVINST 3750.6R, Naval Aviation Safety Program
- [b] OPNAVINST 3710.7S, NATOPS General Flight and Operating Instructions
- [c] NAVEDTRA 14020, Aviation Structural Mechanic E2
- [d] U.S. Naval Flight Surgeon's Manual, 3rd Edition
- [e] NAVEDTRA 14014, Airman
- [f] OPNAVINST 4790.2H, Naval Aviation Maintenance Program, Vol. V

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### GRAPHICS BASE LINE

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- 128.1 Define naval aviation mishap. [ref. a, p. 3-3, par. 304.a]

**A naval aviation mishap** is an unplanned event or series of events, directly involving naval aircraft or UAVs which result in any of the following:

- **Damage in the amount of ten thousand dollars** or more to naval aircraft or UAVs, other aircraft (DOD or non-DOD), or property (DOD or non-DOD). Property damage includes costs to repair or replace facilities, equipment or material.
- **An injury** as defined in paragraph 307. of the reference.
- **Damage incurred as a result of salvage efforts do not count as mishap costs on that aircraft or UAV; however, other damage such as corrosion or fire that happen while the aircraft is awaiting salvage must be included.**

- 128.2 Explain the following mishap severity classes based on personnel injury and property damage: [ref. a, p. 3-10]

**Class A mishap** is one in which the total cost of damage to property or aircraft or UAVs exceeds \$1,000,000, or a naval aircraft is destroyed or missing, or any fatality or permanent total disability results from the direct involvement of naval aircraft or UAV. Loss of a UAV is not a Class A unless the cost is \$1,000,000 or greater.

**Class B mishap** is one in which the total cost of damage to property or aircraft or UAVs is more than \$200,000 but less than \$1,000,000, or a permanent partial disability or the hospitalization of three or more personnel results.

**Class C mishap** is one in which the total cost of damage to property or aircraft or UAVs is \$20,000 or more, but less than \$200,000, or an injury requiring five or more lost workdays results.

- 128.3 Explain the purpose of the NATOPS program. [ref. b, p. 1-1]:

**This program prescribes** general flight and operating instructions and procedures applicable to the operation of all naval aircraft and related activities.

128.4 Explain and discuss how the following are addressed in the OPNAVINST 3710.7R: [ref. b, ch. 8, pp. 8-7 thru 8-9]

*Rest and sleep: **Eight hours for sleep time should be made available every 24-hour period. Ground time between flight operations should be sufficient to allow flight personnel to eat and obtain at least 8 hours of uninterrupted rest. Flight personnel should not be scheduled for continuous alert and/or flight duty (re-quired awake) in excess of 18 hours. If it becomes necessary to exceed the 18-hour rule, 15 hours of continuous off-duty time shall be provided. Flight and ground support personnel schedules shall be made with due considerations for watch standing, collateral duties, training, and off-duty activities.***

**Flight time:**

- **Daily flight time** should not normally exceed three flights or 6-1/2 total hours flight time for flight personnel of single-piloted aircraft. Individual flight time for flight personnel of other aircraft should not normally exceed 12hours. The limitations assume an average requirement of 4 hours ground time for briefing and debriefing.
- **Weekly maximum flight time** for flight personnel of single-piloted aircraft should not normally exceed 30 hours, Total individual flight time for flight per-sonnel of other aircraft should not exceed 50 hours. When practicable, flight personnel should not be assigned flight duties on more than 6 consecutive days.
- **Accumulated individual flight time** should not exceed the number of hours

indicated in Figure 8-4 of this reference.

**Drugs:** Drugs are defined as any chemical that when taken into the body causes a physiological response. All flight and support personnel shall be pro-vided appropriate information by a command drug abuse education program.

**Legal drugs** are those medically prescribed or legally purchased for treatment of illness.

- **Prescription drugs** -Taking drugs prescribed by competent medical authority shall be considered sufficient cause for recommendation of grounding unless their use is specifically approved by a flight surgeon, or a waiver for specific drug use has been granted by BUPERS or the CMC. Consideration shall be given to the removal of ground support personnel from critical duties, for the duration of the drug effects, if appropriate. Medicines such as antihistamines, antibiotics, tranquilizers, sleeping pills, etc., obtained by prescription shall be discarded if all are not used during the period of medication.

- **Over-the-counter drugs** -Because of the possibility of adverse side effects and unpredictable reactions, the use of over-the-counter drugs by flight personnel is prohibited unless specifically approved by a flight surgeon. Ground support personnel shall be briefed on the hazards of self-medication and should be discouraged from using such drugs.

- **Alcohol** - The well recognized effects (i.e., intoxication and hangover) are detrimental to safe operations. Consumption of any type of alcohol is prohibited within 12 hours of flight planning. Adherence to the letter of this rule does not

guarantee a crewmember will be free from the effects of alcohol after a period of 12 hours. Alcohol can adversely affect the vestibular system for as long as 48 hours after consuming, even when blood-alcohol content is zero. Special caution should be exercised when flying at night, over water, or in IMC. In addition to abstaining from alcohol for 12 hours prior to flight planning, flight crew shall ensure that they are free of hangover effects prior to flight. Detectable blood alcohol or symptomatic hangover shall be cause for grounding of flight personnel and the restriction of the activities of aviation ground personnel.

- **Tobacco** - Smoking has been shown to cause lung disease and impair night vision, dark adaptation, and increase susceptibility to hypoxia. Smoking is hazardous to nonsmokers, as the effects occur whether smoke is inhaled directly or secondarily. Persons desiring to smoke shall show due consideration for the desires of nonsmokers in the vicinity and abstain from smoking if asked. Further guidance on smoking is contained in paragraph 7.1.9 of this instruction.

- **Caffeine** - Excessive intake of caffeine from coffee, tea, cola, etc., can cause excitability, sleeplessness, loss of concentration, decreased awareness, and dehydration. Caffeine intake should be limited to not more than 450 mg per day, or 3 to 4 cups of coffee.

#### **The use of illicit drugs is prohibited.**

128.5 Discuss the two types of oxygen used in naval aviation. [ref. c, p. 4-2]

**Type I** is gaseous oxygen and **type II** is liquid oxygen. Oxygen procured under this specification is required to be 99.5 percent pure. The water vapor content must not be more than 0.02 milligrams per liter when tested at 21.1°C (70°F) and at sea-level pressure.

**Technical oxygen**, both gaseous and liquid, is procured under specification BB-O-925A. The moisture content of technical oxygen is not as rigidly controlled as is breathing oxygen; therefore, the technical grade should never be used in aircraft oxygen systems. The extremely low moisture content required of breathing oxygen is not to avoid physical injury to the body, but to ensure proper operation of the oxygen system. Air containing a high percentage of moisture can be breathed indefinitely without any serious ill effects. The moisture affects the aircraft oxygen system in the small orifices and passages in the regulator. Freezing temperatures can clog the system with ice and prevent oxygen from reaching the user. Therefore, extreme precautions must be taken to safeguard against the hazards of water vapor in oxygen systems. If water vapor is not removed, the temperature will rise and a fire may break out. This fire is the result of spontaneous combustion.

Oxygen does not burn, but it does support combustion. Nitrogen neither burns nor supports combustion. Therefore, combustible materials burn more readily and more vigorously in oxygen than in air, since air is composed of about 78 percent nitrogen by volume and only about 21 percent oxygen. In addition to existing as a gas, oxygen can exist as a liquid and as a solid. Liquid oxygen is pale blue in color. It flows like water, and weighs 9.52 pounds per gallon.

128.6 Explain the signs, symptoms, and treatment of altitude hypoxia. [ref. d, ch. 1]

**Signs and symptoms of Hypoxia** - Many observations have been made on the subjective and objective symptoms of hypoxia. A detailed analysis of progressive functional impairment indicates that the effects of hypoxia fall into four stages listed below

**Indifferent Stage** - There is no observed impairment. The only adverse effect is on dark-adaptation, emphasizing the need for oxygen use from the ground up during night flights.

**Compensatory Stage** - The physiological adjustments, which occur in the respiratory and circulatory systems, are adequate to provide defense against the effects of hypoxia. Factors such as environmental stress or prolonged exercise can produce certain decompensations. In general, in this stage there is an increase in pulse rate, respiratory minute volume, systolic blood pressure, and cardiac output. There is also an increase in fatigue, irritability, and headache, and a decrease in judgment. The individual has difficulty with simple tests requiring mental alertness or moderate muscular coordination.

**Disturbance Stage** - In this stage, physiologic responses are inadequate to compensate for the oxygen deficiency, and hypoxia is evident. Subjective symptoms may include headache, fatigue, lassitude, somnolence, dizziness, "air-hunger," and euphoria. At 20,000 feet, the period of useful consciousness is 15 to 20 minutes. In some cases, there are no subjective symptoms noticeable up to the time of unconsciousness. Objective findings include:

- Special Senses. Peripheral and central vision are impaired and visual acuity is diminished. There is weakness and incoordination of the extraocular muscles and reduced range of accommodation. Touch and pain sense are lost. Hearing is one of the last senses to be affected.

- Mental Processes. The most striking symptoms of oxygen deprivation at these altitudes are classed as psychological. These are the ones, which make the problem of corrective action so difficult. Intellectual impairment occurs early, and the pilot has difficulty recognizing an emergency unless he is widely experienced with hypoxia and has been very highly trained. Thinking is slow; memory is faulty; and judgment is poor.

- Personality Traits - In this state of mental disturbance, there may be a release of basic personality traits and emotions. Euphoria, elation, moroseness, pugnaciousness, and gross overconfidence may be manifest. The behavior may appear very similar to that noted in alcoholic intoxication.

- Psychomotor Functions - Muscular coordination is reduced and the performance of fine or delicate muscular movements may be impossible. As a result, there is poor handwriting, stammering, and poor coordination in flying. Hyperventilation is noted and cyanosis occurs, most noticeable in the nail beds and lips.

**Critical Stage** - In this stage of acute hypoxia, there is almost complete mental and physical incapacitation, resulting in rapid loss of consciousness, convulsions, and finally in failure of respiration and death.

- An important factor in the sequences cited above is the gradual ascent to altitude where the individual can come to equilibrium with the gaseous environment, and physiological adjustments have sufficient time to come into play. This occurs in military aviation only in cases where the aviator is unaware that his oxygen is disconnected or in cases where leaks occur in the oxygen system, causing gradual dilution of the oxygen with cabin air.

- Of greatest concern to a flight surgeon is hypoxia resulting from the sudden loss of cabin pressure in aircraft operating at very high altitudes. Under these conditions, a loss of pressurization or oxygen supply will cause exposure of the aviator to environmental conditions so stressful that physiological compensation cannot occur before the onset of unconsciousness.

**Treatment of Hypoxia** -Since hypoxia and hyperventilation are so similar and both can quickly incapacitate, the recommended treatment is aimed at correcting both problems simultaneously. There are five steps for treatment:

- Go to 100 percent oxygen if not already on it.
- Check oxygen equipment to ensure proper functioning.
- Control breathing-reduce the rate and depth.
- Descend below 10,000 feet where hypoxia is an unlikely problem.
- Communicate problem.

128.7 Explain the four primary forces affecting flight. [ref. e, pp. 3-3, 3-4]

**Lift:** Lift is the force that acts in an upward direction to support the aircraft in the air. It counteracts the effects of weight. Lift must be greater than or equal to weight if flight is to be sustained.

**Weight:** Weight is the force of gravity acting downward on the aircraft and everything in the aircraft, such as crew, fuel, and cargo.

**Thrust:** Thrust is the force developed by the aircraft's engine. It acts in the forward direction. Thrust must be greater than or equal to the effects of drag for flight to begin or to be sustained.

**Drag:** Drag is the force that tends to hold an aircraft back. Drag is caused by the disruption of the airflow about the wings, fuselage (body), and all protruding objects on the aircraft. Drag resists motion as

it acts parallel and in the opposite direction in relation to the relative wind.

128.8 Explain the purpose of the auxiliary power unit. [ref. e, p. 7-4]

*Most larger aircraft use APUs. These power units furnish electrical power when engine-driven generators are not operating or when external power is not available. The power output from the APU supplies a constant voltage at a constant frequency. The APU does not depend on engine rpm. Most units use a gas turbine to drive the generator. The gas turbine provides compressed air for air conditioning and pneumatic engine starting. This makes the aircraft independent of the need for ground power units to carry out its mission.*

128.9 Define the following armament: [ref. e, ch. 8]

**Bombs:** Bomb-type ammunition is carried either in the bomb bay of an aircraft or externally on the wing or fuselage stations. Because of safety requirements, some bomb-type ammunition is shipped and stowed without the fuzes or arming assemblies. Ordnancemen must assemble these types of ammunition before they are used. Other types, such as cluster bomb units (CBUs), are shipped and stowed as complete assemblies. Bomb-type ammunition is characterized by a large high-explosive charge-to-weight ratio. Examples are aircraft bombs, mines, and warheads used in guided missiles and rockets. This ammunition has destructive blast effect at or near the target.

**Rockets:** A self-propelled vehicle whose flight trajectory cannot be altered after launch. Air-launched weapons are designed to be either rail or ejection launched. In the case of airborne rockets, they are fired from launchers suspended on the parent rack of Navy aircraft. The Navy uses two types of rockets—the 2.75-inch Mighty Mouse and the 5.0-inch Zuni. The 2.75 standard folding-fin aircraft rocket (FFAR) motor (fig. 8-8, view A) uses a standard nozzle insert. In early development, both the Mighty Mouse and the Zuni were used against both air and ground targets. However, with the introduction of modern missile technology, rockets are now used primarily against ground targets. The Mighty Mouse is fired in large numbers. It is carried in rocket launchers with a capacity of 7 or 19 rockets. The Zuni, which carries a much larger explosive payload than the Mighty Mouse, is carried in rocket launchers with a capacity of four rockets. Both the Mighty Mouse and the Zuni are fired either singularly, in pairs, or in ripple salvo.

**Missiles:** An unmanned vehicle designed as a weapon that travels above the surface of the earth. This vehicle follows a course or trajectory that is guided by an automatic or remotely controlled mechanism within the vehicle. A guided missile is defined as "a self-propelled object that automatically alters its direction of flight in response to signals received from outside sources." Guided missiles are equipped for, and usually carry, high-explosive charges. They have the means to explode on contact or in near proximity of a target. The majority of guided missiles used in the Navy are essentially rockets that can maneuver while in flight and make course corrections to intercept the target.

128.10 Discuss the purpose of the Foreign Object Damage (FOD) prevention program. [ref. f, p. 12-1]:

**Foreign Object Damage Prevention Program** establishes policy, responsibilities, and requirements to prevent damage to aircraft, engines, SE and other aeronautical equipment, and to provide uniform FOD reporting procedures. The FOD Prevention Program is applicable to commercial and other government activities performing contract maintenance, production, or other support functions on naval aircraft, and all Navy and Marine Corps activities operating or directly involved in the repair of aircraft, gas turbine engines or SE and units directly supporting flight operations. The FOD Prevention Program is an all hands effort and must be supported by every individual assigned to the command. Ingestion of foreign objects by gas turbine engines accounts for the largest percentage of premature engine removals from naval aircraft. FOD presents personnel and material hazards, consumes valuable maintenance man-hours, imposes additional unscheduled workloads on both using and supporting activities, creates shortages, wastes dollars, and reduces operational readiness.

## 129 COMBAT SERVICE SUPPORT ELEMENT (CSSE), FORCE SERVICE SUPPORT GROUP (FSSG) FUNDAMENTALS

References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] MCRP 5-2A, Operational Terms and Graphics (PCN 14400000800)
- 

129.1 Define a Force Service Support Group (FSSG). [ref. a, p. 5-1]:

**The FSSG is a composite** grouping of functional components that provides CSS above the organic capability of supported units to all elements of the MEF. In this respect, it is structured to support, in garrison or deployed, a one-division/one-wing-configured MEF. All elements of the FSSG are structured to provide permanently organized sub-elements to support independently deployed battalions, regiments, MEUs (i.e., task-organized groups to provide support, as required and preplanned), or geographically separated units in garrison.

129.2 Discuss the most significant attribute of the FSSG. [ref. a, p. 5-1]:

**The most significant attribute** of the FSSG is that it is a permanently organized command charged with the responsibility of providing all major CSS functions for the MEF beyond the organic capabilities of the supported units/organizations. Thus, it is staffed and equipped by T/Os and T/Es to support a one-division/one-wing MEF or four MEUs simultaneously.

129.3 Define the mission of the Command Element (CE) of the FSSG. [ref. a, p. 5-1]:

**The FSSG CE provides** general and direct support, sustained CSS above the organic capabilities of supported elements of MAGTFs in the functional areas of CSS during deployment and employment of the MEF, and smaller, geographically separated MAGTFs in all levels of conflict.

129.4 Discuss the six tasks of the CE of the FSSG. [ref. a, pp. 5-1, 5-2]

**Provide centralized ground supply support**, beyond supported units' organic capabilities, for the sustainment of the MEF, including procurement, storage, care in storage, distribution, salvage, disposal, and bulk fuel and water supply support.

**Provide authorized overflow organizational** (2d echelon) and intermediate (3d and 4th echelon) maintenance support, beyond supported units' organic capabilities, for Marine Corps-furnished ground equipment of the MEF, including inspection, classification, servicing, adjustment, tuning, testing, calibration, repair, modification, rebuilding overhaul, reclamation, recovery assistance, and evacuation.



**Coordinate transportation** and throughput support, beyond supported units' organic capabilities, for the deployment and employment of the MEF, including embarkation, landing support, port and terminal operations, motor transport, air delivery, and freight/passenger transportation support.

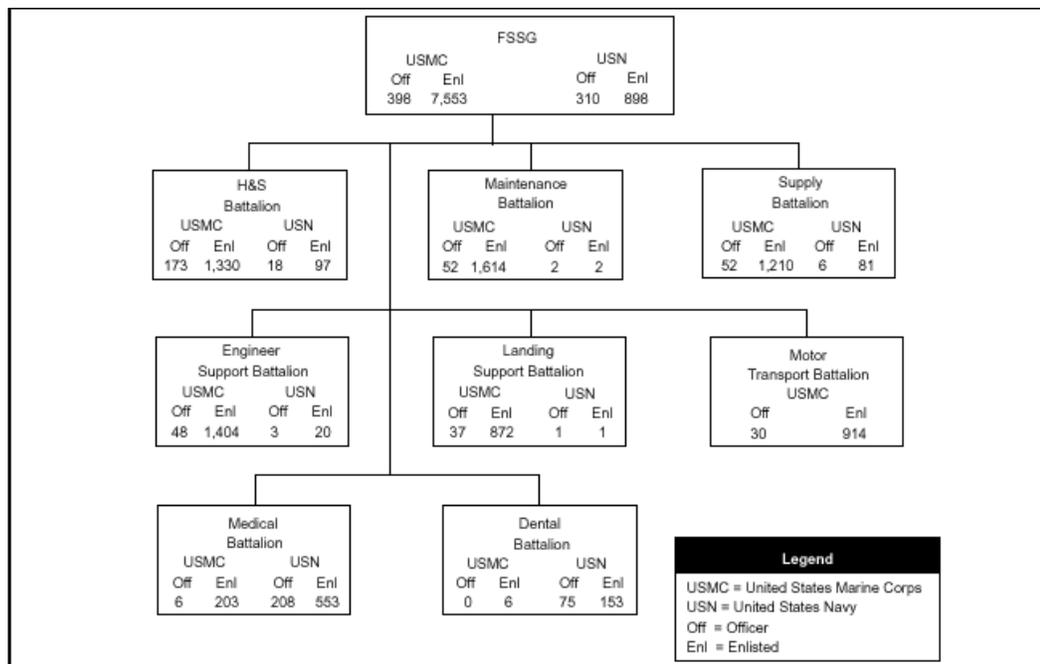
**Provide general engineering** support to the MEF, including engineering reconnaissance; horizontal construction of roads, CSS installations, and other support facilities; vertical construction and maintenance of encampment and other personnel support facilities; emplacement of standard and nonstandard bridging and rafting; demolition and obstacle removal; augmentation for tasks beyond the organic engineering capabilities of supported units; and explosive ordnance disposal (EOD).

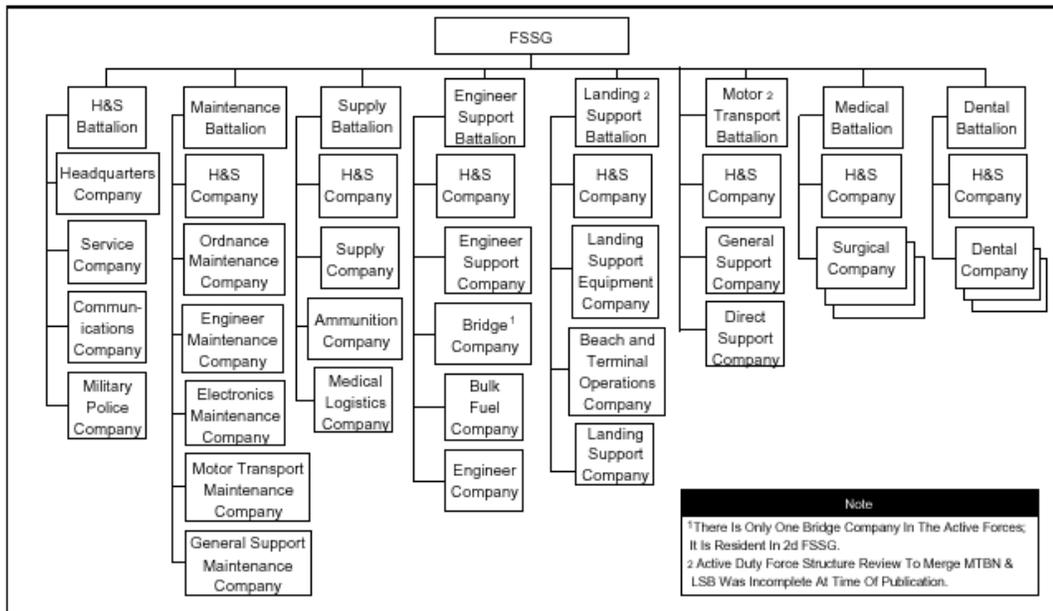
**Provide health service** (medical and dental) support, beyond the supported units' organic capabilities, to the MEF, including health maintenance, patient collection and treatment, temporary hospitalization, patient regulation and evacuation, disease control, hygienic services, and a comprehensive dental program.

**Coordinate services support**, beyond supported units' organic capabilities for the MEF, including security support, postal, disbursing, and exchange services; legal services (including active duty nucleus capability for CA); CSS-related CA support; and graves registration.

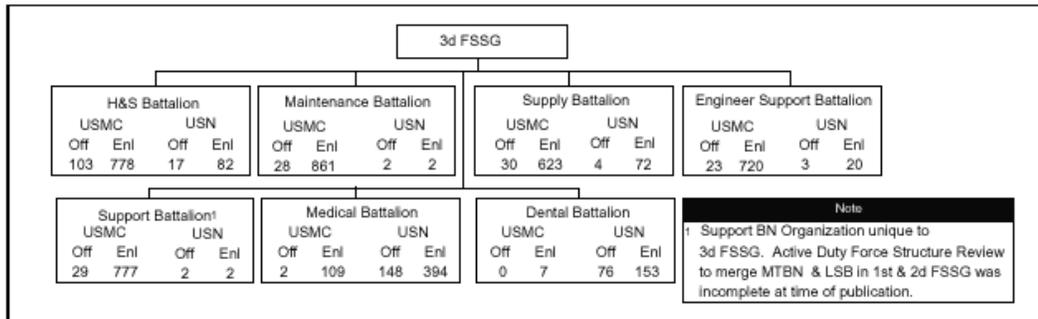
129.5 Discuss the organizational structure of the FSSG. [ref. a, pp. 5-2, 5-3]:

### FSSG Organization

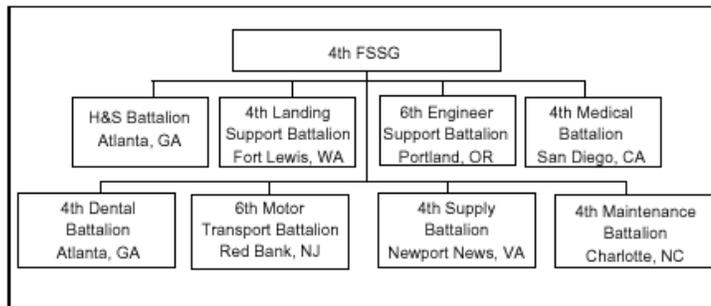




**Figure 5-1b. 1st and 2d FSSG Organization.**



**Figure 5-1c. 3d FSSG Organization.**



**Figure 5-1d. 4th FSSG Organization.**

**Direct support** [p. 1-54]: A mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance. (NATO) — The support provided by a unit or formation not attached to, nor under command of, the supported unit or formation, but required to give priority to the support required by that unit or formation

**General support** [p. 1-73]: That support which is given to the supported force as a whole and not to any particular subdivision thereof.

**Task organization** [p. 1-153]: An organization, which assigns to responsible commanders the means with which to accomplish their assigned tasks in any, planned action. It is the process of allocating available assets to subordinate commanders and (establishing) determining their command and support relationships.

129.7 Discuss the responsibilities of the following sections: [ref. b, p. 2-9]

**G1** - Assistant Chief of Staff, Personnel

**G2** - Assistant Chief of Staff, Intelligence

**G3** - Assistant Chief of Staff, Operations

**G4** - Assistant Chief of Staff, Logistics

**G5** - Assistant Chief of Staff, Civil Affairs

**G6** - Assistant Chief of Staff, Communications

References:

- [a] MCWP 4-11, Tactical-Level Logistics (PCN 14300007200)
  - [b] MCRP 5-2A, Operational Terms and Graphics (PCN 14400000800)
  - [c] MCWP 4-1, Logistics Operations (PCN 14300005800)
  - [d] MCWP 4-11.4, Maintenance Operations (PCN 14300001700)
  - [e] MCWP 4-11.7, MAGTF Supply Operations (PCN 14300000100)
- 

130.1 Define logistics. [ref. a, p. 1-1]:

**Logistics is defined as** “the science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations, which deal with: a. design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; b. movement, evacuation, and hospitalization of personnel; c. acquisition or construction, maintenance, operation, and disposition of facilities; and d. acquisition or furnishing of services

130.2 Define Combat Service Support (CSS). [ref. a, p. 1-1]:

**Combat service support (CSS) is defined as** “the essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war. Within the national and theater logistic systems, it includes but is not limited to that support rendered by service forces in ensuring the aspects of supply, maintenance, transportation, health services, and other services required by aviation and ground combat troops to permit those units to accomplish their missions in combat. Combat service support encompasses those activities at all levels of war that produce sustainment to all operating forces on the battlefield.” (JP 1-02) CSS in the Marine Corps is a function or tasking associated with a unit that, by table of organization (T/O) and table of equipment (T/E), is organized, equipped, and trained as a CSS organization to perform CSS operations.

130.3 Discuss the three levels of logistic support: [ref. a, pp.1-2, 1-3]

**Strategic:** “The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) security objectives and guidance, and develops and uses national resources to accomplish those objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of national power; develop global plans or theater war plans to achieve these objectives; and provide military forces and other capabilities in accordance with strategic plans.”

**Operational:** “The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operations objectives needed to accomplish the strategic objectives sequencing events to achieve the operational objectives, initiating actions, and applying re-sources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives.”

**Tactical:** “The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives.”

130.4 State the six functional areas of tactical logistics. [ref. a, pp. 1-3, 1-4]

**Supply:** Supply is a cyclic process of acquiring and issuing materiel to supported units. This materiel may be consumable or durable materiel, components, and end items.

**Maintenance:** Maintenance involves those actions taken to keep materiel in serviceable condition (preventive maintenance) and actions required to return materiel to serviceable condition (corrective maintenance). Maintenance tasks are grouped by levels of support that determine assignment of maintenance responsibilities.

**Transportation:** Transportation is moving from one location to another using railways, highways, waterways, pipelines, oceans, and airways. Throughput is the amount of cargo and personnel passed through the transportation systems. The transportation system includes the means and the controls for managing the transportation means. The transportation sub-functions are generally applicable to all levels of support, although the means, methods, control, and management procedures employed at each level will vary. Although transportation is discussed as a logistic function, at the tactical level, transportation is a combat support function. Combat organizations use organic, attached, and supporting transportation assets for tactical movement.

**General Engineering:** General engineering is distinct from combat engineering. General engineering is typically considered a CSS function (e.g., engineer support battalion), while combat engineering is considered a combat support function (e.g., combat engineer battalion). General engineering assets at the tactical level may be used to reinforce or augment combat engineer organizations in specific situations for mobility, countermobility, or survivability tasks. These assets are normally in general support of the MAGTF for a wide range of tasks. These tasks often involve more detailed planning and preparation and higher standards of design and construction than typical combat engineer tasks.

**Health Services:** Health services support (HSS) seeks to minimize the effect that wounds, injuries, and disease have on unit effectiveness, readiness, and morale. HSS is accomplished by a preventive-medicine program that initially safeguards personnel against potential health risks and by the establishment of a system that provides medical support from the point of wounding, injury, or illness through evacuation.

**Services:** The services function provides for the effective administration, management, and employment of military organizations. Services sub functions are essentially administrative in nature. These are categorized as either command services, which are services provided to Marines by their individual commands, or CSS services, which are services provided by a CSS unit.

130.5 Define a Combat Service Support Element (CSSE). [ref. b, p. 1-32]:

**The Marine air-ground task force (MAGTF) element** is task-organized to provide the full range of combat service support necessary to accomplish the MAGTF mission. The CSSE can provide supply, maintenance, transportation, deliberate engineering, health, postal, disbursing, prisoner of war, information systems, exchange, utilities, legal, and graves registration services. The CSSE varies in size from a Marine expeditionary unit (MEU) service support group (MSSG) to a force service support group (FSSG). Normally, there is only one combat service support element in a MAGTF.

130.6 Discuss each of the seven principles of logistics support: [ref. c, pp. 1-5, 1-6]:

**There are seven principles** of logistics support that apply to all three levels of logistics, and attaining these principles is essential to ensuring operational success. These principles, like the principles of war, are guides for planning, organizing, managing, and executing. They are not rigid rules, nor will they apply at all times. As few as one or two may apply in any given situation. Therefore, these principles should not be interpreted as a checklist, but rather as a guide for analytical thinking and prudent planning. These principles require coordination to increase logistic effectiveness. They are not stand-alone characteristics. The application of these principles by effective logisticians requires flexibility, innovation, and in maneuver warfare, boldness.

**Responsiveness** - Responsiveness is the right support in the right place at the right time. Among the logistics principles, responsiveness is the keystone. All other principles become irrelevant if logistics support does not support the commander's concept of operations.

**Simplicity** - Simplicity fosters efficiency in both the planning and execution of logistics operations. Mission-type orders and standardized procedures contribute to simplicity. Establishment of priorities and preallocation of supplies and services by the supported unit can simplify logistics support operations.

**Flexibility** - Flexibility is the ability to adapt logistics structure and procedures to changing situations, missions, and concepts of operation. Logistics plans and operations must be flexible to achieve both responsiveness and economy. A commander must retain command and control over subordinate organizations to maintain flexibility. The principle of flexibility also includes the concepts of alternative planning, anticipation, reserve assets, redundancy, forward support of phased logistics, and centralized control with decentralized operations.

**Economy** - Economy is providing sufficient support at the least cost without impairing mission accomplishment or jeopardizing lives. At some level and to some degree, resources are always limited. When prioritizing limited resources and allocating them sufficiently to achieve success without imbalance or inordinate excess, the commander is, in effect, applying economy.

**Attainability** - Attainability (or adequacy) is the ability to provide the minimum, essential supplies and services required to begin combat operations. The commander's logistics staff develops the concept of logistics support; completes the logistics estimate; and initiates resource identification on the basis of the supported commander's requirements, priorities, and apportionment. An operation should not begin until minimum essential levels of support are on hand.

**Sustainability** - Sustainability is the ability to maintain logistics support to all users throughout the area of operations for the duration of the operation. Sustainability focuses the commander's attention on long-term objectives and capabilities of the force. Long-term support is the greatest challenge for the logistician, who must not only attain the minimum, essential materiel levels to initiate combat operations (readiness), but also must maintain those levels for the duration to sustain operations.

**Survivability** - Survivability is the capacity of the organization to protect its forces and resources. Logistics units and installations are high-value targets that must be guarded to avoid presenting the enemy with a critical vulnerability. Since the physical environment typically degrades logistics capabilities rather than destroys them, it must be considered when planning. Survivability may dictate dispersion and decentralization at the expense of economy. The allocation of reserves, development of alternative

130.7 Define War Reserve Material (WRM). [ref. c, p. 2-18]:

**WRM is defined** as mission-essential principal end items, secondary items, and munitions required to attain operational objectives in the scenarios authorized for sustainability planning and other stockage objectives approved for programming in the Defense Planning Guidance. WRM inventories are acquired during peacetime. These inventories are flexible, and they provide an expansion capability that can respond to spectrum regional contingencies, while minimizing investment in resources.

130.8 Define the following acronyms and terminology: [ref. d, pp. D-4 thru D-8]:

**LTI – limited technical inspection (LTI)** -Equipment inspections that are limited in scope and objective. LTIs are generally directed at inspecting equipment conditions to determine the extent and level of maintenance required to restore it to a specified condition or to check for serviceability status.)

**TAM - table of authorized materiel** - A source document of information for logistics planning with respect to selected materiel authorized for use by organizations, activities, and detachments of the Marine Corps, both regular and reserve. Items listed in the table of authorized materiel include the three supply-types of materiel, subsistence, and petroleum, oils, and lubricants.

**T/E – table of equipment** - A document listing the equipment, which a unit is, required to possess and maintain in order to accomplish its mission. When used with the table of organization, it serves as the basis for determining what publications and additional equipment may be required by the unit.

**T/O - table of organization** - A document which provides the authority for personnel staffing of a unit and the basis for all other resources. The table of organization contains a unit's mission, organization, concept of employment, administrative capabilities, and logistics capabilities.

130.9 State the number of days of logistics capability for some classes of supply that the following types of Marine Air/Ground Task Forces (MAGTF) are to deploy with in order to sustain themselves: [ref. e, p. 1-1]

**MEU – A Marine expeditionary unit (MEU)** normally deploys with the logistic capability to sustain itself with some classes of supply for up to 15 days.

**MEF Forward (Brigade)** - A brigade-sized MAGTF (MEF forward) for up to 30 days

**MEF** - A Marine expeditionary force (MEF) for up to 60 days.

130.10 Explain the concept of the Maritime Prepositioning Force (MPF). [ref. e, p. 4-2]:

**The Maritime Prepositioning Force (MPF) concept** reflects brigade-sized unit deployment/MEF employment utilizing Military Sealift Command (MSC) chartered ships to preposition necessary supplies and equipment. Several MSC chartered ships of various capabilities deploy to form a single maritime prepositioning ships squadron (MPSRON). Equipment and supplies administratively embarked in each MPSRON are based on the T/E, individual materiel readiness lists, and/or the tables of allowances for units assigned to the MPF's geographical responsibility. Each MPSRON is designed to sustain one MEF (Fwd)-sized unit for 30 days in most classes of supply. Prior to employment, the MPF fly-in echelon comprised of personnel and essential air transportable equipment deploy to an airfield near a port or beach where ships of the MPSRON can be offloaded. When maritime prepositioned equipment and supplies (MPE/S) are unloaded, they are issued to the arriving units and personnel of the MAGTF.

# 131 COMBAT SERVICE SUPPORT ELEMENT (CSSE), MAINTENANCE BATTALION FUNDAMENTALS

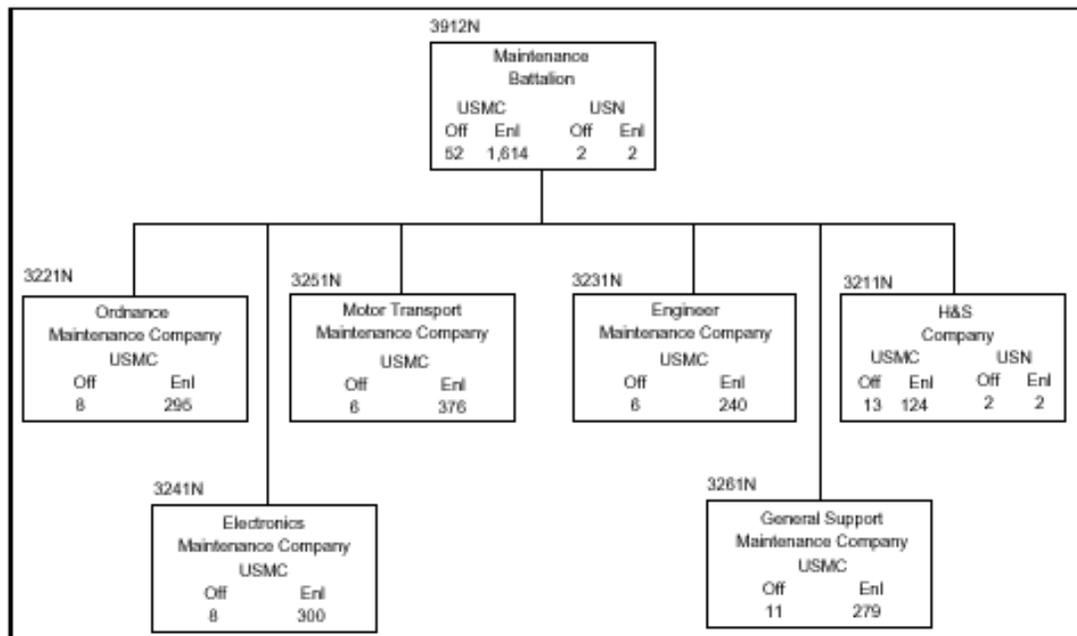
References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)
- [b] MCWP 4-11.4, Maintenance Operations (PCN 14300001700)

131.1 Define the mission and organization of the Maintenance Battalion of the Force Service Support Group (FSSG). [ref. a, pp. 5-15, 5-16]

**Mission:** The maintenance battalion provides general support and intermediate (3d and 4th echelon) maintenance support for Marine Corps-furnished tactical ordnance, engineering, motor transport, communications electronics, and general support equipment of the MEF.

**Organization:** The battalion is structured to provide command and control for centralized coordination and decentralized execution of maintenance efforts to sustain the combat power of the MEF. Subordinate companies are organized along functional area lines to provide maintenance support in commodity areas that are critical to the warfighting capability of the MEF.



131.2 Discuss the eight tasks of the Maintenance Battalion of the FSSG.  
[ref. a, pp. 5-15, 5-16]

**Provide 3d echelon maintenance on end items by means of component/subassembly replacement or repair.**

**Provide intermediate (4th echelon) maintenance in support of the secondary repairable program, including repairing and rebuilding components and subassemblies of end items.**

**Provide a tracked-vehicle evacuation capability.**

**Provide calibration services for electronic and mechanical TMDE.**

**Provide organizational (2d echelon) and intermediate (3d and 4th echelon) maintenance on end items.**

**Provide technical assistance and overflow organizational (2d echelon) maintenance for supported units as directed by higher headquarters.**

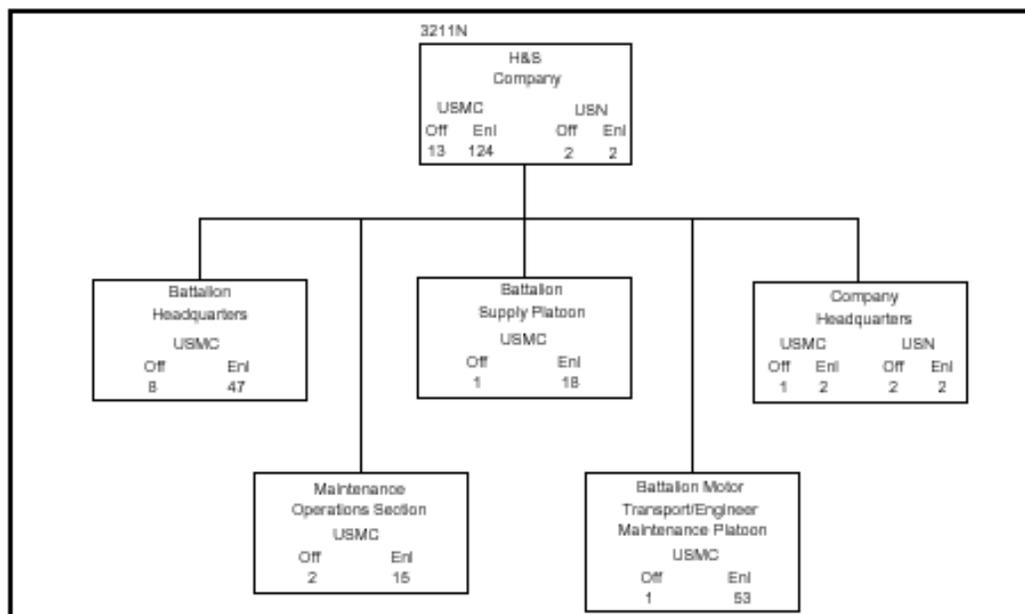
**Provide intermediate maintenance and modification applications on in-stock equipment.**

**Provide technical inspection services, as required, in support of equipment maintenance programs of the MEF.**

131.3 Define the mission and organization of H&S Company of the Maintenance Battalion.  
[ref. a, pp. 5-17, 5-18]

**Mission:** The H&S company provides command and control, administration, and command support functions for the maintenance battalion.

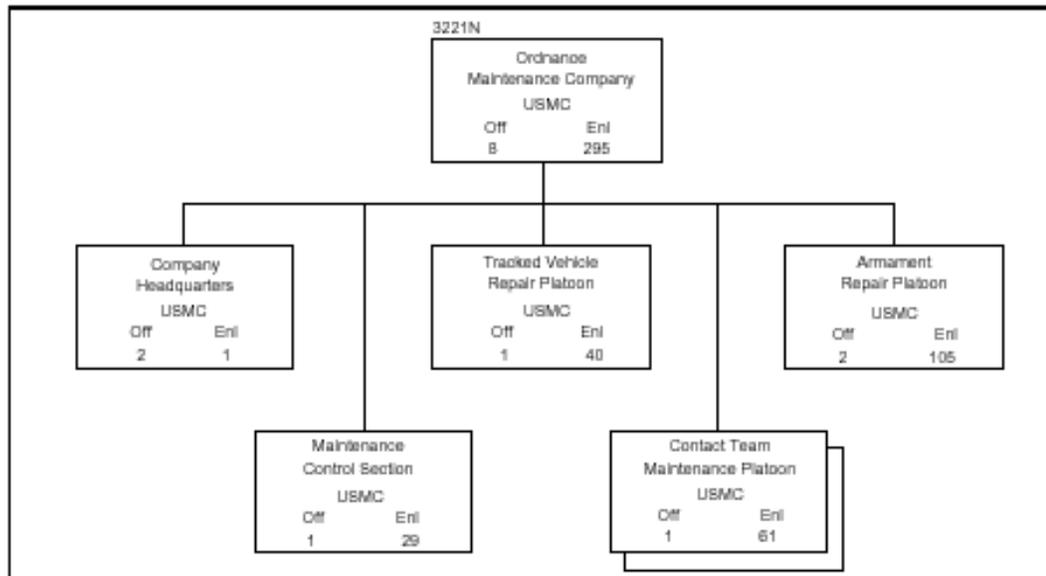
**Organization:** The company is organized to plan, coordinate, and supervise the logistic/CSS functions of the subordinate elements of the battalion with assistance from the battalion supply and motor transport sections. It is structured to facilitate task organization for maintenance operations in support of the MEF or any combination of smaller MAGTFs.



131.4 Define the mission and organization of the Ordnance Maintenance Company of the Maintenance Battalion. [ref. a, pp. 5-19, 5-20]

**Mission:** The ordnance maintenance company provides intermediate (3d and 4th echelon) maintenance support for Marine Corps-furnished ordnance equipment of a MEF.

**Organization:** The company is structured to provide the appropriate technical and supervisory personnel and equipment, plus ordnance maintenance support, for a MEF or MAGTFs smaller than a MEF. It is organized to facilitate the task organization of ordnance maintenance assets for support of a MEF or up to four MEUs deployed in widely separated geographical areas.

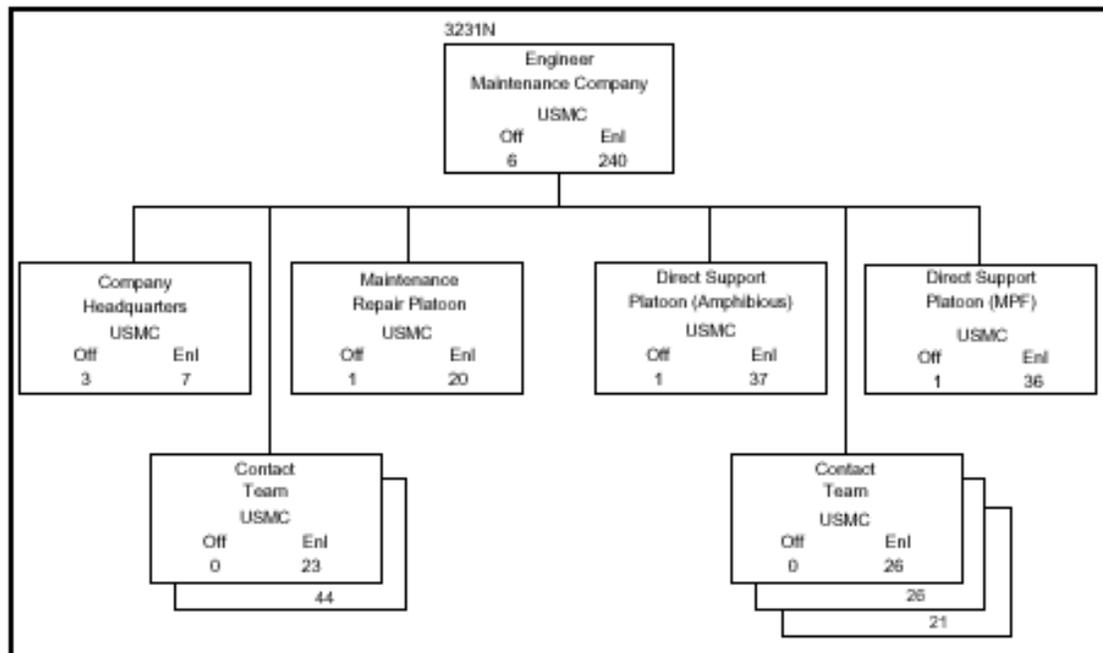


131.5

Define the mission and organization of Engineer Maintenance Company of the Maintenance Battalion. [ref. a, pp. 5-21, 5-22]

**Mission:** The engineer maintenance company provides intermediate (3d and 4th echelon) maintenance support for Marine Corps-furnished engineering equipment of a MEF.

**Organization:** The company is structured to provide the appropriate technical and supervisory personnel and equipment to provide engineering maintenance support for a MEF or MAGTFs smaller than a MEF. It is organized to facilitate the task organization of engineering maintenance assets for support of a MEF or up to four MEUs deployed in widely separated geographical areas.

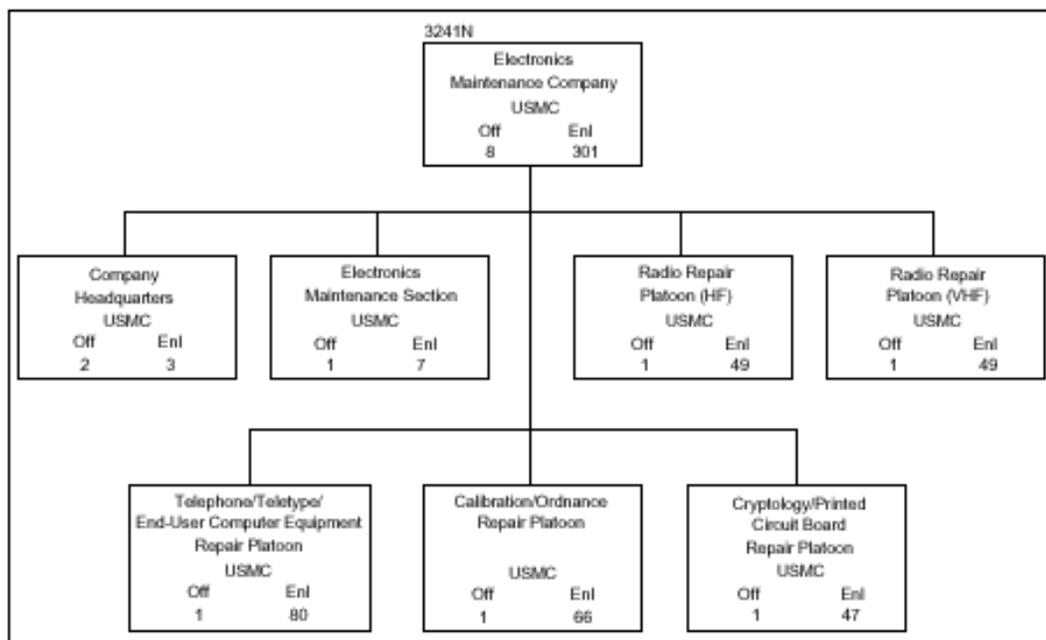


131.6

Define the mission and organization of Electronics Maintenance Company of the Maintenance Battalion. [ref. a, pp. 5-23, 5-24]

**Mission:** The electronics maintenance company provides intermediate maintenance (3d and 4th echelon) support for the Marine Corps-furnished ground communications-electronics equipment of a MEF.

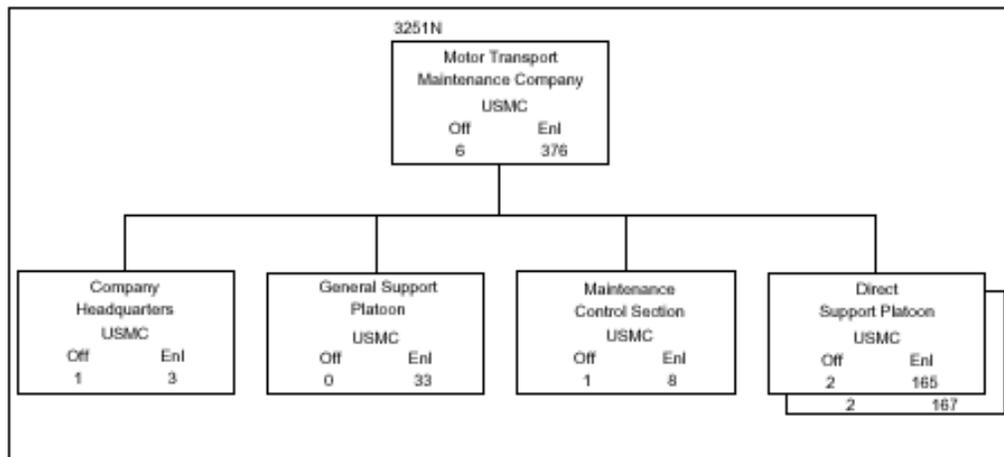
**Organization:** The company is structured to provide the appropriate technical and supervisory personnel and equipment to provide communications-electronics maintenance support for a MEF or MAGTFs smaller than a MEF. It is organized to facilitate the task organization of communications-electronics maintenance assets for support of a MEF or up to four MEUs deployed in widely separated geographical areas.



131.7 Define the mission and organization of Motor Transport Maintenance Company of the Maintenance Battalion. [ref. a, pp. 5-25, 5-26]

**Mission:** The mission of the motor transport maintenance company is to provide intermediate (3d and 4th echelon) maintenance support for the motor transport equipment of the MEF.

**Organization:** The company is structured to provide the appropriate technical and supervisory personnel and equipment to provide motor transport maintenance support for a MEF or MAGTFs smaller than a MEF. It is organized to facilitate the task organization of motor transport maintenance assets for support of a MEF or up to four MEUs deployed in widely separated geographical areas.

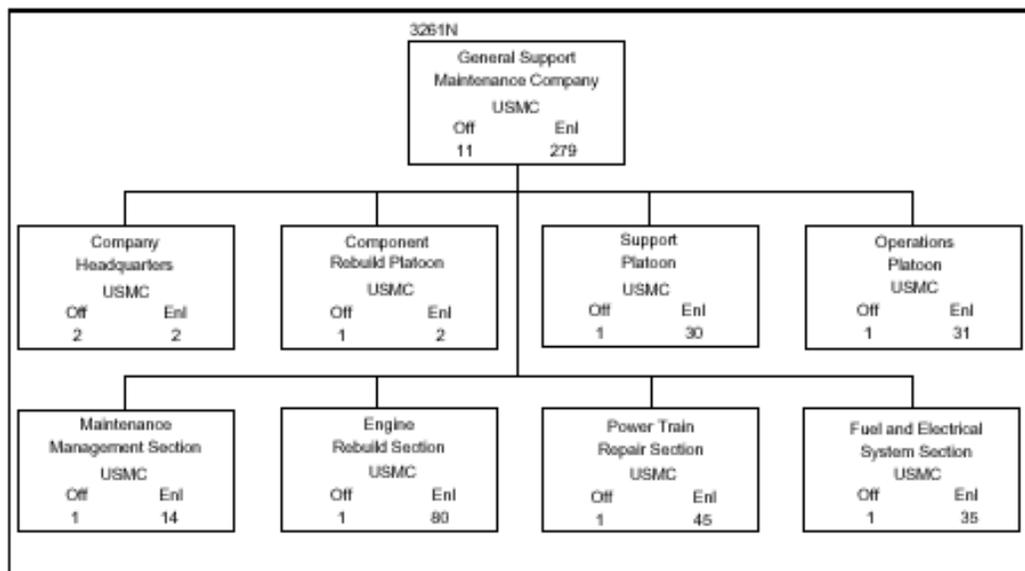


131.8

Define the mission and organization of General Support Maintenance Company of the Maintenance Battalion. [ref. a, pp. 5-27, 5-28]

**Mission:** The general support maintenance company provides general support intermediate (3d and 4th echelon) maintenance support, including component rebuilding for Marine Corps-furnished ground equipment of a MEF, except for communications-electronics equipment and fire control components.

**Organization:** The company is structured to provide the appropriate technical and supervisory personnel and equipment to augment the maintenance elements of a CSSE with a general support intermediate maintenance capability. It is organized to facilitate the task organization of general support maintenance assets for support of a MEF or up to four MEUs deployed in widely separated geographical areas.



131.9

Discuss each echelon/level of ground equipment maintenance:  
[ref. b, pp. 1-3 thru 1-5]:

**Three categories of maintenance** exist within the Marine Corps' ground equipment maintenance system: organizational, intermediate, and depot. Within these three categories are five echelons of maintenance. Each category and echelon is authorized to perform certain maintenance functions on certain commodity area items of equipment (e.g., communications, ordnance, motor transport). This capability is normally listed in a unit's table of organization (T/O) mission statement. Maintenance units are not restricted to performing only one echelon of maintenance. For example, a unit may be authorized to perform first and second echelon maintenance or even third or fourth. To manage maintenance effectively, commanders must understand their maintenance responsibilities and the maintenance responsibilities of those units in support.

**Organizational maintenance:** The using unit performs organizational maintenance on its assigned equipment. All units within the Marine division, force service support group (FSSG), and aircraft wing possess the organizational capabilities to maintain their organic equipment. Organizational maintenance focuses on the operator and crew preventive/corrective measures required by technical publications, equipment failure, and service schedules. Organizational maintenance phases normally consist of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. Organizational maintenance includes first and second echelon maintenance responsibilities.

**First echelon** maintenance is performed by the user or equipment operator. This maintenance includes the proper care, use, operation, cleaning, preservation, lubrication, adjustment, minor repair, testing, and parts replacement prescribed by appropriate technical publications. Collection of Marine Integrated Maintenance Management System (MIMMS) information is not required for first echelon maintenance.

**Second echelon** maintenance includes the performance of scheduled maintenance, diagnosis and isolation of previously identified and traced equipment malfunctions, replacement of major assemblies/modular components that can be readily removed/installed and do not require critical adjustment, and replacement of easily accessible piece parts not authorized at first echelon. Second echelon maintenance is performed by specially trained personnel in the organization. Specific publications authorize second echelon, maintenance-capable units to hold additional tools, supplies, and test equipment that support a higher echelon of maintenance.

**Intermediate maintenance:** Intermediate maintenance is the responsibility of and performed by designated maintenance activities in direct support of using organizations. Intermediate maintenance phases normally consist of calibration, repair, or replacement of damaged or unserviceable parts, components, or assemblies; the emergency manufacture of non-available parts; and providing technical assistance to using organizations. Intermediate maintenance includes third and fourth echelon maintenance.

Note: Some elements of third and fourth echelon maintenance can be performed at either the intermediate or organizational levels dependent on the capability assigned in the T/O mission statement of certain commodity-peculiar organizations (e.g., tank battalion, communications battalion, light armored reconnaissance battalion).

**Third echelon maintenance** is performed by specially trained personnel and can include:

- Diagnosing and isolating equipment/modular malfunctions.
- Adjusting and aligning modules using test, measurement, and diagnostic equipment (TMDE)
- Replacing modular components and piece parts that do not require extensive post maintenance testing or adjustment.
- Cleaning modular components and performing limited repair if needed
- Installing replacement seals
- Applying external parts
- Installing repair kit pieces
- Performing minor body work
- Evaluating emissions of internal combustion engines

**Fourth echelon maintenance** is normally associated with semi-fixed or permanent shops of intermediate maintenance activities. It is frequently associated with organizational shops of units that have a commodity-peculiar mission. Fourth echelon can include:

- Diagnosing, isolating, adjusting, calibrating, aligning, and repairing malfunctions to internal piece/part levels
- Replacing defective modular components not authorized at lower echelons.
- Repairing major modular components by grinding and adjusting items such as valves, tappets, and seats.
- Replacing internal and external piece parts to include solid-state integrated circuits and printed circuit boards/cards
- Performing heavy body, hull turret, and frame repair

**Depot maintenance:** Depot maintenance is performed on materiel that requires a major overhaul or a complete rebuilding of parts, assemblies, subassemblies, and end items. This level of maintenance includes the manufacture of parts, modifications, testing, and reclamation, as required. Depot maintenance supports lower categories of maintenance by providing technical assistance and by performing maintenance that exceeds the lower categories level of responsibility. Depot maintenance also provides stocks of serviceable equipment that are not available in lower echelon maintenance activities. Depot maintenance includes the fifth echelon of maintenance.

*Note: Fifth echelon maintenance can be performed at intermediate maintenance activities if specifically authorized by the Commandant of the Marine Corps.*

**Fifth echelon maintenance includes:**

- Overhauling or rebuilding end items or modular components.
- Performing repairs that exceed the assigned capability of lower echelons of maintenance (special environmental facilities or specific tolerances are required)
- Performing nondestructive testing
- Performing special inspection/modification that requires extensive disassembly or elaborate test equipment.
- Manufacturing items not provided or available
- Providing wholesale direct exchange support.

131.10

Define the following maintenance terminologies: [ref. b, pp. D-7 thru D-9]

**Overhaul:** The restoration of an item to a completely serviceable condition as prescribed by maintenance serviceability standards.

**Preventive maintenance:** The care and servicing by personnel for the purpose of maintaining equipment and facilities in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects.

**Rebuild:** The restoration of an item to a standard as nearly as possible to its original condition in appearance, performance, and life expectancy.

**Repair:** The restoration of an item to serviceable condition through correction of a specific failure or unserviceable condition.

**Unserviceable:** An item in a condition unfit for use, but which can be restored to a serviceable condition after repair, rework, or overhaul.

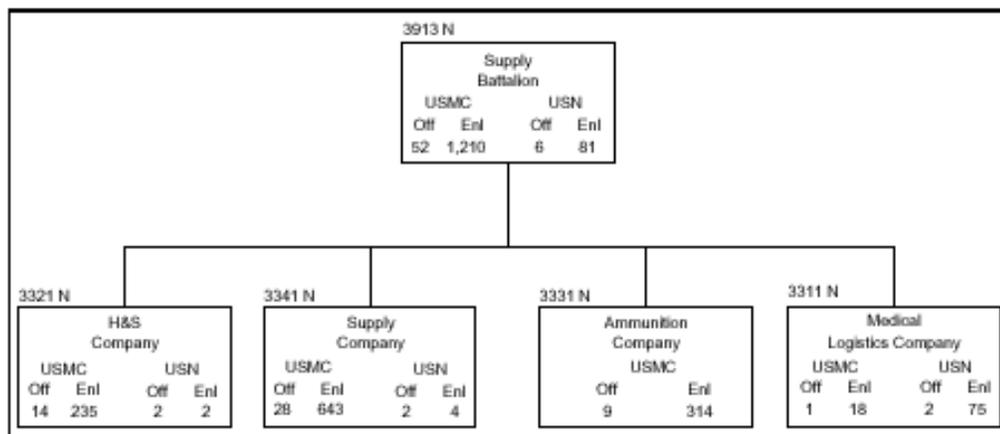
References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)
  - [b] MCWP 4-1, Logistics Operations (PCN 14300005800)
  - [c] MCWP 4-11.1, Health Service Support Operations (PCN 14300004000)
- 

132.1 Define the mission and organization of the Supply Battalion of the Force Service Support Group (FSSG). [ref. a, pp. 5-29, 5-30]

**Mission:** The supply battalion provides general support supply support, except for bulk fuel and Navy-funded stock/ programs, for sustaining MAGTF operations.

**Organization:** The battalion is organized to provide commodity-oriented, task-organized detachments for the sustainment of MAGTF operations.



132.2 Discuss the twelve tasks of the Supply Battalion of the FSSG. [ref. a, pp. 5-29, 5-30]

**Provide supply support management**, for the FSSG and other MEF elements beyond organic capabilities of supported units, including the following stock control functions:

- Management of the MEF's special allowance training pool items and initial issue provisioning assets
- Management of the MEF's secondary repairables through the maintenance float
- Technical management, data research, customer service, and general assistance to the MEF for supply matters
- Supplying status management reports for the MEF, as required
- Interface for the MEF with financial and maintenance management systems.

**Provide contracting** support and cross servicing services for supported units, as required.

**Provide a warehousing** capability in support of the MEF.

**Provide accounting** for classes I, II, IV, VII, VIII, and IX supplies, initial issue provisioning assets, and authorized levels of war reserve.

**Provide subsistence** support to the MEF, including operation of class I subsistence dumps and storage, issue, and accounting for subsistence items.

**Provide receipt,** storage, and forwarding of class III (packaged) supplies.

**Provide receipt,** storage, issue, and accounting functions for class V items.

**Provide technical** assistance in receipt, storage, assembly, and provision of nuclear ordnance.

**Provide for the receipt,** storage, issue, and organizational (2d echelon) and intermediate (3d and 4<sup>th</sup> echelon) maintenance support for class VIII supplies and equipment

**Provide intermediate-level** shop stores issue points for the MEF.

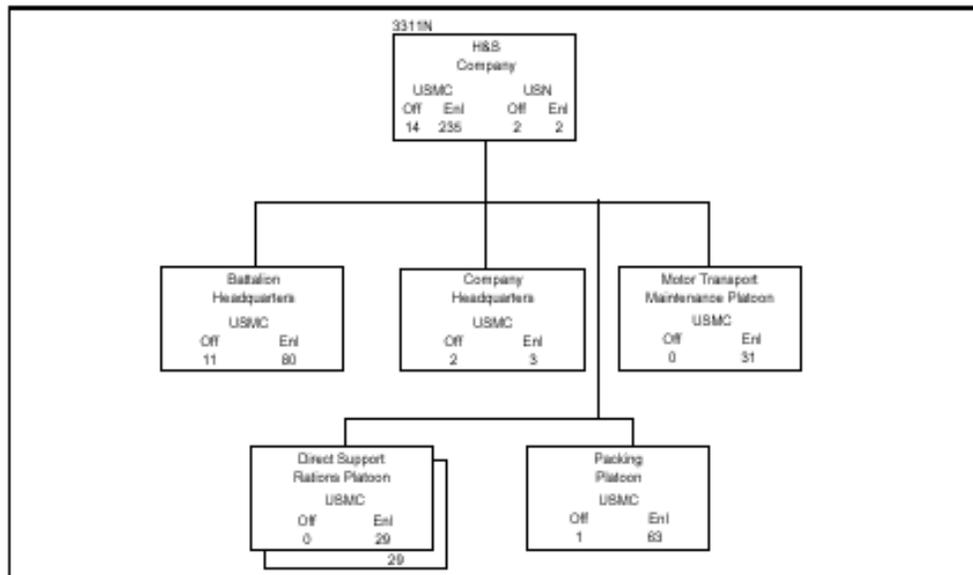
**Provide procurement** services for the MEF for items decentralized by the integrated materiel manager

**Provide packing,** preservation, and packaging (PP&P) services.

132.3 Define the mission and organization of the H&S Company of the Supply Battalion.  
[ref. a, pp. 5-31, 5-32]

**Mission:** The H&S company of the supply battalion provides command and control administration, and command support functions for the supply battalion and general support subsistence supply support to the MEF.

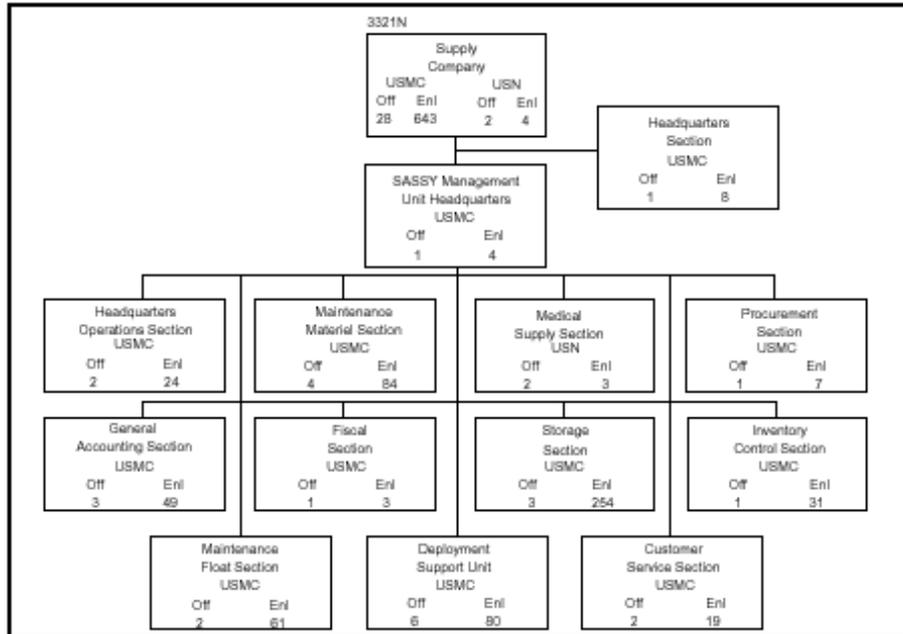
**Organization:** The company is organized to plan, coordinate, and supervise the command support functions of the battalion and to provide specified general support supply functions for MAGTFs. It is structured to facilitate task organization of detachments for operations conducted by the battalion in support of MAGTF operations.



132.4 Define the mission and organization of the Supply Company of the Supply Battalion. [ref. a, pp. 5-32 thru 5-34]

**Mission:** The supply company provides general support supply support, including supply management and control, to sustain the operations of the MEF.

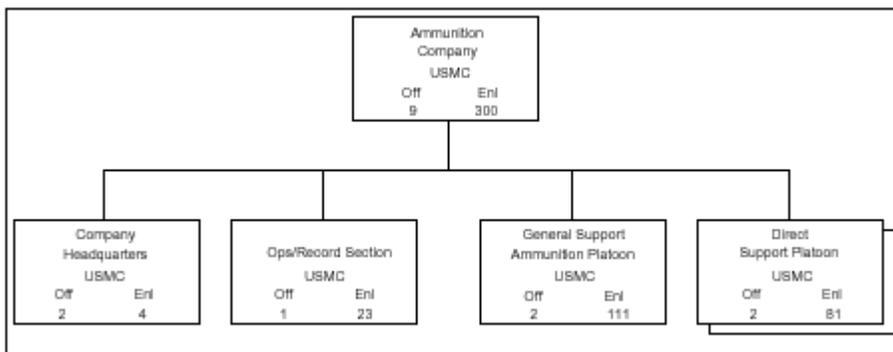
**Organization:** The company is organized to facilitate the task organization of detachments that are capable of providing control and management of supply support to elements of the MEF or MAGTFs smaller than a MEF.



132.5 Define the mission and organization of the Ammunition Company of the Supply Battalion. [ref. a, pp. 5-35, 5-36]

**Mission:** The ammunition company provides general support, class V supply support to the MEF.

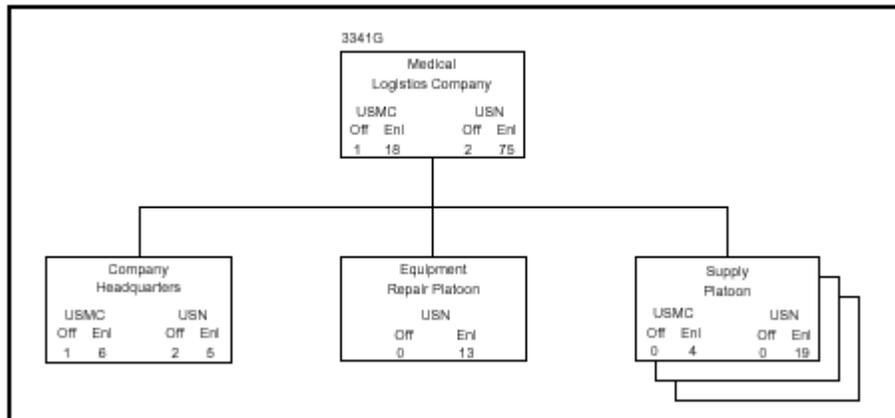
**Organization:** The company is organized to plan, coordinate, and supervise class V support functions. It is structured to facilitate task organization of detachments for operations conducted by the supply battalion in support of the MEF and any combination of smaller MAGTFs.



132.6 Define the mission and organization of the Medical Logistics Company of the Supply Battalion. [ref. a, pp. 5-37, 5-38]

**Mission:** The medical logistics company provides general supply and maintenance support for class VIII materiel of the MEF.

**Organization:** The company is organized to plan, coordinate, and supervise the command support functions of the battalion. It is structured to facilitate task organization of detachments in support of MAGTF operations.



132.7 Name and define the ten classes of supply. [ref. b, p. 1-7]

**I Subsistence** - includes gratuitous health and welfare items and rations.

**II Clothing** - individual equipment, tentage, organizational tool sets and tool kits, hand tools, administrative and housekeeping supplies, and equipment.

**III Petroleum** - oils, and lubricants (POL), which consists of petroleum fuels, lubricants, hydraulic and insulating oils, liquid and compressed gases, bulk chemical products, coolants, de-icing and antifreeze compounds, preservatives together with components and additives of such products, and coal.

**IV Construction** - includes all construction material; installed equipment; and all fortification, barrier, and bridging materials.

**V Ammunition** - of all types, which includes, but is not limited to, chemical, radiological, special weapons, bombs, explosives, mines, detonators, pyrotechnics, missiles, rockets, propellants, and fuses.

**VI Personal** - demand items or nonmilitary sales items.

**VII Major end items** - are the combination of products assembled and configured in their intended form and ready for use (e.g., launchers, tanks, mobile machine shops, vehicles).

**VIII Medical/dental material** - which includes medical-unique repair parts, blood and blood products, and medical and dental material.

**IX Repair parts** - (less class VIII), including components, kits, assemblies, and subassemblies (reparable and non-reparable), required for maintenance support of all equipment.

**X Material** - to support nonmilitary requirements and programs that are not included in classes I through IX. For example, materials needed for agricultural and economic development

132.8 State the six functions of supply. [ref. b, p. 1-7]

**The six functions of supply are:**

- **Requirements** determination: routine, pre-planned, or long-range.
- **Procurement**
- **Distribution**
- **Disposal**
  
- **Storage**
- **Salvage**

132.9 Define AMAL and ADAL. [ref. c, p. B-1]:

HSS **authorized medical allowance lists** (AMALs) and **authorized dental allowance lists** (ADALs) are configured in assemblages such as equipment and supply. The equipment assemblage contains equipment and reusable materiel required to establish the basic function of the assemblage (e.g., an operating room). The supply assemblage contains consumable material to support the function in treating a designated number of casualties or to perform a specific task. For readiness purposes, an equipment module may be stored in combination with its corresponding supply module. The materiel listed in each AMAL/ADAL is the minimum amount to be maintained. Marine Corps Order 4400 series contains AMAL and ADAL procurement policies and procedures. Policies and procedures include assembly, maintenance, levels of supply, and distribution of materiel. AMALs and ADALs are maintained and resupplied by the medical logistics company, supply battalion, FSSG.

## 133 COMBAT SERVICE SUPPORT ELEMENT (CSSE), ENGINEERING SUPPORT BATTALION FUNDAMENTALS

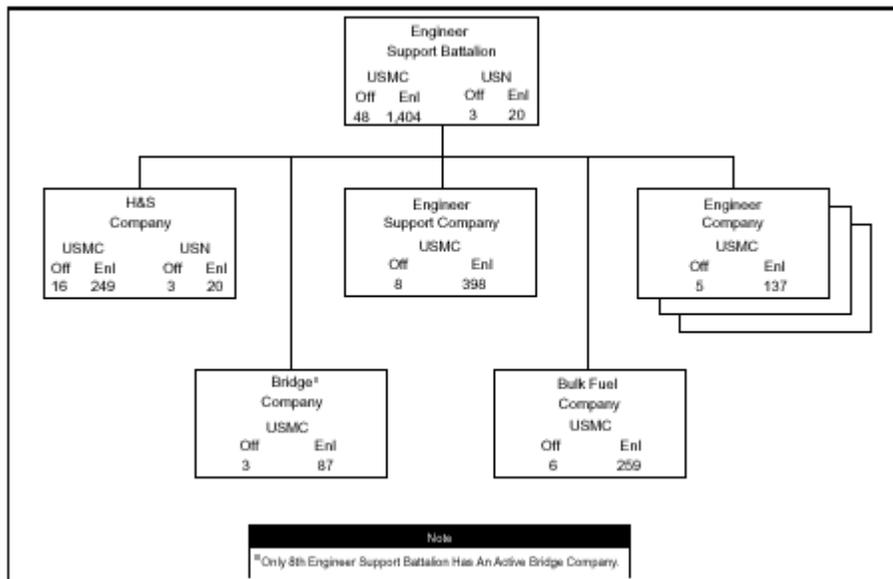
References:

[a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)

133.1 Define the mission and organization of the Engineering Support Battalion of the Force Service Support Group (FSSG). [p. 5-38]

**Mission:** The engineer support battalion provides general engineering support of an expeditionary nature to the MEF, including survivability, countermobility, and mobility enhancements; EOD; and general support supply support incident to the handling, storage, dispensing of bulk class I (water) and bulk class III and III (A) items.

**Organization:** The battalion is organized to plan, coordinate, and supervise the general engineering and supply support functions of the battalion. It is structured to facilitate task organization for operations conducted by the battalion in support of the MEF or combinations of smaller MAGTFs.



133.2 Discuss the fifteen tasks of the Engineering Support Battalion of the FSSG. [pp. 5-38, 5-39]

**Conduct engineering reconnaissance** that is necessary to support the battalion's mission or other engineering needs of the MEF.

**Construct, improve, and maintain airfields**, including expeditionary airfields.

**Construct, improve, and maintain encampments, CSSAs, and other MEF-required support facilities** by using available material or pre-engineered structures.

**Conduct mobility** enhancement operations, including the construction, improvement, and maintenance of lines of communications and main supply routes.

**Provide bulk** class III and III(A) fuel support, including receipt, storage, and dispensing of bulk fuel products.

**Provide utilities support**, including mobile electric power beyond supported units' capabilities and electrical power distribution within camps and CSSAs.

**Provide water purification** and bulk class I (water) storage and dispensing for the FSSG and other elements of the MEF when requirements exceed supported units' capabilities.

**Provide survivability** enhancements, including the construction of protective structures.

**Install and/or supervise** other units in the installation of standard and nonstandard, fixed-panel and floating bridging, including planning and controlling bridging operations in support of MEF mobility requirements.

**Provide bath and laundry** services beyond supported units' capabilities.

**Provide EOD support**, as required, to the MEF.

**Construct field-expedient** deception devices.

**Conduct countermobility** operations through installation of obstacles and barriers, including explosive and nonexplosive obstacles.

**Conduct mobility** operations, including breaching, reducing, and removing explosive or nonexplosive obstacles.

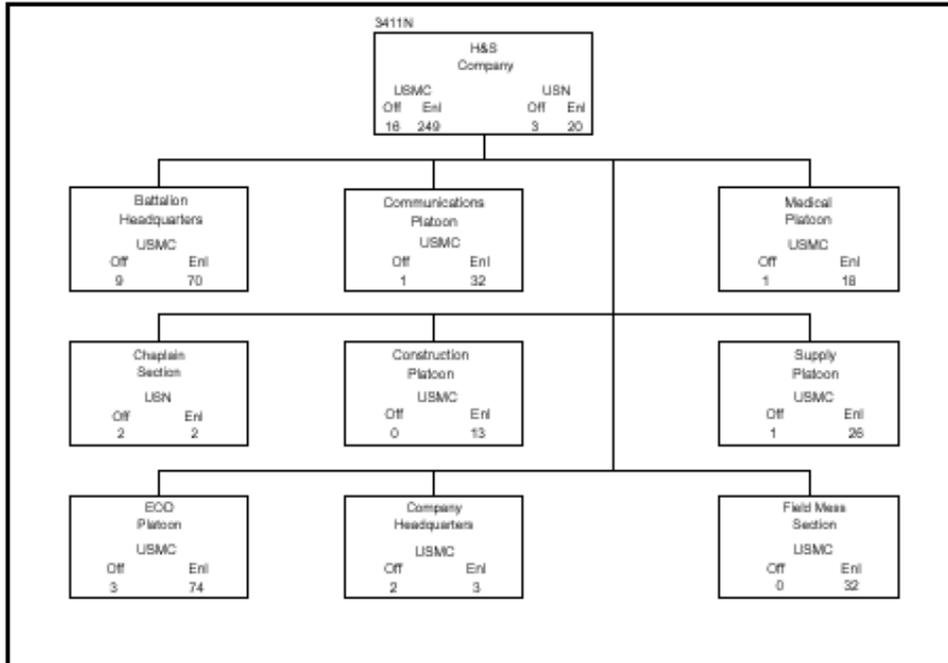
**Provide specialized** demolition operations beyond supported units' capabilities.

133.3

Define the mission and organization of H&S Company of the Engineering Support Battalion. [pp. 5-40, 5-41]

**Mission:** The H&S company provides command and control, administration, and command support functions for the engineer support battalion and EOD support to the MEF.

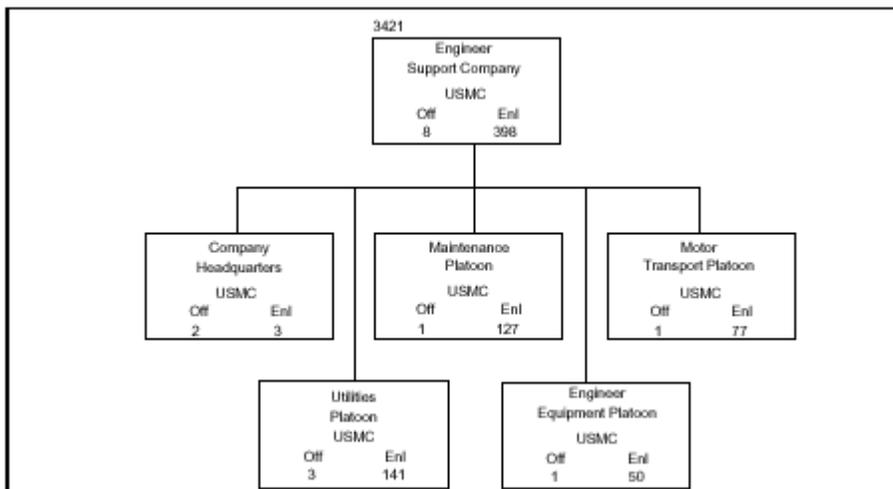
**Organization:** The company is organized to plan, coordinate, and super-vise the command support functions for the battalion. It is structured to facilitate task organization for operations conducted by the battalion in support of MAGTF operations



133.4 Define the mission and organization of the Engineer Support Company of the Engineering Support Battalion. [pp. 5-42, 5-43]

**Mission:** The engineer support company provides direct support maintenance support for specified equipment that is organic to the battalion, direct support transportation and services support to the battalion, and general support/reinforcing augmentation, as required, to the engineer companies of the battalion in support of the MEF operations.

**Organization:** The company is organized to plan, coordinate, and supervise the command support functions for the company and to facilitate task organization for engineer maintenance support for operations conducted by the battalion in support of MAGTF operations.

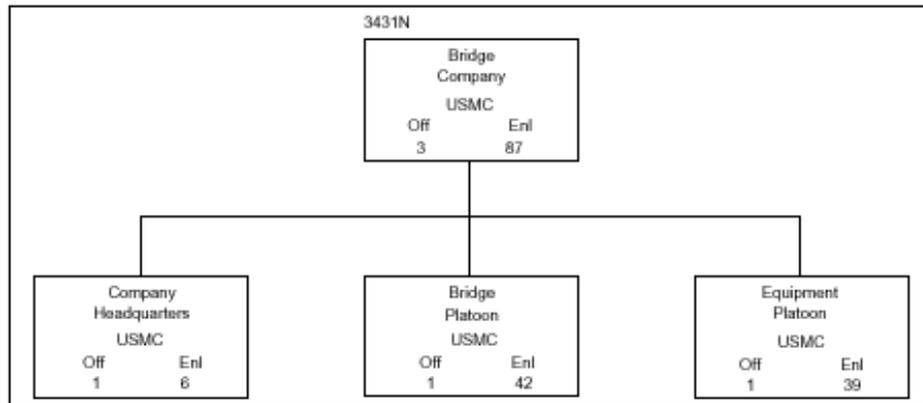


133.5 Define the mission and organization of Bridge Company of the Engineering Support

Battalion. [pp. 5-44 thru 5-46]

**Mission:** The bridge company provides general support standard tactical bridging support to enhance the tactical mobility of the MEF.

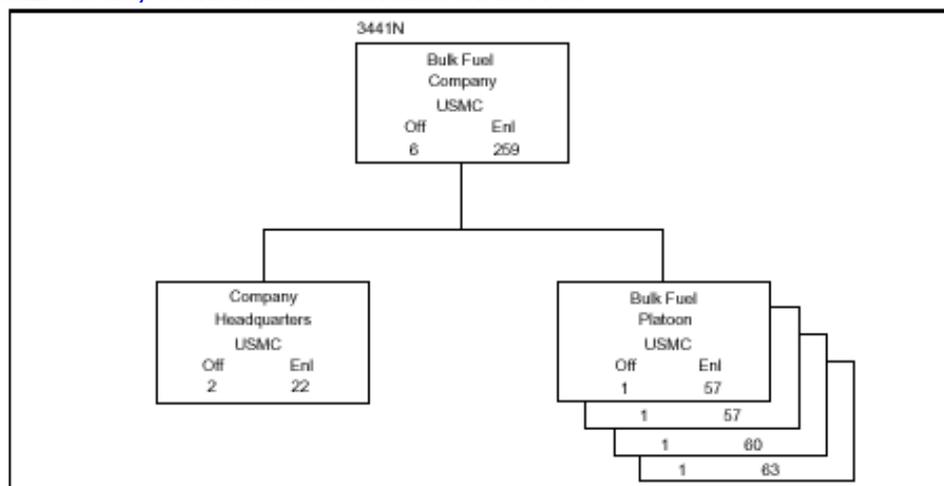
**Organization:** The company is organized to plan, coordinate, and supervise bridging support operations of the battalion. It is structured to facilitate task organization for bridging operations conducted by the battalion in support of the MEF or any combination of smaller MAGTFs.



133.6 Define the mission and organization of Bulk Fuel Company of the Engineering Support Battalion. [pp. 5-46 thru 5-48]

**Mission:** Provide general support, class III supply support to the MEF, including distribution to, but not within, air bases in support of MEF operations.

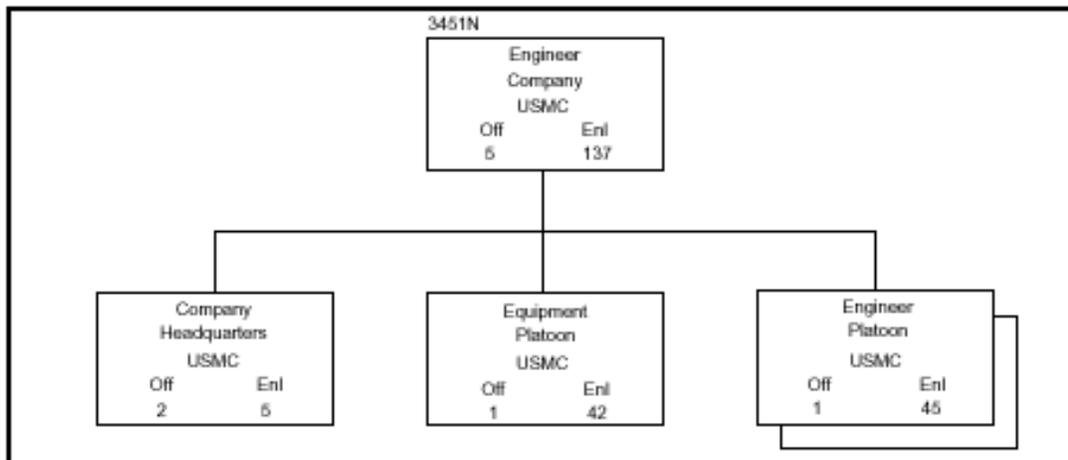
**Organization:** The company is organized to plan, coordinate, and supervise the bulk fuel support functions of the battalion. It is structured to facilitate task organization for bulk fuel operations conducted by the battalion in support of the MEF or any combination of smaller MAGTFs.



133.7 Define the mission and organization of Engineer Company of the Engineering Support Battalion. [pp. 5-48 thru 5-50]

**Mission:** The engineer company provides general engineering support of an expeditionary nature to the MEF.

**The company is organized to plan, coordinate, and supervise the engineering support functions of the battalion. It is structured to facilitate task organization for operations conducted by the battalion in support of the MEF or any combination of smaller MAGTFs.**



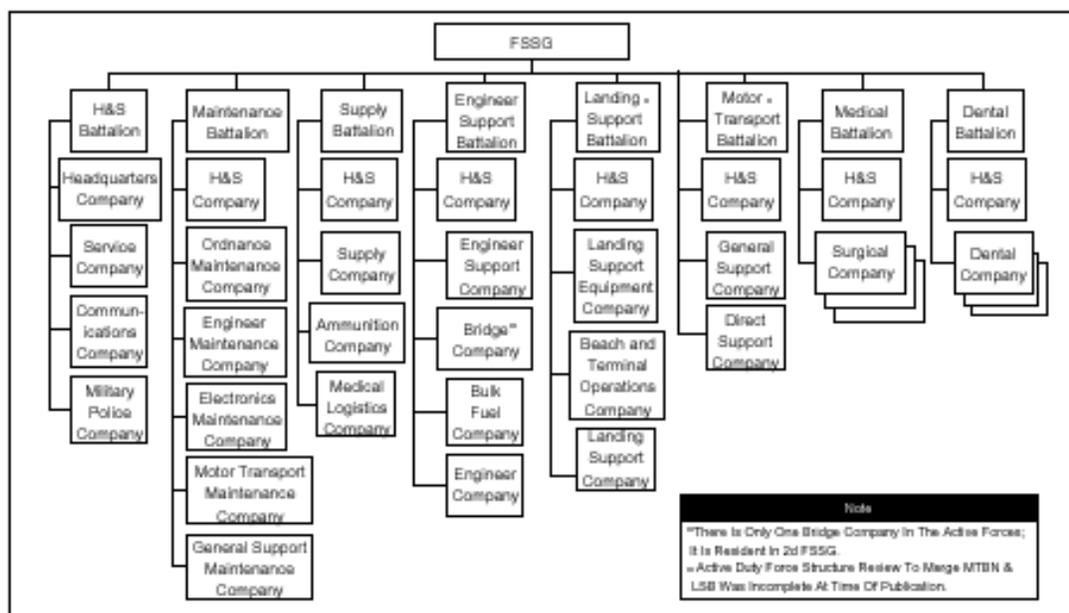
# 134 COMBAT SERVICE SUPPORT ELEMENT (CSSE), MOTOR TRANSPORT AND LANDING SUPPORT BATTALIONS FUNDAMENTALS

References:

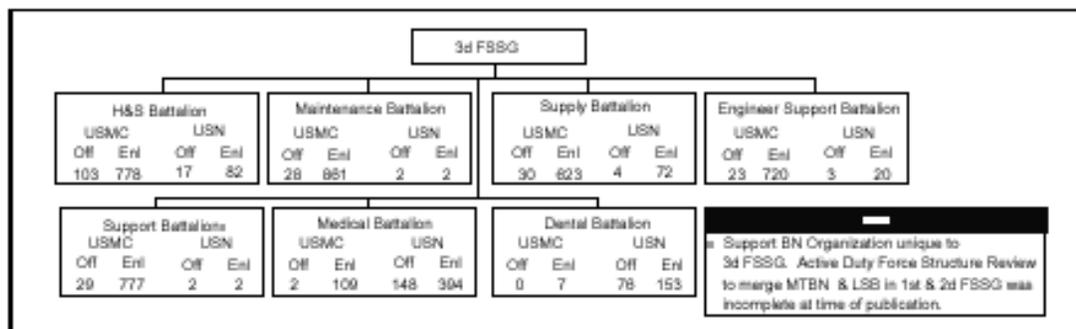
- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)
- [b] MCWP 4-11.3, Transportation Operations (PCN 14400008300)
- [c] FMFM 4-1, Combat Service Support Operations

134.1 Discuss the differences between the Motor Transport/Landing Support Battalions of 1st and 2nd Force Service Support Groups (FSSGs) as compared to the Transportation Support Battalion of 3rd FSSG. [ref. a, p. 5-3]

## 1<sup>st</sup> and 2<sup>nd</sup> FSSG's



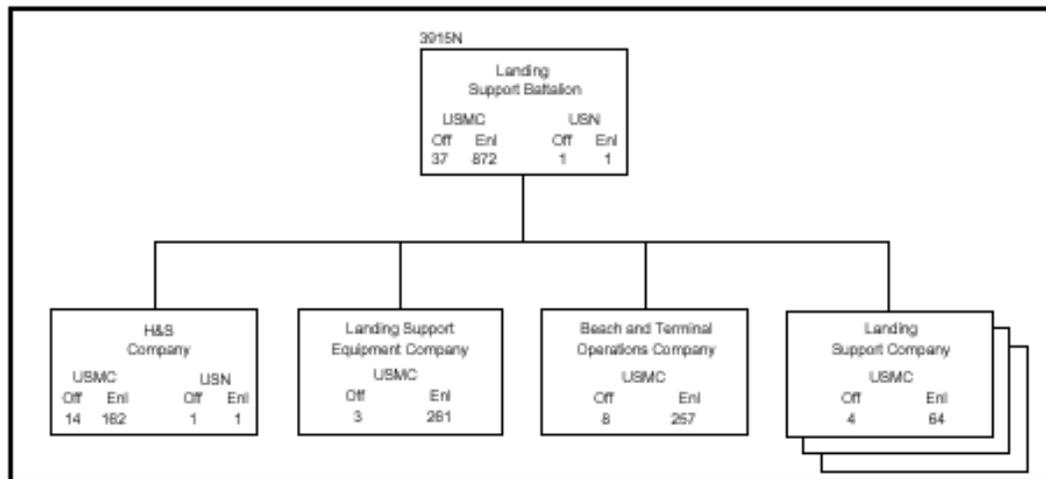
## 3<sup>rd</sup> FSSG



134.2 Define the mission and organization of the Landing Support Battalion of the FSSG. [ref. a, pp. 5-51, 5-52]

**Mission:** The LSB provides general support, including support of the ship-to-shore movement during amphibious operations and of terminal operations during subsequent operations ashore, to permit required throughput of supplies, equipment, and personnel for sustainment in support of MEF operations. *(Note: The Active Duty Structure Force Review's changes that will merge LSB and motor transportation battalions were not finalized at the time..)*

**Organization:** The battalion is organized to provide landing support and throughput support for amphibious operations conducted by the MEF during amphibious assaults and subsequent operations ashore.



134.3 Discuss the six tasks of the Landing Support Battalion of the FSSG. [ref. a, pp. 5-51, 5-52]

**Provide centralized control and coordination of landing support and throughput capabilities, including port and terminal operations, as well as material-handling and air delivery support, in support of operations conducted by the MEF or MAGTFs smaller than a MEF.**

**Provide a nucleus from organic assets for the task organization of a landing force support party (LFSP) to provide the command and control structure to effect landing support and initial CSS for the assault echelon (AE) of the MEF in support of amphibious operations.**

**Provide port** and terminal operations at ports, beaches, railheads, air heads, and cargo terminals, including specialized MHE and management of freight/passenger and break bulk/container cargo throughput.

**Provide air delivery** support equipment and rigger personnel beyond organic capabilities of supported units, in support of MEF operations.

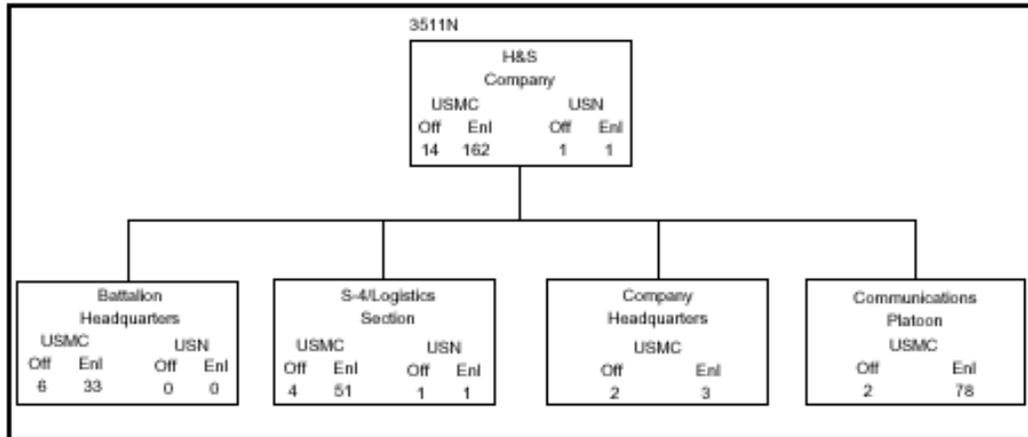
**Perform** the basic engineer tasks that are required for landing support operations, including austere site preparation, construction/removal of obstacles and barriers, and establishment of routes of egress from the beach, when properly augmented.

**Provide local** security for numbered/colored beaches as required

134.4 Define the mission and organization of H&S Company of the Landing Support Battalion. [ref. a, p. 5-53]

**Mission:** The H&S company of the LSB provides command and control, administration, and command support functions for the LSB in support of MEF operations.

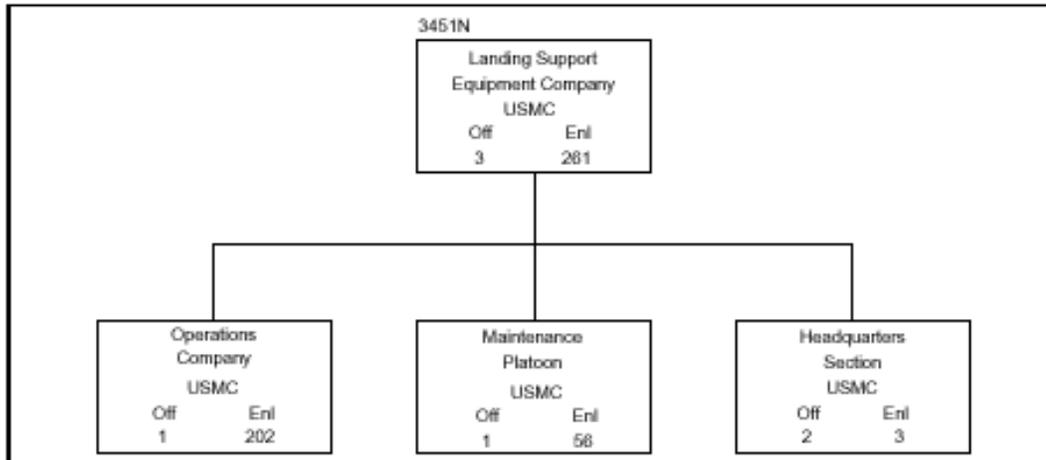
**Organization:** The company is organized to plan, coordinate, and supervise the command support functions for the battalion. It is structured to facilitate task organization for landing support and throughput operations conducted by the battalion in support of MAGTF operations.



134.5 Define the mission and organization of Landing Support Equipment Company of the Landing Support Battalion. [ref. a, pp. 5-54, 5-55]

**Mission:** The landing support equipment company provides MHE and container-handling support, as well as general support, organizational maintenance support for throughput support equipment (engineer and motor transport assets) of the battalion in support of MAGTF throughput operations.

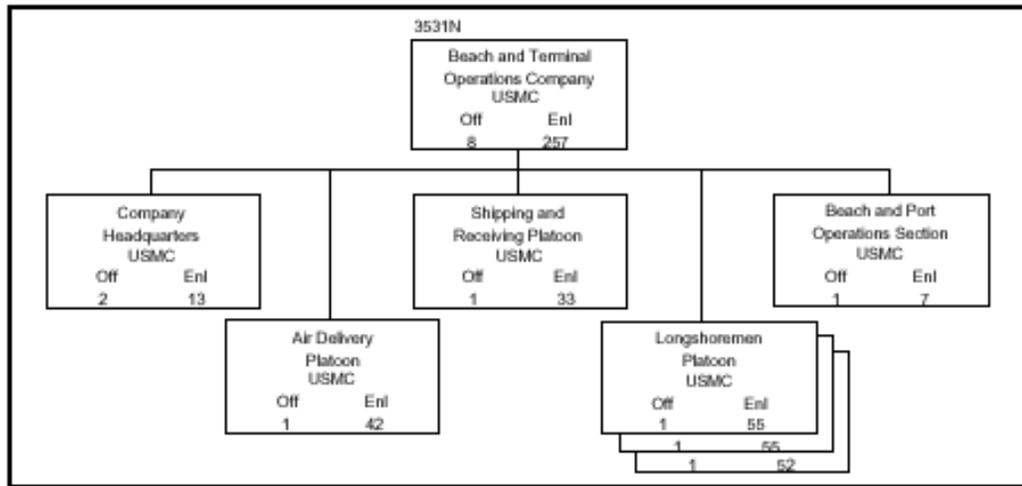
**Organization:** The company is organized to plan, coordinate, and supervise the command support functions for the battalion. It is structured to facilitate task organization for throughput operations conducted by the battalion in support of MAGTF operations.



134.6 Define the mission and organization of Beach and Terminal Operations Company of the Landing Support Battalion. [ref. a, pp. 5-56, 5-57]

**Mission:** The beach and terminal operations company provides general support transportation support in coordinating throughput operations of the MEF.

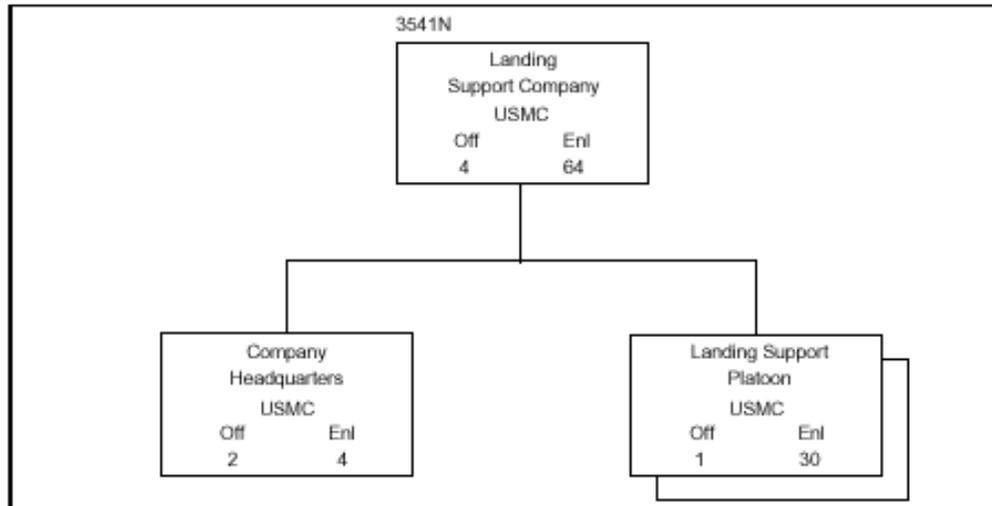
**Organization:** The company is organized to facilitate throughput operations in support of MAGTF operations. It provides management and operation of ports, airheads, railheads, and other cargo/passenger terminal operations, as well as air delivery support, as required.



134.7 Define the mission and organization of Landing Support Company of the Landing Support Battalion. [ref. a, pp. 5-58, 5-59]

**Mission:** The landing support company provides command and control for throughput operations in support of surface and/or helicopter assault operations conducted by the MEF.

**Organization:** The company is organized to provide the nucleus of personnel and equipment that are required to task organize an LFSP, composed of MAGTF and naval units, for the initial logistics/CSS of the MEF in amphibious and helicopter-borne operations.

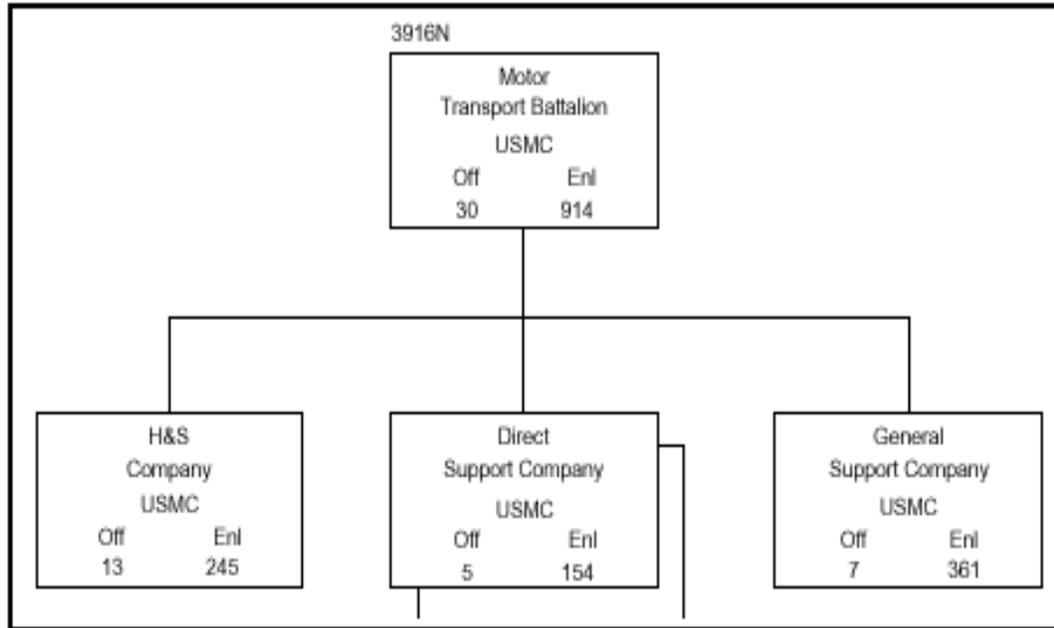


134.8 Define the mission and organization of the Motor Transport Battalion of the FSSG. [ref. a, p. 5-60]

**Mission:** The motor transport battalion provides direct and general support, medium-lift and heavy-lift transportation support for the MAGTF, including motor transport support to the FSSG for its support mission.

**Organization:** The battalion consists of a H&S company, a general support motor transport company, and two direct support motor transport companies. The battalion is equipped and organized to provide logistic and tactical cargo vehicle support and petroleum transporter support.

(Note: The Active Duty Structure Force Review's changes that will merge LSB and motor transportation battalions were not finalized at the time. *This paragraph depicts the notional functions in their current organization.*)



134.9 Discuss the four tasks of the Motor Transport Battalion of the FSSG. [ref. a, p. 5-60]

**Provide medium- and heavy-lift transport** and distribution of bulk dry/water cargo, class III and III(A), and class V and V(A) supplies.

**Provide line haul** and unit/supply point distribution of bulk liquids, with motor transport augmentation as required from supported unit(s).

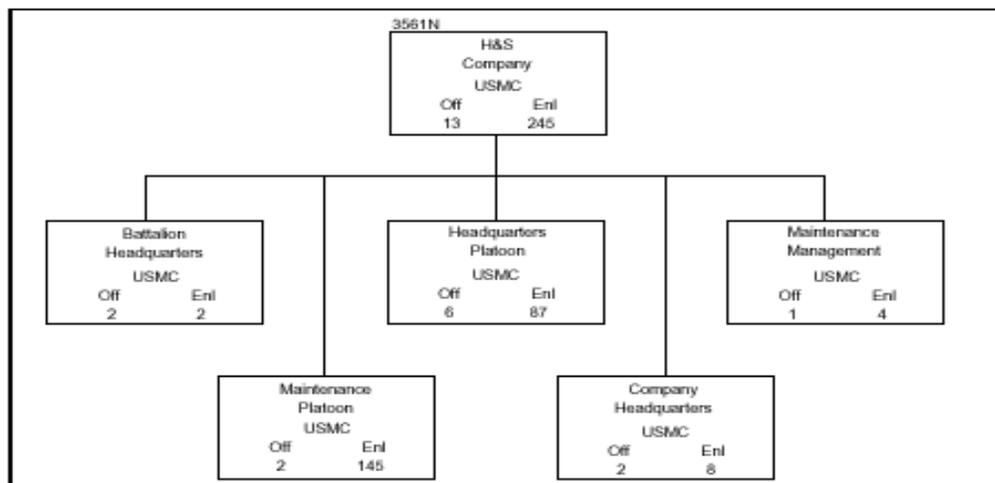
**Provide heavy equipment lift** augmentation, including evacuation of tracked vehicles, to supported units of the MEF.

**Provide personnel lift** augmentation to supported units of the MEF.

134.10 Define the mission and organization of H&S Company of the Motor Transport Battalion. [ref. a, p. 5-62]

**Mission:** The H&S company of the motor transport battalion provides command, control, administration, and command support functions for the battalion.

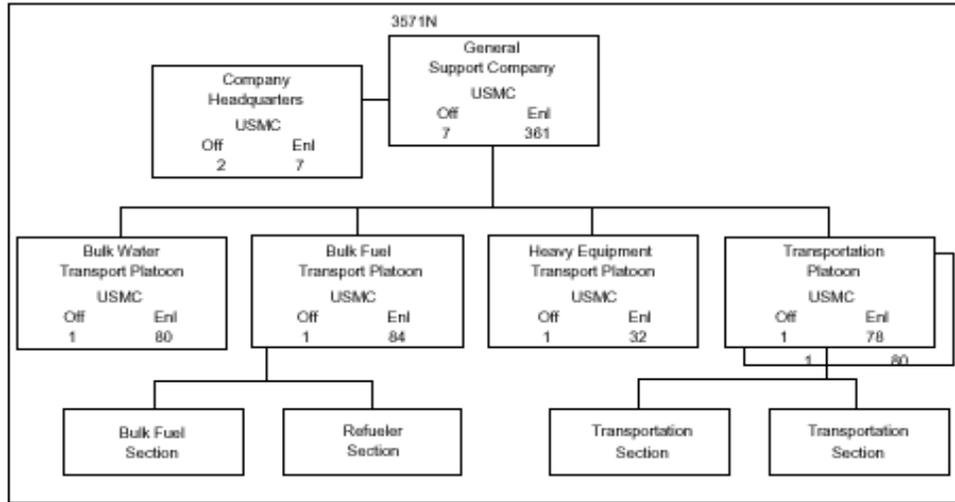
**Organization:** The company is organized to provide the motor transport battalion with command and control, organic communications, and organizational (2d echelon) maintenance support. Intermediate maintenance (3d and 4th echelon) is performed by the maintenance battalion.



134.11 Define the mission and organization of the General Support Company of the Motor Transport Battalion. [ref. a, pp. 5-63 thru 5-65]

**Mission:** Provide general support, medium- and heavy-lift transportation support for throughput and sustainment operations in support of the MAGTF.

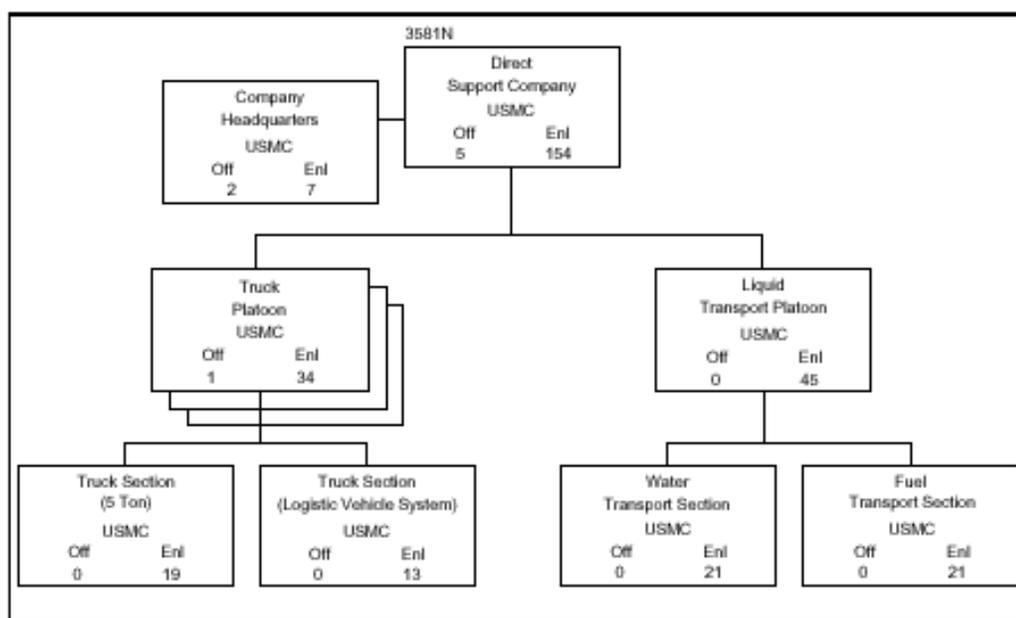
**Organization:** The company is organized into a company headquarters, two transportation platoons, a heavy equipment transport platoon, a bulk fuel transport platoon, and a bulk water transport platoon. It is structured to facilitate task organization for operations conducted by the battalion in support of sustained MAGTF operations.



134.12 Define the mission and organization of Direct Support Company of the Motor Transport Battalion. [ref. a, pp. 5-65, 5-66]

**Mission:** Provide direct and general support, medium- and heavy-lift transportation support and supply support for throughput and sustainment operations of the FSSG in support of the MEF.

**Organization:** The company is organized to plan, coordinate, and supervise the command supply and transportation support functions for the company in support of the FSSG's mission. There is a company headquarters, three truck platoons, and a liquid-transport platoon. The platoons are capable of being task organized and attached to other organizations.



134.13 Define the following terminologies: [ref. b, pp. F-4, F-7]

**Beachhead** - A designated area on a hostile or potentially hostile shore that, when seized and held, ensures the continuous landing of troops and materiel, and provides maneuver space requisite for subsequent projected operations ashore.

**Beach Support Area (BSA)** - In amphibious operations, the area to the rear

of a landing force or elements thereof, established and operated by shore

party units, which contains the facilities for the unloading of troops and

materiel and the support of the forces ashore; it includes facilities for the

evacuation of wounded, enemy prisoners of war, and captured materiel.

**Beach master Unit** - A commissioned naval unit of the naval beach group designed to provide to the shore party a naval component known as a beach party which is capable of supporting the amphibious landing of one division (reinforced).

**Commander Amphibious Task Force (CATF)** – The Navy officer designated in the order initiating the amphibious operation as the commander of the amphibious task force.

**Commander Landing Force (CLF)** - The officer designated in the order initiating the amphibious operation as the commander of the landing force.

**Debarkation** - The unloading of troops, equipment, or supplies from a ship or aircraft.

**Embarkation** - The process of putting personnel and/or vehicles and their associated stores and equipment into ships and/or aircraft.

**Helicopter Support Team (HST)** - A task organization formed and equipped for employment in a landing zone to facilitate the landing and movement of helicopterborne troops, equipment and supplies, and to evacuate selected casualties and enemy prisoners of war. It may be built around a nucleus of shore party and helicopter landing zone control personnel.

**Landing Beach** - (DOD, NATO) That portion of a shoreline usually required for the landing of a battalion landing team. However, it may also be that portion of a shoreline constituting a tactical locality (such as the shore of a bay) over which a force larger or smaller than a battalion landing team may be landed.

**Landing Force Control Party (LFCP)** - (DOD, NATO) Personnel specially trained and equipped to establish and operate communications devices from the ground for traffic control of aircraft/helicopters for a specific landing zone.

**Landing Zone (LZ)** – (DOD, NATO) Any specified zone used for the landing of aircraft.

**Shore Party** - A task organization of the landing force, formed for the purpose of facilitating the landing and movement off the beaches of troops, equipment, and supplies; for the evacuation from the beaches of casualties and enemy prisoners of war; and for facilitating the beaching, retraction, and salvaging of landing ships and craft. It comprises elements of both the naval and landing forces.

134.14 State the sequence of events for each of the following phases of amphibious operations: [ref. c, pp. 13-6 thru 13-8]

**Planning Phase** begins with the receipt of the initiating directive or the issuing of the LF/MAGTF activation order. It ends when the operation ends. Primary

responsibility for overall planning rests with the CATF. However, CATF and CLF are coequals at this point. If they cannot resolve a disagreement, they refer the matter to their common superior for decision. From a CSS viewpoint, planning begins at the LF/MAGTF command element but quickly becomes concurrent at all levels of the LF/MAGTF. There must be a constant exchange of information to enable subordinate elements to identify specific CSS requirements and complete detailed planning. The LF/MAGTF concept of operations ashore is the basis for detailed CSS planning. This planning generally proceeds in the following sequence for each successive stage of the operation:

- Determination of requirements
  
- Statement of requirements to higher authority
  
- Allocation of resources and assignment of priorities
  
- Preparation of detailed plans and orders

## **Embarkation Phase**

Embarkation planning begins on receipt of the initiating directive or LF/MAGTF activation order. It continues at all levels of command through the planning phase. It ends with completion of embarkation. The embarkation phase is the period during which the forces, with their equipment and supplies, move to staging areas and embark in assigned shipping. The landing plan determines how the LF embarks. Ideally, the landing plan should be complete before preparing the embarkation plan. To help embarkation planning, the LF/MAGTF commander attaches landing support elements to support tactical units for embarkation and landing.

**Rehearsal Phase** is the period when the CATF and CLF Test the adequacy of plans, the timing of operations, and the combat readiness of participating forces make sure that all elements are familiar with plans test and communications.

## **Types of Rehearsals**

**Separate Force Rehearsal.** – ATF elements whose tasks are not intimately associated with the main body conduct separate rehearsals. Normally, these do not involve CSS units in less the operation includes a landing by a separate force.

**Staff Rehearsal** – Staffs scheduled to participate in an amphibious operation conduct command post or similar exercises. These may include computer-based simulations of the operation.

**Integrated Rehearsal** – At least two integrated rehearsals are desirable for the assault phase of second rehearsal tests the actual plan.

**Considerations** Planners must consider that

- Rehearsals should use the same equipment and supplies that the LF will use for the operation. If CSS requirements for rehearsals are extensive, planners must adjust overall requirements.
- The LF should not use equipment in rehearsals, which it cannot readily replace, or repair.
- The LF must plan for the possible loss of equipment and supplies during rehearsals.
- The LF must plan for maintenance of the equipment, which they use in rehearsals, which involve wet landings.
- A rehearsal is without value unless a comprehensive critique and adjustments to plan follow it.
- Secrecy, time, or costs may dictate that the rehearsal be a manual or computer assisted simulation.

**Movement Phase** is the period during which the elements of the ATF move from the POE's to the AOA. The Navy provides much of the required underway support. However, the LF must plan for the administrative and maintenance requirements for the embarked forces. Three types of activity occur during the movement phase:

**Continuation of planning** – the LF should review plans to detect errors or flaws. Any of the following factors may cause a revision of plans:

- Result of rehearsals
- New intelligence information
- Losses or damage sustained while at sea.
- Changes in mission of the LF or one of its subordinate elements. CATF and CLF must be careful in directing changes to the plans, which will affect the scheme of maneuver, and landing support plan. Once CSS units have loaded their personnel, supplies, and equipment, they have little flexibility until they land.

**Care and Maintenance of Material** – Units can perform organizational maintenance on vehicles and equipment. Daily, if not more frequently, they should inspect all cargo.

**Preparation for the Assault** – Other preparations by the LF include:

- Having correct loading documents. The Navy and LF control organizations need correct loading documents in order to conduct the ship-to-shore movement properly during the assault phase.
- Training Marines (ship's platoons) participating directly in the unloading
- Preparing equipment for unloading to include:
  - Readying helicopters and check slings and hooks
  - Checking waterproofing of vehicles and equipment
  - Checking all weapons
  - Running vehicle engines and check loads.
  - Issuing prescribed loads to troops.
  - Staging and checking prepositioned emergency supplies.

### **Assault Phase**

**The assault phase** has two parts: The ship-to-shore movement and subsequent operations ashore. The assault phase is the period of time

between the arrival of the major assault forces of the amphibious task force in the objective area and the accomplishment of the amphibious task force mission.

**The assault phase is the most critical phase** of the amphibious operation. Conducting the assault is the responsibility of the CATF. From the CSS viewpoint, the provision of landing support during the assault is the most critical task. Landing support is the help needed to land personnel, supplies, and equipment during the assault. It includes control of the flow of personnel and material across the beach and into helicopter landing zones, (HLZ's). The CLF provides landing support and other CSS through the task-organized LFSP.

**The supported tactical units are responsible** for embarking and landing the landing support elements. To insure the required coordination, the CLF attaches landing support elements to the supported tactical units for embarkation and landing purposes. LFSP elements are the primary source of CSS during the assault phase of the operation. Planners must be sure that advance elements of shore party teams and HST's land in scheduled waves of assault units.

**CSS in the assault phase** - To sustain the assault, CSS operations must support tactical operations. Therefore, the buildup of CSS capability ashore must parallel the tactical buildup. Landing support operations begin with the landing of LFSP advance parties. They continue until the operation ends. CSS early in the amphibious operation is limited to the provision of essential

supplies and services; eg., rations, water, ammunition, fuel, and medical support.

**Until the CSSE** is established ashore, non aviation-peculiar CSS operations focus on the LFSP and its shore party and HST's.

**At the LF/MAGTF level**, there is always an LFSP commander to coordinate the efforts of shore party and HST's.

## 135 COMBAT SERVICE SUPPORT ELEMENT (CSSE), MEDICAL BATTALION FUNDAMENTALS

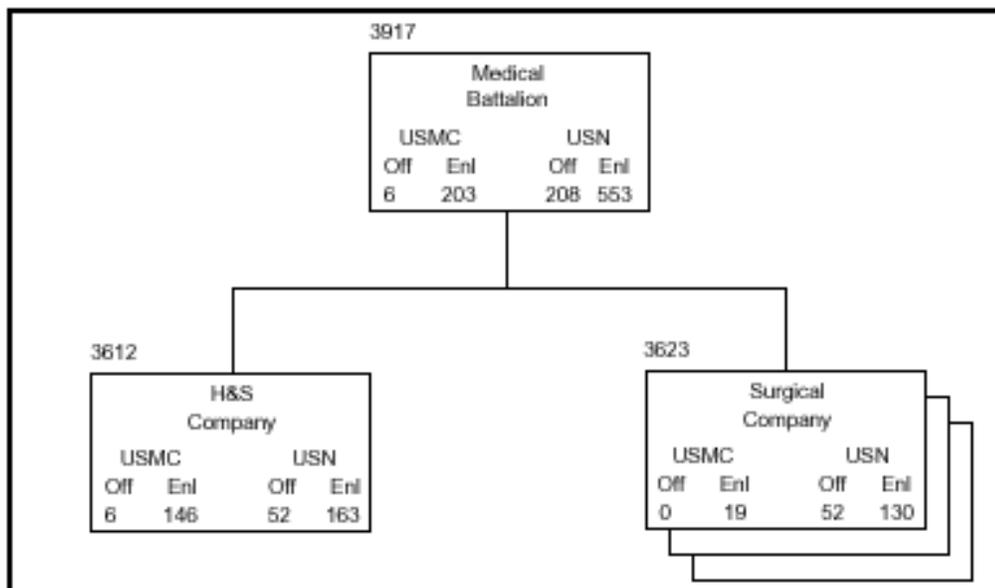
References:

- [a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)  
[b] MCWP 4-11.1, Health Service Support Operations (PCN 14300004000)
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135.1 Describe the mission and organization of the Medical Battalion of the Force Service Support Group (FSSG). [ref. a, p. 5-67]

**Mission:** The medical battalion provides direct and general support medical support to the MEF.

**Organization:** The medical battalion is organized to plan, coordinate, and supervise the medical support functions of the MEF. It is structured to facilitate task organization for operations conducted by the battalion in support of the MEF or any combination of smaller MAGTFs operating in widely separated geographical areas.



135.2 Discuss the six tasks of the Medical Battalion of the FSSG. [ref. a, p. 5-67]

**Provide health care** through the 2d echelon of medical care, including initial resuscitative care, resuscitative surgery, and temporary hospitalization of casualties, to the MEF.

**Provide medical regulating services** for the MEF.

**Provide preventive medicine support** to the MEF.

**Assist in the collection, analysis, and dissemination** of medical intelligence.

**Provide the medical elements** for the establishment of casualty decontamination and treatment stations.

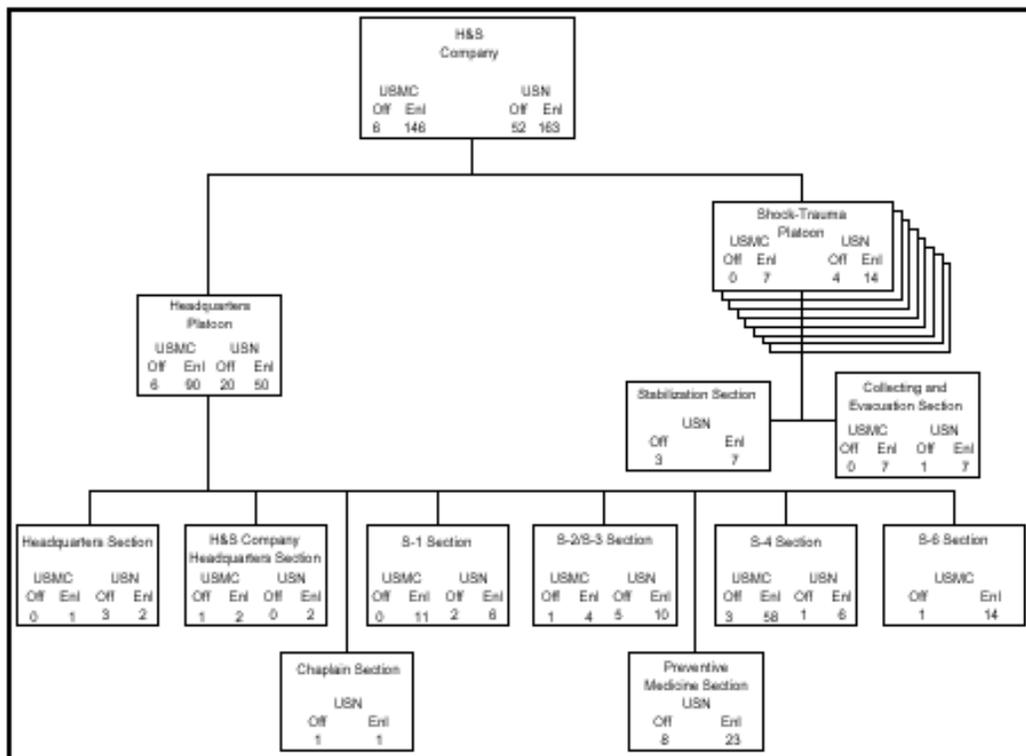
**Provide medical support** for management of mass casualties and combat stress

casualties.

135.3 Define the mission and organization of H&S Company of the Medical Battalion. [ref. a, pp. 5-68, 5-69]

**Mission:** The H&S company provides command, control, and command support functions for the medical battalion.

**Organization:** The company is organized to plan, coordinate, and supervise the command support functions for the battalion. It is structured to facilitate task organization for operations conducted by the battalion in support of MAGTF operations.



135.4 Discuss four tasks of the H&S Company. [ref. a, p. 5-69]

**Provide administrative, organic supply, light motor transportation, and maintenance support to the battalion.**

**Provide limited medical evacuation for the battalion.**

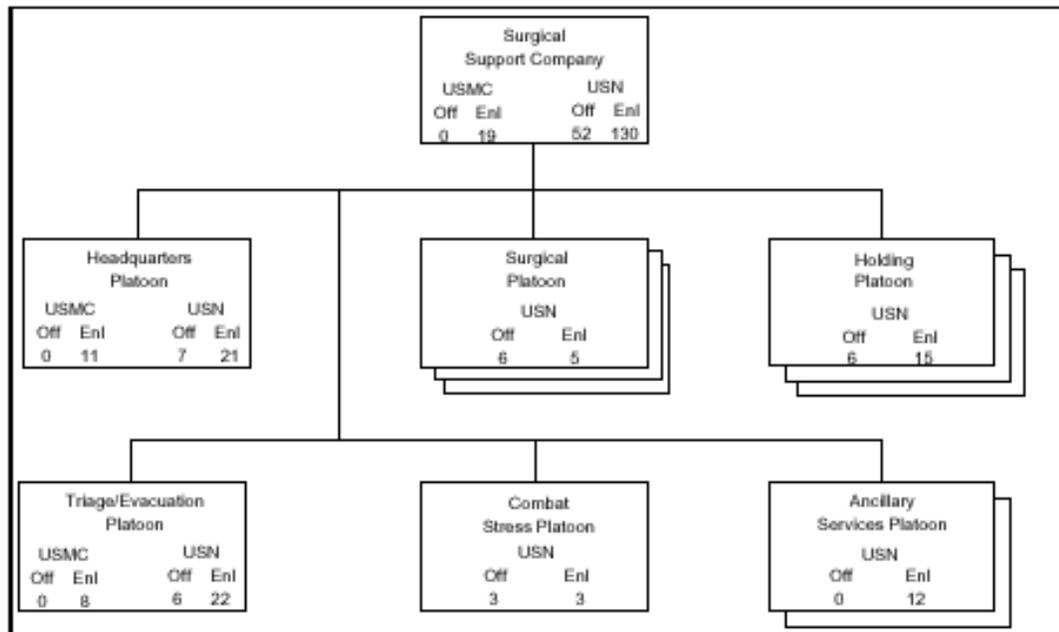
**Provide medical data coordination for the battalion.**

**Provide medical department personnel, as required, to the headquarters elements of CSSDs .**

135.5 Define the mission and organization of Surgical Support Company of the Medical Battalion. [ref. a, pp. 5-70, 5-72]

**Mission:** The company provides general medical support to the MEF, including medical treatment facilities for medical and surgical care and temporary casualty holding.

**Organization:** The company is organized to plan, coordinate, and supervise assigned functions of medical support for the battalion. It is structured to facilitate task organization for operations conducted by the battalion in support of the MEF, the MEF (FWD), or any combination of smaller MAGTFs. The company consists of a headquarters platoon, a triage/evacuation platoon, a surgical platoon, a holding platoon, a combat stress platoon, and an ancillary service platoon. The surgical platoon consists of three surgical sections that support one operating room for 24-hour operations. The holding platoon contains three ward sections, each containing 20 medical/surgical beds. The ancillary services platoon contains two laboratory sections, two pharmacy sections and two X-ray sections.



135.6 Discuss six tasks of the Surgical Support Company. [ref. a, pp. 5-70, 5-71]

**Establish medical treatment facilities** for resuscitative surgery, medical treatment, and temporary hospitalization of casualties.

**Be prepared to receive casualties** from the next forward medical treatment echelon in the evacuation chain.

**Establish medical treatment facilities** for resuscitative surgery, medical treatment, and temporary holding of casualties from supported forces.

**Prepare for evacuation** casualties whose medical requirements exceed the established theater evacuation policy.

**Provide and coordinate** medical evacuation for the landing force.

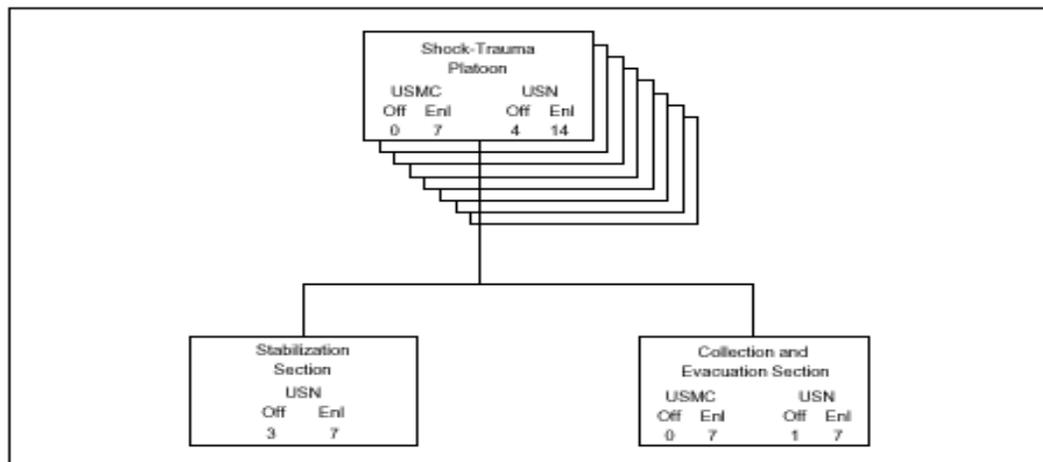
**Provide medical support** to personnel of other Services and nations as provided in

applicable regulations and agreements, and provide humanitarian care as required by international law.

135.7 Define the mission and organization of the Shock-Trauma Platoon of the Medical Battalion. [ref. a, pp. 5-73, 5-74]

**Mission:** The shock-trauma platoon provides direct medical support to the MEF, including collecting, clearing, and evacuating casualties from supported MEF elements, and provides medical treatment facilities for resuscitative treatment care and temporary holding of casualties.

**Organization:** The shock-trauma platoon is the smallest mobile medical support element of the medical battalion and is the first medical treatment facility of the MAGTF in support of the BAS. The eight shock-trauma platoons are structured to facilitate task organization for operations conducted by the battalion in support of the MEF, the MEF (FWD), or any combination of smaller MAGTFs. The platoon consists of a stabilization section and a collecting and evacuation section. Each collecting and evacuation section has two tactical ambulances for collecting casualties from the next forward medical support echelon, and the stabilization section has 5-ton trucks to move the shock-trauma platoon personnel and equipment.



135.8 Discuss four tasks of the Shock Trauma Platoon. [ref. a, p. 5-73]

**Establish and operate** clearing stations, as required.

**Establish medical treatment** facilities for resuscitative treatment and temporary holding of casualties.

**Provide and coordinate** medical evacuation.

**Provide medical support** to personnel of other services and nations as provided in applicable regulations and agreements and provide humanitarian care as required by international law.

135.9 Define the following terms: [ref. b, pp. C-1 thru C-4]

**BAS** - battalion aid station

**BDC** - blood donor centers

**CRTS** - casualty receiving and treatment ship

**FMC** - field medical card

**HSS** - health service support

**MAP** - Medical Augmentation Program

**MTF** - medical treatment facility

**STP** - shock trauma platoon

**TMIP** - theater medical information program

# 136 COMBAT SERVICE SUPPORT ELEMENT (CSSE), DENTAL BATTALION FUNDAMENTALS

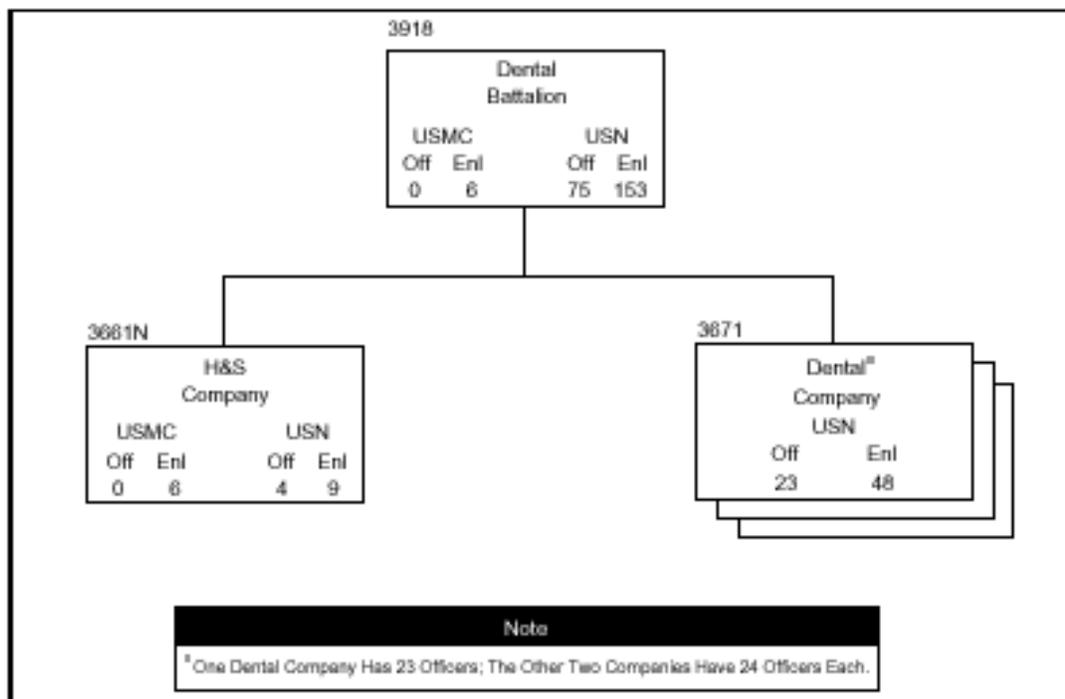
References:

[a] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)

136.1 Define the mission and organization of the Dental Battalion of the Force Service Support Group (FSSG). [pp. 5-75, 5-76]

**Mission:** The dental battalion provides general support dental health care to the MEF.

**Organization:** The battalion is organized to plan, coordinate, and supervise dental health care for the MEF. It is structured to facilitate task organization for operations conducted by the battalion in support of the MEF, or any combination of smaller MAGTFs operating in widely separated geographical areas.



136.2 Discuss the four tasks of the Dental Battalion of the FSSG. [p. 5-75]

**Provide a comprehensive program of dental health care for the MEF.**

**Coordinate MEF dental health care support requirements.**

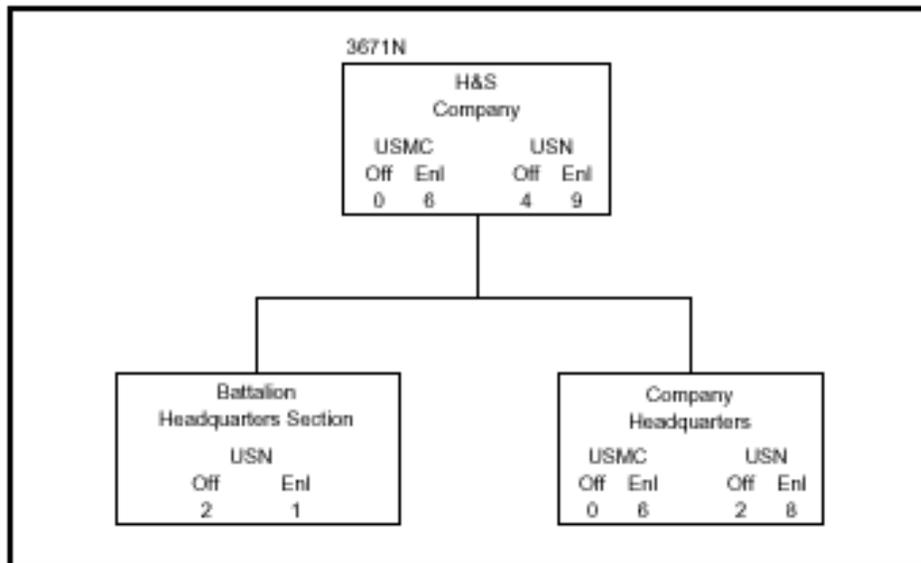
**Provide dental detachments, as required, to support MAGTFs smaller than a MEF**

**Supervise implementation of dental health care delivery programs for the MEF.**

136.3 Define the mission and organization of H&S Company of the Dental Battalion. [pp. 5-76, 5-77]

**Mission:** The H&S company of the dental battalion provides command, control, and command support functions.

**Organization:** The company is organized to plan, coordinate, and supervise command support functions for the battalion. It is structured to facilitate task organization for operations conducted by the battalion in support of MAGTF operations.



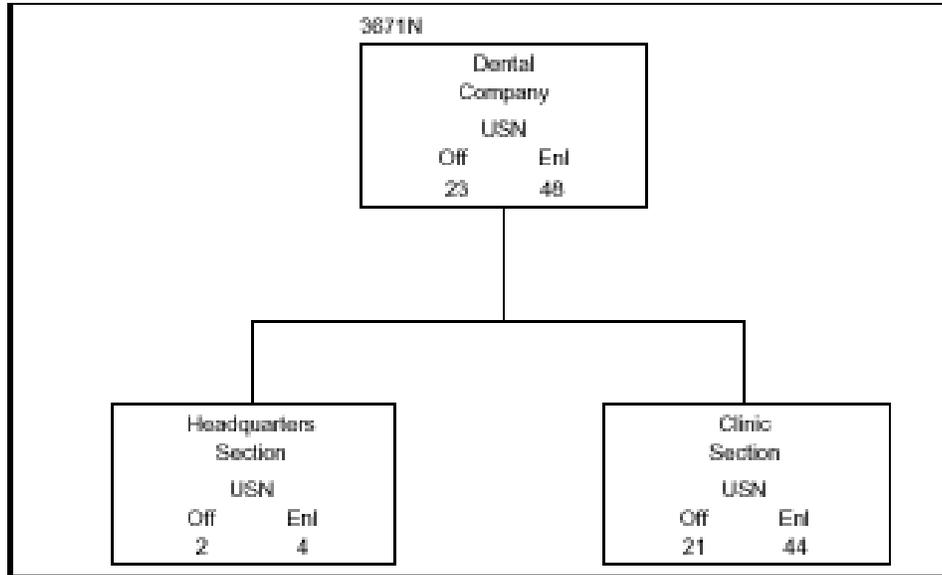
136.4 Discuss two tasks of the H&S Company of the Dental Battalion. [pp. 5-76, 5-77]

**Provide command support** functions for the operation of the battalion.  
**Assist with and coordinate** professional matters such as quality assurance, infection control, dental readiness, the dental information retrieval system, and professional and in-service training for the battalion.

136.5 Define the mission and organization of the Dental Company of the Dental Battalion. [p. 5-78]

**Mission:** The dental company provides general support dental health care to the major subordinate elements of the MEF.

**Organization:** Dental companies are organized to provide support to each of the major subordinate elements of the MEF and to facilitate task organization as detachments in support of MAGTFs smaller than a MEF.



136.6 Discuss two tasks of the Dental Company of the Dental Battalion. [p. 5-78]

**Maintain MAGTF units in an acceptable state of dental readiness.**

**Provide a comprehensive dental program for the MEF, including emergency dental treatment and specialty disciplines with the exception of maxillofacial surgery.**