# FMF CORE MATERIAL



# **FMF WARFARE DEVICE**

**The Eagle, Globe, and Anchor** (Marine Corps Emblem) is centered on the breast insignia as the capstone of the warfare device, making a clear statement that the wearer is a member of the Navy/Marine Corps team.

At the time the device was designed, "Forward...From the Sea" was the Navy and Marine Corps joint vision for the future. This is represented in the background of the device; a **surf wave crashing on the sandy beach** (the littoral zone), the place where Sailors have served alongside Marines as they earned their reputation, "on the shores of Tripoli" and the "sands of Iwo Jima". The littoral (or costal) regions of the world are also where the Navy and Marine Corps team will exert the U.S. Interests in future conflicts as reflected in the doctrine of the time, "Operational Maneuver from the Sea".

Warfare programs have served the purpose of instilling warrior ethos in Sailors as well as enhancing mission effectiveness in both individual and unit survivability since their inception. On ships and submarines, every Sailor is trained as a firefighter and damage control man to fight and save the ship in an emergency. With the Marines, it is essential in combat for every person to have the knowledge and skill of a rifleman, if the unit is to survive. The **two crossed rifles** symbolize the rifle ethic the warfare program is designed to instill in Sailors assigned to the Marines.

The scroll along the bottom of the breast insignia is emblazoned with **"Fleet Marine Force**" Although Marine componency was established in 1992, significantly changing the operational environment in which Marine Corps forces deploy and operate in a joint environment. The Navy continues to utilize the title Fleet Marine Force in their role as a Naval Type Commander, therefore since warfare programs are a distinct part of Navy culture, it is appropriate our warfare program be titled after the role in which Marine Forces are tied to the Navy.

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- [a] Marine Corps Common Skills Handbook, Book 1A (PCN 5060000900)
- [b] Naval History and Heritage Command, http://www.history.navy.mil
- [c] Congressional Medal of Honor Society, http://www.cmohs.org/
- [d] Marine Corps Association and Foundation, https://www.mca-marines.org
- [e] Marine Corps Times Archive
- [f] Marine Expeditionary Brigade-Afghanistan Presidential Unit Citation
- [g] MCO P105 20.3B
- 101.1 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 Burma on the "Shores of Tripoli." Marines raised the "Stars and Stripes" for the first time in the Eastern Hemisphere.
  - **1834** The Marines were organized under the Department of the Navy (DON).
  - **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. Marines also helped take California.
  - **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. The phrase is more commonly heard as its abbreviation, "Semper Fi".

- **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. This small defense force held out against the Boxers until a relief force was able to reach Peking and end the rebellion.
- **1912** The Marine Corps established its Aviation Unit. Marine Major, Alfred A. Cunningham was the first pilot. His first solo flight (1stLt at the time) occurred on 1 August 1912.
- **1917** Marines landed as part of the American force in France. Marines, participated in eight distinct operations, distinguishing 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.

The Marine Corps Equipment Board was established at Quantico, Virginia, and Marines began to devote long hours to testing and developing materials for landing operations and expeditionary service.

**1965** Marines landed in South Vietnam, and conducted numerous large-scale offensive operations throughout the course of the war, as well as participated in the pacification program designed to win the support of the local populace.

In response to an attempted coup of the local government, Marines landed in the Dominican Republic to evacuate and protect U.S. citizens. The Marines formed the core of a multinational force that quickly restored the peace.

- **1982** Marines deployed to Beirut, Lebanon as part of a multinational peacekeeping force in an effort to restore peace and order. This action further displayed the Marine concept of a "Force in Readiness."
- **1983** On 23 October 1983, a suicide truck bomb attack on the building serving as barracks for 1st Battalion 8th Marines 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 invaded Kuwait and refused to comply with United Nations resolutions demanding their withdrawal. 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.

2001 11 September 2001. Terrorist attacks were carried out in New York City. Two civilian airline planes were hijacked and flew into the World Trade Center.

Operation Enduring Freedom (OEF) is the official name used by the U.S. Government for the War in Afghanistan, together with three smaller military actions, under the umbrella of the Global War on Terror (GWOT). On 7 October, 2001, early combat operations including a mix of strikes from land-based B-1 Lancers, B-2 Spirit and B-52 StratoFortress bombers; carrier-based F-14 Tomcat and F/A-18 Hornet fighters; and Tomahawk cruise missiles launched from both U.S. and British ships and submarines signaled the start of Operation Enduring Freedom.

- **2003** The invasion of Iraq (from 20 March to 1 May, 2003) was led by the United States, alongside the United Kingdom and smaller contingents from Australia and Poland. Four countries participated with troops during the initial invasion phase.
- 101.2 Describe the importance of the following conflicts as they relate to Marine Corps history: [ref b]

**The Battle of Belleu Wood** – On 6 June 1918, 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 honor of the Marines who fought there, the French renamed the area "the Wood of the Brigade of Marines." German intelligence evaluated the Marines as "storm troops" -- the highest rating on the enemy fighting scale. 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. Amphibious landings followed on the remaining Solomon Islands including New Georgia, Bougainville, and Choiseul.

**The Battle of Tarawa** -The Gilbert Islands were the first in the line of advance for the offensive in the Central Pacific. The prime objective was the Tarawa Atoll and Betio Island which had been fortified to the point that the Japanese commander proclaimed that it would take a million Americans 100 years to conquer it. 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. "Howlin' Mad" 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.

**Battle of Okinawa** – On 1 April 1945 until 22 June 1945, Marines took part in the last and largest battle of the Pacific, which involved 287,000 troops. The battle was crucial for securing vital air bases that would be used for the planned invasion of the Japanese mainland. By the end of the 82-day campaign, the Japanese suffered over 77,000 casualties and the Allies received 65,000 including 14,000 dead. 23 Medals of Honor were awarded.

**The Battle of Iwo Jima** - On 19 February 1945, Marines landed on Iwo Jima in what was the largest and bloodiest all-Marine battle in history. The Marine Corps suffered over 23,300 casualties. The capture of Iwo Jima greatly increased the air support and bombing operations against the Japanese home islands. Of the savage battle, Admiral Chester W. Nimitz said, "Among the Americans who served on Iwo Island, uncommon valor was a common virtue." \*\*Note: In June 2007, Japan changed the name of Iwo Jima back to its pre-World

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**The Battle of Chosin Reservoir** - In November of 1950, during the Korean War, Marines pushed far into North Korea and were cut off after the Chinese Communist Forces entered the war. Despite facing a 10-division force sent to annihilate them, Marines smashed seven enemy divisions in their march from the Chosin Reservoir. 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. A near division-size unit of North Vietnamese Army (NVA) troops occupied the city of Hue and the Citadel. Marines fought in built-up areas for the first time since the Korean War, foregoing the application of heavy arms to minimize civilian casualties. Fighting was house-to-house with progress measured in yards. The city was secured on 25 February 1968.

**The First Battle of Fallujah** - codenamed Operation Vigilant Resolve, was an unsuccessful attempt by the United States Military to capture the city of Fallujah, Iraq. On 4 April 2004, 1st Battalion, Fifth Marine Regiment (1/5) attacked the city's industrial center, and the 2nd Battalion, 1st Marines (2/1) pushed south through the northwestern urban district. They met harsh resistance, and by 10 April, 3/4 and 2/2 were committed to the still raging conflict.

**The Second Battle of Fallujah**- Two distinct operations (Operation Al-Fajr and Operation Phantom Fury) took place during the second battle of Fallujah on 7 November 2004.

- Operation Al-Fajr (Arabic, "the dawn") represented a major success for the Iraqi Government and coalition forces. The attack force included nine U.S. Army and Marine battalions, six Iraqi battalions, and attack aviation from all of the Military Services, to include naval air flying off an aircraft carrier. The full assault force included some 12,000 Marines, Soldiers, Sailors, Airmen, and Iraqi Security Forces (ISF). The keys to successful integration of this joint and coalition force were complementary war fighting capabilities, a single chain of command, advances in technology, and the unifying vision of liberating a city from the oppressive grip of the insurgents and terrorists. The assault and subsequent reconstruction efforts turned Fallujah from an insurgent base of operations into the cornerstone of progress in the Al Anbar Province.
- Operation Phantom Fury was a joint U.S.-Iraqi -British offensive led by the U.S. Marine Corps against the Iraqi insurgency stronghold in the city of Fallujah, which was authorized by the U.S.-appointed Iraqi Interim Government. The carefully designed and skillfully executed attack took place on 7 November 2004 and employed Regimental Combat Teams (RCTs) 1 and 7 attacking south into the city. The Marines were well supported by Army mechanized infantry and cavalry units. This inter-service and fully coordinated air-ground approach gradually overwhelmed the insurgents trapped in the city. The dense urban fighting was fierce, and conducted house by house and rooftop to rooftop.

**Operation Strike of the Sword** - Operation Khanjar was an American-led military offensive against the Taliban in Helmand province in southern Afghanistan. Approximately 4,000 Marines from the 2nd Marine Expeditionary Brigade along with 650 Afghan Army soldiers took part in the offensive. The operation began when the U.S. and Afghan forces entered the Helmand River Valley in the early morning of 2 July 2009. This operation was the largest Marine offensive since the Battle of Fallujah in 2004. The operation was also the biggest offensive airlift by the Marines since the Vietnam War. Units involved in the offensive include 2nd Battalion, 8th Marines; 2nd Light Armored Reconnaissance Battalion and 1st Battalion, 5th Marines.

#### The Battle of Marjah

Also known as Operation Moshtarak (Dari word for "together"). In February 2010 Operation Moshtarak reclaimed Marjah, a strategic agricultural hub and narcoterrorist safe haven in the Helmand River Valley. Together with thousands of Afghan National Security Forces, the Marines tangibly improved the geo-political landscape of Southwestern Afghanistan.

101.3 Describe the accomplishments of the following noteworthy Marines and Sailors as related to Marine Corps history: [ref b. 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. General Henderson led the Corps through the Indian Wars, the War with Mexico, the opening of China, and the disorders in Central America. 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 in 1898 at Cuzco Well (Guantanamo Bay, Cuba) where he participated in an operation to seize an advanced base for the Atlantic Fleet battalion of Marines. Sergeant Major Quick earned the Medal of Honor for semaphoring for an emergency lift of the naval bombardment while under Spanish and American shellfire.

**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 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?"

**Louis B. "Chesty" Puller** - Lieutenant General Puller served in Nicaragua through several periods of political unrest and rebellious activity in 1930. 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). The Marine Corps' mascot, an English bulldog named "Chesty," is named for this brave and fine Marine Corps officer. He was awarded a total of 14 personal decorations in combat, plus a long list of campaign medals, unit citation ribbons, and other awards. He was awarded the Distinguished Service Cross and his fifth Navy Cross for heroism, during the bitter fight to break out of Korea's Chosin Reservoir area.

**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"). He was awarded the Medal of Honor on 5 October 1945 for his actions against enemy Japanese forces in Central Solomon's Area from 12 September 1943 to 3 January 1944.

**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 on Mount Suribachi, taken on 23 Feb 1945.

**Opha Mae Johnson** - Private Johnson became the Marine Corps' first enlisted woman on 13 August 1918. Her enlistment was a reflection of the dramatic changes in the status of women brought about by the entry of the United States into World War I. Marine Reserve (F) was the official title by which the Marine Corps' first enlisted women were known. They were better known as "Skirt Marines" and "Marinettes."

**Margaret A. Brewer** - Brigadier General Brewer, then a Colonel, served as the Director of Women Marines (WM) during the period 1973-1977. She was the seventh and last director of 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.

**Robert E. Bush** - On 2 May 1945, during the battle for Okinawa, Hospital Apprentice First Class Robert E. Bush administered blood plasma to a wounded Marine Officer with one hand, and returned fire with the other, amidst the perilous battle conditions. For his "conspicuous gallantry" on this occasion, he was presented with the Medal of Honor by President Harry S. Truman on 5 October 1945, during "Nimitz Day" celebrations at the White House in Washington, D.C. He was the youngest World War II Navy man to receive the Medal of Honor.

**Robert R. Ingram** - Petty Officer Ingram accompanied the point platoon as it aggressively engaged an outpost of a North Vietnamese Army (NVA) battalion Republic of Vietnam on March 28, 1966. As he moved forward, a tree line suddenly exploded with an intense hail of automatic rifle fire from approximately 100 NVA Soldiers. Oblivious to the danger, he crawled across the battlefield to reach a downed Marine. As he administered aid, a bullet went through the palm of his hand. Receiving two more wounds, with the third wound being a life-threatening one, he continued to resupply and aid others. While dressing the head wound of another corpsman, he sustained his fourth bullet wound. From sixteen hundred hours until almost sunset, He pushed, pulled, cajoled, and doctored his Marines. Petty Officer Ingram's gallant actions saved many lives and he was awarded the Medal of Honor.

**Jason Dunham** – Corporal Dunham led his Combined Anti-Armor Team towards an engagement in Husaybah, Iraq on 14 April 2004 to provide fire support to their Battalion Commander's convoy, which had been ambushed. While wrestling an insurgent to the ground he, saw a grenade being released. Aware of the imminent danger and without hesitation, he covered the grenade with his helmet and body, bearing the brunt of the explosion and shielding his Marines from the blast. He was posthumously awarded the Medal of Honor, and a US Navy Destroyer now bears his name.

**Dakota Meyer**- Corporal Meyer maintained security at a patrol rally point while other members of his team moved on foot into the village Ganjgal in Kunar Province, Afghanistan on 8 September 2009. More than 50 enemy fighters ambushed the patrol; firing rocket propelled grenades, mortars, and machine guns from houses and fortified positions on the slopes above. He took the exposed gunner's position in a gun-truck as they made several trips in to evacuate the dead and wounded members of his team as well as Afghan soldiers. Corporal Meyer's was awarded the Medal of Honor for his daring initiative and bold fighting spirit throughout the 6-hour battle significantly disrupted the enemy's attack.

101.4 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 who 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 says, "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

101.5 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]

RANK	<u>PAYGRADE</u>
General (Gen)	0-10
Lieutenant General (LtGen)	0-9
Major General (MGen)	0-8
Brigadier General (BGen)	0-7
Colonel (Col)	0-6
Lieutenant Colonel (LtCol)	0-5
Major (Maj)	0-4
Captain (Capt)	0-3
First Lieutenant (1st Lt)	0-2
Second Lieutenant (2nd Lt)	0-1
Chief Warrant Officer (CWO-5)	W-5
Chief Warrant Officer (CWO-4)	W-4
Chief Warrant Officer (CWO-3)	W-3
Chief Warrant Officer (CWO-2)	W-2
Warrant Officer (WO-1)	W-1
Sergeant Major of the Marine Corps	E-9
Sergeant Major (SgtMaj)	E-9
Master Gunnery Sergeant (MGySgt)	E-9
First Sergeant (1stSgt)	E-8
Master Sergeant (MSgt)	E-8
Gunnery Sergeant (GySgt)	E-/
Staff Sergeant (SSgt)	E-6
Sergeant (Sgt)	E-5
	E-4
Lance Corporal (LCPI)	E-3
Private (Dist Class (PFC)	E-2
rivale (rvl)	E-1

101 MARINE CORPS HISTORY, RANK STRUCTURE, AND COURTESIES FUNDAMENTALS (CONT'D)







PRIVATE

(E-1)

GUNNERY

SERGEANT (E-7)





SERGEANT





MASTER SERGEANT (E-8)

FIRST SERGEANT (E-8)

MASTER GUNNERY SERGEANT (E-9)

SERGEANT MAJOR (E-9)

(E-5)

SERGEANT MAJOR OF THE MARINE CORPS (E-9)

CORPORAL (E-4)



10

101.6 Discuss the procedures for rendering honors and the circumstances during which honors are rendered during colors, the National Anthem, Pledge of Allegiance and boarding naval vessels. [ref. g, ch. 10 p A-1 – A-2]

- 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 and 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 driver 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 a 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 naval vessels:

- 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 (OD), 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 OD 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: Boarding a small boat or ship by inverse order of rank; the junior goes first, and the others follow according to rank.

# **102 SAFETY FUNDAMENTALS**

References:

- [a] MCO 3500.27C, Risk Management (RM)
- [b] MCO P5100.8F, Marine Corps Occupational Safety and Health Program
- [c] OPNAVINST 5100.19E, Navy Occupational Safety and Health Program Manual for
- Afloat
- [d] NKO E-Learning, Department of the Navy website http://wwwa.navy.mil/portal /home
- 102.1 Discuss the term RM and the concept of the RM process: [ref. a, encl. 1, p. 1-1]

#### **Risk Management**

- Force preservation does not have a single solution. However, every effort should be made to prevent a situation that will degrade mission capability rather than planning to deal with the situation after it occurs. Risk mitigation is central to the idea of readiness and must not be an afterthought in actions during combat, in training, and in garrison. RM is one of the best means available to eliminate senseless and needless loss of life, injury, and materiel damage.
- Active participation of every Marine in the RM process of identifying, assessing, and controlling risks arising from factors experienced on a daily basis such as uncertainty, ambiguity, and change will allow for informed decisions.
- This process is one in a range of tools to be used by personnel at all levels for minimizing risk to an acceptable level commensurate with completing the task at hand or accomplishing the mission.

#### Inherent Risk

- Risk is inherent in every phase of tasking, missions, and operations due to today's complex and dynamic environment.
- As hazards and risk are present both on and off duty, it is incumbent upon all Marines, both military and civilian, to understand how to assess and manage risk to achieve mission success and preserve combat readiness.
- 102.2 Identify the following key aspects of RM: [ref. a, encl. 1, p. 1-1, 1-2]

RM enhances readiness by:

- Enhancing task or mission accomplishment by increasing the probability of success.
- Minimizing risk to acceptable levels commensurate with the benefit or value of mission or task accomplishment while providing a method to effectively manage resources.
- Enhancing decision-making skills based on a systematic, reasoned, and repeatable process.
- Providing a systematic structure to perform risk assessments.
- Providing improved confidence for individuals to make informed risk decisions.
   Adequate risk analysis provides a clearer picture of the hazards and of unit capabilities.
- Preserving personnel and materiel by avoiding unnecessary risk, thus reducing mishaps and their associated costs.
- Providing an adaptive process for the continuous feedback through the planning, preparation, and execution phases of any evolution.
- Identifying feasible and effective control measures, particularly where specific standards do not exist.

# 102 SAFETY FUNDAMENTALS (CONT'D)

RM does not:

- Inhibit flexibility, initiative, or accountability.
- Remove risk altogether or support a "zero defect" mindset.
- Remove the necessity for practice, drills, rehearsals, and tactics, techniques, and procedures.
- Sanction or justify violating orders or the law.
- 102.3 Explain the four principles of RM. [ref. a, encl. 1, p. 1-2, 1-3]

#### Accept Risk When Benefits Outweigh the Cost

 Our Marine Corps tradition is built upon principles of seizing the initiative and taking decisive action. The goal of RM is not to eliminate risk, but to manage the risk so the mission can be accomplished with the minimum amount of loss. The process of weighing risks against the benefits and value of the task or mission helps maximize success. Balancing costs and benefits is a subjective process. Therefore, personnel with knowledge and experience of the mission or task must be engaged when making risk decisions.

#### Accept No Unnecessary Risk

An unnecessary risk is any risk that, if taken, will not contribute meaningfully to task or mission accomplishment or will needlessly jeopardize personnel or materiel. Risk is managed through relentless training, awareness of the risk being confronted, and a clear-eyed understanding of the mission at hand. Training and the confidence derived from it will directly result in increased performance and a better control of those risks that are an inescapable part of daily existence. The acceptance of risk does not equate to the imprudent willingness to gamble. Additionally, if all detectable hazards have not been identified then unnecessary risks are being accepted. The RM process, in conjunction with sound safety principles, identifies hazards that might otherwise go unidentified and provides tools to reduce or offset risk. End state: take only risks that are necessary to accomplish the task, activity, or mission.

#### Anticipate and Manage Risk by Planning

Integrating RM into planning at all levels, and as early as possible, provides the greatest opportunity to make well-informed risk decisions and to implement effective risk controls. This engaged approach enhances the overall effectiveness of RM by reducing mishaps, injuries, and costs. Hazards and controls that have been identified during reconnaissance and preplanning should be in the operations order.

#### Make Risk Decisions at the Right Level

RM decisions are made by the leader directly responsible for the operation. While anyone can make a risk decision, the appropriate decision level should reside whereby the leader can make decisions to accept, eliminate, or reduce the risk. 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 RM decisions. When leaders responsible for executing a mission determine that the risk associated with that mission cannot be controlled at their level, or goes beyond the commander's stated intent, the risk decision shall be elevated within their chain of command to the first staff noncommissioned officer or officer within the unit. If unable to mitigate the risk at the unit level, the risk decision shall be elevated to the next commander in the chain of command.

# **102** SAFETY FUNDAMENTALS (CONT'D)

102.4 Discuss the three levels of RM: [ref. a, encl. 1, p. 1-3, 1-4]

The RM process is applied on three levels: in-depth, deliberate, and time critical. While it is preferable to perform a deliberate or in-depth RM process for all evolutions, adequate time and resources will not always be available. The basic factor that differentiates each level is the amount of time available for the preparation and planning of tasks or missions. One of the objectives of RM training is to develop sufficient proficiency in applying the process so RM becomes an automatic or intuitive part of our decision making methodology.

- The in-depth level refers to situations when available time for planning is not a limiting factor and involves a very thorough risk assessment.
- The deliberate level refers to situations when there is ample time to apply the RM process to the mission planning evolution.
- Time Critical. This is the level at which personnel operate on a daily basis both on and off duty. The time critical level is the normal RM level used during the execution phase of training or operations as well as in planning during crisis response scenarios. At this level, there is little or no time to make a plan resulting in an "on the spot" mental or verbal review of the situation.
- 102.5 Explain the five step process for RM. [ref. a, encl. 1, p. 1-6 thru 1-10]
  - Step 1 **Identify Hazards.** A hazard is defined as any condition with the potential to negatively impact the task or mission. Hazards can also cause property damage, injury to personnel, or death, which highlights the importance of hazard identification.
  - Step 2 **Assess Hazards.** For each hazard identified, determine the associated degree of risk in terms of probability and severity.
  - Step 3 **Make Risk Decisions.** Step 3 is accomplished in two sub steps in order to make informed risk decisions:
    - Identifying and assessing risk control options
      - Ultimately making risk decisions
        - Reject the risk
          - Avoid the risk
        - Delay an Action
        - Transfer the risk
        - Compensate for the risk
  - Step 4 **Implement Controls.** The critical check for this step is to ensure that controls are converted into clear, simple execution orders understood at all levels.
  - Step 5 **Supervise.** Supervision involves conducting follow-up evaluations of the controls to ensure they remain in place and have the desired effect.
- 102.6 Discuss the requirements and give examples of each of the following Personal Protective Equipment (PPE). [ref. b, art.13004 thru 13007]

**Head Protection.** Safety helmets protect against impact, penetration, and electric shock. 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

# 102 SAFETY FUNDAMENTALS (CONT'D)

be worn during the entire work shift by Marine Corps personnel assigned to headhazardous 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 of, greater than 84 dBA (8 hour TWA) sound level, 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 levels. 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 foothazardous 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.

102.7 Define the following terms. [ref. c, p. B3-2]

**Hazardous Material.** Any material that, because of its quantity, concentration, or physical or chemical characteristics, may pose a hazard to human health or the environment during use, handling, storage, transportation, or spill.

**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.

- 102.8 Explain the purpose and information contained on the Material Safety Data Sheet (MSDS). [ref. c, pp. B3-6, B3-7]
  - A document that contains on the potential health effects of exposure to chemicals, or other potentially dangerous substances, and on safe working procedures when handling chemical products.
  - Contains hazard evaluations on the use, storage, handling and emergency procedures related to the material.
  - Contains the hazards of the product, how to use the product safely, what to expect if the recommendations are not followed, what to do if accidents occur, how to recognize symptoms of overexposure, and what to do if such incidents occur.

References:

[a] Marine Corps Common Skills Handbook, Book 1A (PCN5060000900)

[b] MCRP 5-12D, Organization of Marine Corps Forces (PCN 14400005000)

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: President, Secretary of Defense Secretary of the Navy, and Commandant of the Marine Corps
- Operational: President, Secretary of Defense, then 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]

Marine Corps Forces (MARFOR): MARFOR are organized as MAGTFs and are either employed as part of naval expeditionary forces or separately as part of larger joint or combined force. 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. As Commanding Generals, with the status of a naval type Commander, they provide forces for service with Commander US Atlantic Fleet, Commander US Pacific Fleet, and Commander US Naval Forces Europe, respectively.

**Marine Corps Security Forces (MCSF):** 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 as well as Marine detachments afloat.

**Marine Security Guard (MSG):** 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 171 posts in 135 countries throughout the world

103.4 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.

- 103.5 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 task-organized, combined-arms forces with organic ground, aviation, and sustainment elements that can respond rapidly to a contingency anywhere in the world.
  - The MAGTF provides a combatant commander or other operational commander with a versatile expeditionary force that is capable of multinational major operations and/or campaigns.
  - MAGTFs are organized, trained, and equipped to perform shore-or sea-based missions ranging from humanitarian assistance to peacekeeping to intense combat and can operate in permissive, uncertain, and hostile environments.
  - When deployed aboard amphibious shipping, MAGTFs maintain a continuous presence at strategic locations around the globe and can be rapidly moved to and indefinitely stationed at the scene of potential trouble.
  - The MAGTF provides the JFC with the capability of reconstitution, which is the ability of an expeditionary force to regenerate, reorganize, replenish, and reorient itself for a new mission without having to return to its home base.

103.6 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)** – 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.

- 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)
- Command Section
- Comptroller Division
- Communication Security Management Office
- Special Operations Training Group
- Staff Judge Advocate Branch
- Public Affairs Office Branch

The **mission of The MEF CE** is to provide command, control, direction, planning and coordination of corps-level air, ground, and logistical operations of assigned forces, normally consisting of one or more Marine Divisions, Marine Aircraft Wings, and force service support groups, and other separate units.

#### Marine Expeditionary Force (MEF) Headquarters Group (MHG)

 Provides administrative, training, and logistical support while in CONUS and forward deployed to the MEF and MEB Command Elements. Additionally, function as Higher Headquarters for the four Major Subordinate Elements in order to allow MEF CE to execute war fighting functions in support of service and COCOM initiatives as required

#### MARCENT

 Is designated as the Marine Corps service component for U.S. Central Command. MARCENT is responsible for all Marines Corps forces in the CENTCOM area of responsibility.

#### Marine Corps Forces Reserve (MFR)

 Is designated to augment and reinforce active Marine forces in time of war, national emergency or contingency operations, provide personnel and operational tempo relief for the active forces in peacetime, and provide service to the community (for example, through Toys for Tots).

#### Marine Air Wing, Air Combat Element (ACE)

- Task-organized to support the MAGTF mission by performing some or all of the six functions of Marine aviation.
- Normally built around an aviation organization that is augmented with appropriate air command and control, combat, combat support, and CSS units.
- Operates effectively from ships, expeditionary airfields, or austere forward operating sites and can readily and routinely transition between sea bases

and expeditionary airfields without loss of capability.

Varies in size and composition from an aviation detachment with specific capabilities to one or more MAWs.

#### Marine Division, Ground Combat Element (GCE)

- Task-organized to conduct ground operations in support of the MAGTF mission.
- Normally formed around an infantry organization reinforced with requisite artillery, reconnaissance, armor, and engineer forces and can vary in size and composition from a rifle platoon to one or more Marine Divisions.

#### Marine Logistic Group (MLG), Logistical Combat Element (LCE)

- 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.
- It is formed around a CSS headquarters and may vary in size and composition from a support detachment to one or more Marine MLGs.
- 103.7 Identify the location of the three standing MEFs (MEF). [ref. b, p. 2-3]

Each standing MEF consists of a permanent CE and one Marine Division, MAW, and MLG.

#### I Marine Expeditionary Force (I MEF)

– Southern California and Arizona

II Marine Expeditionary Force (II MEF)

- North and South Carolina
- III Marine Expeditionary Force (III MEF)
  - 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]

#### MEB

- A MAGTF built around a reinforced infantry regiment, an aircraft group, and a Combat Logistics Regiment (FWD).
- A Brigadier General normally commands the MEB.
- As an expeditionary force, it is capable of rapid deployment and employment via amphibious shipping, strategic airlift, marrying with Maritime prepositioned Force (MPF) assets, or any combination thereof.

Command Element, (CE)

 Exercises command and control, is commanded by a general, and contains a SRIG detachment.

Air Combat Element, (ACE)

– Marine Aircraft Group

Ground Combat Element, (GCE)

- Reinforced Infantry Regiment

Logistics Combat Element, (LCE)

Combat Logistics Regiment (FWD)

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))

- Standard forward-deployed Marine expeditionary organization.
- Marine Corps Forces Atlantic and Pacific maintain forward-deployed MEUs (SOC) in the Mediterranean Sea, the Western Pacific, and the Indian Ocean or Arabian Gulf region.
- 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 MEF.

The **mission of the MEU (SOC)** is to provide the NCA and the combatant commanders with a forward deployed, sea-based, rapid crisis response capability to execute a full range of military operations. It is organized, trained, and equipped as a self-sustaining, general-purpose expeditionary MAGTF that possesses the capability to conduct operations across the spectrum of conflict, from military operations other than war, to amphibious and other conventional operations in support of various contingency requirements, including selected maritime special operations such as:

- Tactical recovery of aircraft and personnel (TRAP).
- Reconnaissance and surveillance.
- In-extremis hostage recovery.
- Visit, board, search, and seizure of vessels.
- Specialized demolitions.
- Seizure/recovery of offshore energy facilities.
- Seizure/recovery of selected personnel or materiel.

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. Sections include:

- S-1 Personnel and administration
- S-2 Intelligence and counterintelligence
- S-3 Operations and training
- S-4 Logistics
- S-6 Communications and information systems
- Command Section
- Chaplain Section
- Headquarters Commandant
- Public Affairs

Marine Air Wing, Air Combat Element (ACE)

 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.
- Logistic Combat Element (LCE)
  - Combat Logistics Battalion.
- 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) CE's:

#### I MEF

- 11th, 13th, and 15th MEUs (SOC);

II MEF

- 22nd, 24th, and 26th MEUs (SOC);

- III MEF
  - 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]

## Special Purpose MAGTF (SPMAGTF)

- A fourth type of MAGTF organization
- Normally used for a special purpose (e.g., disaster relief, humanitarian assistance, noncombatant evacuation operation, or security operations)
- Unique instances (e.g., Exxon Valdez oil spill containment) where employment of one of the three basic MAGTFs would be inappropriate

Command Element (CE)

 Structured to conduct command and control of operational functions and is tailored to the mission and is task-organized for the SPMAGTF.

Air Combat Element (ACE)

- Task-organized detachment of aircraft.

Ground Combat Element (GCE)

- Composed of at least a platoon-sized element

Logistic Combat Element, (LCE)

 Task-organized to meet the specific logistics support requirements of the SPMAGTF and is centered on the unit designated to provide most of the logistics support.

# **104 ADMINISTRATIVE FUNDAMENTALS**

References:

- [a] BUPERSINST 1610.10D, Navy Performance Evaluation and Counseling System
- [b] SECNAV M-5216.5, Correspondence Manual
- [c] NAVPERS 15560D, Navy Military Personnel Manual
- [d] Marine Corps Common Skills Handbook, Book 1A (PCN 50600000900)
- [e] 10804UM-01, Enlisted Distribution Verification Report User's Manual
- [f] MILPERSMAN 1070-270, Dependency Application Record of Emergency Data
- [g] Electronic Service Record (ESR) Desk Guide
- [h] SECNAVINST 1650.1H
- 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]

The development of EVALs must be a team effort. The objective is to develop a better evaluation than could be achieved by any single member of the team. The rater, senior rater, and reporting senior must work together to ensure consistent interpretation and application of Navy standards. In some cases, reports can be developed in a single cooperative effort. Where a division of effort is required, the rater should first collect input from the member, the primary and collateral duty supervisors, the duty section leader, etc. The rater will then review the member's performance, assign trait grades using the performance standards, propose career recommendations, and as a minimum, draft a justifying comment for each 1.0 grade and any other comments on performance. The senior rater will review the rater's trait grades and career recommendations, expand the comments if necessary, and propose a promotion recommendation. The reporting senior shall ensure the EVAL standards have been respected, and will determine the final distribution of promotion recommendations within the member's summary group using command-directed procedures where applicable. The smooth report will then be prepared and signed by all members of the team.

#### **Reporting Senior**

COs and officers in charge (OICs) are reporting seniors by virtue of their command authority. They may submit properly authorized FITREPs, CHIEFEVALs, and EVALs on any member who has reported to them for duty, whether junior or senior to them in grade. The term "commanding officer" is inclusive of all Services and their civilian equivalents within the U.S. Federal Government. OICs are reporting seniors if they are in charge of commissioned or established activities listed in the Standard Navy Distribution List. When a member is assigned to a non-U.S. Government activity, the reporting senior is the member's U.S. administrative commander unless another reporting senior is assigned by order or directive. A member in this category may receive a letter-type report from the non-U.S. Government activity for attachment to a FITREP, CHIEFEVAL, or EVAL.

#### **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 the CO's oversight responsibilities are carefully defined. For specific direction concerning delegated reporting seniors, refer to BUPERINST 1610.10D, enclosure (2), chapter 2.

#### Immediate Superiors in Command (ISICs)

An immediate superior in command (ISIC) is a reporting senior for assigned COs and is authorized to assume the reporting senior authority of a subordinate CO whose capacity to act as a reporting senior becomes impaired.

104 ADMINISTRATIVE FUNDAMENTALS (CONT'D)

#### Enlisted Officer in Charge (OIC)

An enlisted OIC in the grade of E9 and civilians in command positions who hold the grade of GS-9 through GS-12 may sign reports on E5 and below. A chief petty officer (CPO) or senior chief petty officer (SCPO) may sign reports on personnel E4 and below only. GS-13 or equivalent may sign reports for E1 to E9. Reporting senior authority for enlisted OICs in the grade of E7 and E8 may be delegated to sign E5 reports with the prior written approval of NAVPERSCOM (PERS-32). All other reports will be signed by a senior in the chain of command having authority to report on the member concerned.

#### **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**

EVALs on personnel E6 and below should contain the signatures of a rater and senior rater. The signature of the reporting senior is required. This ensures that Navy's senior enlisted and junior officer supervisors are properly included in the enlisted EVAL process.

The rater for personnel E1-E4 can be an E6 or civilian equivalent (GS-5). For personnel E5-E6, the rater should be a Navy CPO whenever possible, but if none is available within the command, the rater may be a military or civilian supervisor who is an E7 equivalent (GS-6) 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. Table 2-1 in chapter 2 of BUPERINST 1610.10D provides guidance on evaluation raters, senior raters, and reporting seniors for various sized commands.

#### **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. Commanding officers will guide the counseling program and monitor counselor performance and results. 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.

There are three types of reports:

#### **Regular Reports**

Regular reports are the foundation of the performance record and must be submitted periodically per the schedule in table 1, and on other occasions specified in the EVALMAN. They must cover, day-for-day, all naval service on active duty or inactive drilling Reserve duty, except for enlisted initial entry

#### ADMINISTRATIVE FUNDAMENTALS (CONT'D)

training and other limited circumstances. Prior to submitting regular reports, efforts should be made to determine the ending date of the previous report, if any, to ensure regular report continuity is maintained.

#### **Concurrent Reports**

Concurrent reports provide a record of significant performance for active duty (ACDU) and Full Time Support (FTS) members fulfilling additional duty (ADDU) or temporary additional duty (TEMADD) orders; and for Reservists supporting the ACDU and/or their designated cross-assigned billet assignment. 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. A Concurrent report must be countersigned by the regular reporting senior, who may also make it the Regular report for the period concerned if continuity is maintained with the previous regular or regular/concurrent report. Refer to EVALMAN, chapter 4 for detailed requirements.

#### **Operational Commander Reports**

Operational Commander reports are optional, and may only be submitted on COs or OICs as observed by their operational commanders who are not also their regular reporting seniors. Refer to EVALMAN, chapter 5 for detailed requirements.

#### Report Blocks 1-52

#### Administrative Blocks

The administrative blocks, blocks 1, 3-19, blocks 22-26, block 44 (FITREP/CHIEFEVAL) or 48 (EVAL), 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 compliance audits by NAVPERSCOM to assure fairness to all members and reporting seniors. Each command should have a quality review procedure for FITREPs, CHIEFEVALs, and EVALs, paying very close attention to ensure the correct member and reporting senior's social security number (SSN) are accurate. NAVPERSCOM's automated data file will not accept incorrect name and SSN entries for the member, and reports may then have to be returned to the reporting senior for correction. However, after acceptance to the Official Military Personnel File (OMPF), the correction of an incorrect reporting senior's SSN requires the submission of supplemental material to correct the discrepancy, and the automated data files are not adjusted. For specific directions concerning supplementary material, refer to chapter 15. NAVFIT 98A, the FITREP and EVAL form-filler computer application program, will prevent many incorrect entries.

#### **Guidance on Trait Grades**

The meanings of the trait grades are printed on the form, along with representative performance standards. The 5.0 trait grade is reserved for performance that is far above standards and is notable for its exemplary or leadership quality. The 1.0 trait grade means generally poor performance that is not improving, or unsatisfactory performance with respect to a single standard. For the majority of Sailors, 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 summary group and cumulative trait grade averages will be available to detailers and selection boards for

**104 ADMINISTRATIVE FUNDAMENTALS (CONT'D)** 

comparison purposes. Second, it will be difficult for the reporting senior to allocate promotion recommendations if everyone's trait grades are the same. Definitions are stated relative to both performance in that trait and promotability with respect to that trait.

**Superstar Performance – 5.0**. Could be promoted **two** pay grades, and still be a standout in this trait

**Advanced Performance – 4.0**. Far more than promotion ready in this trait right now.

**Dependable, "Fully-Qualified," Journeyman Performance – 3.0**. Can handle this aspect of the next higher pay grade.

**Useful, Promising Performance – 2.0**. Needs development in this trait, but is promotable if overall performance warrants it (i.e., sufficient progress in this trait and no more than one other 2.0 trait). Exception: 2.0 trait grade cannot be assigned in Command or Organizational Climate/Equal Opportunity on reports in pay grades E1-E6 and W2-O6 and maintain a promotion recommendation of "Promotable" or higher. For pay grades E7-E9, a 2.0 trait grade cannot be assigned in Character and maintain a promotion recommendation of "Promotable" or higher. **Disappointing Performance – 1.0**. Until deficiencies are remedied in this trait, should not be promoted, regardless of performance in other traits.

#### **Comments Block (Block 41/43)**

Comments should be based on verifiable facts. Numerical ranking among peers is authorized. Explanation of the reporting senior's forced distribution is also useful. Use input from the member and the member's immediate supervisor(s), as well as the raters' and reporting senior's personal observations.

#### Do's and Don'ts

Continuation sheets and enclosures are not allowed, except an endorsed statement submitted by the member, a flag officer endorsement where required, a civilian or foreign letter report, a letter extension of a Concurrent/Regular report, or a classified letter-supplement. Specifically, substantiate all 1.0 grades, three 2.0 grades, and any grade below 3.0 in Character, or Command or Organizational Climate/Equal Opportunity in the comments. Also, make general comments on the remainder of the evaluative blocks. If there is a promotion recommendation of "Significant Problems," or any recommendation against retention, treat the report as adverse. Any comment suggesting persistent weaknesses, continuing incapacity, or unsuitability for a specific assignment or promotion must also be treated as adverse matter, regardless of grades assigned. Do not include classified matter in the report, and do not submit classified supplements unless absolutely necessary. Include required comments and address special interest items as appropriate. Do not include any of the prohibited comments. (The list of required and prohibited comments and special interest items are available in chapter 13 of the EVALMAN.)

#### **Style and Content**

Space is limited. Avoid preambles and get directly to performance. Do not use puffed-up adjectives. Use direct, factual writing that allows the performance to speak for itself. Bullet style is preferred. Give examples of performance and results. Quantify wherever possible, but do not stress quantity at the expense of quality. Avoid stock comments that make everyone sound alike. Be consistent with the trait marks. Comment on poor 104 ADMINISTRATIVE FUNDAMENTALS (CONT'D)

performance or misconduct where necessary, but be judicious. Define seldom used acronyms. Use the sections of the report that have been setaside for them. Remember the report will be made a part of the member's OMPF and that the report is a permanent part of the official record.

#### **Promotion Recommendation Summary Groups**

Promotion recommendations should be consistent with the performance trait grades, and with the Individual or Member Trait Average displayed on the form. 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. Do not automatically place individuals in the "Early Promote" category when they are evaluated singly. Use the same standards for trait grades and recommendations as are used for other members of the command. For enlisted personnel, a recommendation of "Promotable" or above is the CO's official recommendation for advancement, even if made by a delegated reporting senior. A mark of Progressing cannot be assigned on an EVAL or CHIEFEVAL when a Promotable or higher promotion recommendation for advancement has been given in a previous report in the same pay grade. A member's promotion recommendation can go from "Significant Problems" on one report to "Early Promote" on the next report based on the member's performance and the reporting senior's recommendation.

#### **Misconduct Reporting**

Adverse or downgraded FITREPs, CHIEFEVALs, and EVALs 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 non-punitive censure, or investigatory, judicial, or other proceedings which have not been concluded or which have exonerated the member. Subject to these limitations, FITREPs, CHIEFEVALs, and EVALs should take into account misconduct that 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 a statement to the record concerning their reports, either at the time of the report or within 2 years thereafter. Such a statement shall be endorsed by the original reporting senior and forwarded to NAVPERSCOM (PERS-32). If the reporting senior feels that the member's statement does not meet the requirements as prescribed in BUPERSINST 1610.10D, chapter 17, then the reporting senior should counsel the member. If members refuse to change their statements, then the reporting senior should submit the members' statement along with the endorsement to NAVPERSCOM (PERS-32) for review.
- 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.
- Members have the right to review their records, and have the responsibility to ensure that their records are complete.

# ADMINISTRATIVE FUNDAMENTALS (CONT'D)

Forms: NAVPERS 1610/2 NAVPERS 1610/5

W2-O6 O7-O8 (not pictured)

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NAVPERS 1616/27 E7-E9

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#### ADMINISTRATIVE FUNDAMENTALS (CONT'D)

#### NAVPERS 1616/26 E1-E6

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

To a large degree, the image and effectiveness of the DON is portrayed by the tone, quality, and responsiveness of correspondence. Properly written correspondence that clearly and succinctly establishes a position, correctly and completely answers questions, and conveys the right message, all aid in the effective management and operation of the DON. In order to achieve this, correspondence must:

- Be neat in appearance, correctly formatted, error free, and grammatically correct. With the use of computers and advanced word processing software, the long-accepted practice of allowing legible "pen and ink" changes to a piece of correspondence is no longer acceptable. All correspondence shall be free of typographical errors and technically correct before it is signed.
- Avoid stereotyping men and women based on gender. Use pronouns and titles that are gender neutral.
- Do not write unless you must. A conversation in person, by telephone, or by electronic mail (e-mail) often saves two letters the one you would have written and the other person's response. Conversations are often better than correspondence for working out details. Confirm your conversation with a short memorandum (also referred to as "memo") to the other person or a "Memorandum For The Record" if issues of importance or policy are agreed upon during the conversation.
- Always include a point of contact, return telephone number, and e-mail address when your correspondence might prompt a reply or inquiry.

#### **Identifying Navy Personnel**

- Abbreviated rank for officers and rate and warfare designator for enlisted personnel (e.g., AD1(AW), BM2(SW), CSSN(SS)) with no space between rank/rate and warfare designator,
- first name, middle initial if any, and last name,
- staff corps abbreviation (if any),

## ADMINISTRATIVE FUNDAMENTALS (CONT'D)

- branch of service,
- the 10-digit Electronic Data Interchange Personal Identifier (EDIPI), referred to as the DoD ID number (should be used as a substitute for the SSN whenever possible). The last four digits of the SSN (when use of the SSN is justified),
   the designator for an officer.

Example: LCDR Kenneth O. Allison, USN, XXX-XX-1234/3100

YN1 (SW) Robert L. Gabel, USN, 1234567890 YN2 Jazsmne Wilson, USN, XXX-XX-1234

#### **Identifying Marine Corps Personnel**

- Unabbreviated grade.
- First name, middle initial if any, and last name.
- 10-digit Electronic Data Interchange Personal Identifier (EDIPI), referred to as the DoD ID number (should be used as a substitute for the SSN whenever possible). The last four digits of the SSN (when use of the SSN is justified),
- Military Occupational Specialty (MOS).
- Branch of service.

Examples: Colonel Rodney C. Jones 0123456789/0430 USMC Major Timothy C. Beck 2013538698/0202 USMC Sergeant J. Keller 3096589299/0411 USMC

#### Use of Letterhead Stationary

- Use command letterhead stationery only for official matters of the command. Printing names of officials on letterhead stationery is prohibited. When using letterhead stationery, the "From:" line will always contain the title of the activity head and command name. The "From:" line will never contain the name of an individual.
- Use command letterhead stationery when corresponding as a member of a DON approved board or committee. Indicate the letter is from the signing official by using the board or committee title in the "From:" line.
- Do not use letterhead as personal stationery. For example, CDR Baker, captain of the ship's basketball team, may not use it for matters involving the team.
- The use of letterhead is authorized for commanders, commanding officers, officers in charge and directors or those who have signature authority for commands that are represented in the SNDL only.

#### **Use of Enclosures**

An enclosure can prevent a letter from becoming too detailed. Try to keep letters short, down to one page whenever possible, and use enclosures for lengthy explanations that cannot be avoided. An enclosure may include such things as manuals, publications, photocopies of correspondence, charts, etc. belonging to the specific DON organization only. No external documents area allowed to be enclosures. Consider making them references instead.

- Enclosures must be marked on the first page; however, you may mark all pages. An enclosure marking goes in the lower right corner, whether the text is arranged in portrait or landscape orientation. Type "Enclosure" and its number in parentheses. Arrange the typed pages lengthwise so they can be read from the right.
- Number only second and later pages. If you have several different enclosures, number the pages of each independently.
- When size, weight, or other factors prevent sending an enclosure with a letter, send it separately and type "(sep cover)" after the enclosure's description.

#### ADMINISTRATIVE FUNDAMENTALS (CONT'D)

#### Typeface

For text, use 10 to 12 point font size. Times New Roman 12-point is the preferred font style and size for official correspondence, but Courier New may be used for informal correspondence. Bold, underline, script, and italics may be used for occasional emphasis, but not for entire letters.

#### **Electronic Records**

An electronic record is any information that is recorded in a form that only a computer can process and that satisfies the definition of a Federal record (SECNAV M-5210.1 Department of the Navy Records Management Manual, part I, paragraph 17) -- information made or received in connection with the transaction of public business and preserved or appropriate for presentation as evidence of the organization, functions, policies, decisions, operations, etc, or because of its information value. Electronic documents, including e-mails, are Federal records to the same extent as their paper counterparts would be. In practice, there is no difference between managing electronic and paper records.

E-mail allows individuals and activities to exchange information by computer. You may use it for informal communications in place of telephone calls or to transmit formal correspondence. The Defense Data Network must be used for long-haul data communications support, unless the host system is waived. Correspondence you send by e-mail must be for official Government business or for authorized purposes (as defined by the Joint Ethics Regulations section 2-301 (DoD 5500.7-R)). E-mails are subject to legal discovery, therefore, care should be taken to ensure e-mails are created and managed appropriately per SECNAVINST 5000.37.

#### Standard Letter

Use the standard letter format or one of its variations to correspond officially within or outside the DoD. The format of the standard letter, with slight variations, sets the pattern for joint letters, multiple-address letters, endorsements, directives, memoranda, etc. The person whose title appears in the "To:" line is the action addressee. Aside from its one action addressee, the standard letter may have any number of "Via" addressees, "Copy to" addressees, or both.

#### Format:

- Margins. Allow I-inch top, bottom, left, and right margins on each page. On letterhead paper, typing starts more than 1-inch from the top when the letterhead is printed. Do not right, center, or full justify text or use proportional spacing. Per OPNAVINST 5215.17, directives headers are 1 inch and footers are .5 inches.
- Font. Spacing and alignment of headings following the "From:" line will vary based upon the font utilized. The instructions and examples provided below are typed using the preferred font of Times New Roman.
- Sender's Symbols. If "in reply refer to" is printed on your activity's letterhead paper, type the Standard Subject Identification Code (SSIC) on the next line. If "in reply refer to" is not printed on your activity's letterhead paper, type the SSIC on the second line below the letterhead, starting 2 inches or more from the right edge of the paper. The longest line of the sender's symbol should end close to the right margin.

#### 'From' Line:

 Every standard letter must have a "From:" line, except a letter that will be used with a window envelope. To prepare a letter for a window envelope, follow figure 7-3. As a general rule, the "From:" line is composed of the activity head's title and the activity's name. Refer to the three publications

#### ADMINISTRATIVE FUNDAMENTALS (CONT'D)

listed below for the correct names and mailing addresses for DON and DoD activities.

Type "From:" at the left margin on the second line below the date line. The text begins two spaces after the colon. If the entry is longer than one line, start the second line under the first word after the heading.

'To' Line:

- Address all correspondence to the activity head of an activity. Include the office code or person's title that will act on your letter in parentheses, if known.
- Type "To:" at the left margin on the first line under the "From:" line (do not skip a line). Six spaces follow the colon.

#### 'Via' Line:

- Use a "Via:" line when one or more activities outside of your activity should review a letter before it reaches the action addressee. The format for the "Via:" line is the same as for the "From:" line and "To:"
- Type "Via:" at the left margin on the first line below the "To:" line. Five spaces follow the colon. If the entry is longer than one line, start the second line under the first word after the heading.
- Number "Via" addressees if two or more are listed. Follow the chain of \_ command. Routing starts with the addressee listed first.

#### Subject Line:

- The subject line consists of a sentence fragment that tells readers what the letter is about. Use normal word order and capitalize every letter after the colon. In correspondence, do not use acronyms in the subject line. If the subject appears elsewhere in the text of the letter, capitalize it using the "Title Case" format.
- Type "Subj:" at the left margin on the second line under the last line of the previous heading. Three spaces follow the colon. If the entry is longer than one line, align the second line under the first word after the heading.
- Repeat the subject line at the top of each page of the basic letter. Start typing at the left margin on the sixth line from the top of the page or set margins to 1 inch. Continue the text beginning on the second line below the subject.

#### **Reference Line:**

- Use only those references that bear directly on the subject at hand. Avoid unnecessary or complicated references. Many letters may not need a reference, while others are complete with a reference to only the latest communication in a series. List references in the order they appear in the text. Always mention cited references in the text. Additionally, when citing a reference it is not necessary to include the subject of the reference. However, the subject may be included, following all other required elements, if it aids in clarifying or better identifying the reference.
- Type "Ref:" at the left margin on the second line below the subject line. Use a lowercase letter in parentheses before the description of every reference. If you have only one reference, list it as "Ref: (a)". Four spaces follow the colon. References are listed in alphabetical order, a through z. If you have more than 26 references, continue with (aa), (ab), etc. If the entry is longer than one line, line the second line under the first word after the heading.

#### **Enclosure Line:**

List enclosures in the enclosure line in the order they appear in the text. Identify an enclosure using the same format as you would when identifying a reference. See paragraph 10 above. When identifying a document, cite its subject or title exactly. Never list an item in both the enclosure line and reference line of the same letter.

104 ADMINISTRATIVE FUNDAMENTALS (CONT'D)

Type "Encl:" at the left margin on the second line below the last line of the previous heading. Three spaces follow the colon. Use a number in parentheses before the description of every enclosure, even if you have only one. One space follows the closing parenthesis. If the entry is longer than one line, start the second line under the first word after the heading.

#### Letter Body:

- Start the text on the second line down from the previous entry. The text shall be left justified. Make the content clear by using plain English. Do not use slang or jargon.
- Within the text, spell out all acronyms the first time used. After first use, acronyms shall be used throughout the rest of the correspondence
- Start all continuation lines at the left margin. All paragraphs are single spaced and each paragraph or subparagraph begins on the second line below the previous paragraph or subparagraph. When using a subparagraph, the first line is always indented the appropriate number of spaces depending on the level of sub paragraphing. All other lines of a subparagraph continue at the left margin.
- Do not number a single-page letter or the first page of a multiple-page letter. Center page numbers 1/2 inch from the bottom edge, starting with the number 2. No punctuation accompanies a page number.

#### Signature Line:

Start all lines of the signature line at the center of the page, beginning on the fourth line below the text. The preferred way to identify the signatory is by typing their first initial, middle initial, and last name. If the signatory does not have a middle name, use only their first initial and last name. Signature lines can be changed based on the signer's preference. Do not include the signatory's rank or a complimentary close. Add the signature line only when you are sure who will sign the correspondence. If you use a stamp, remember to mark all copies and avoid smeared or crooked impressions.

#### 'Copy To' Line:

Type "Copy to:" at the left margin on the second line below the signature line. Identify addressees by their SNDL short title and/or SNDL numbers shown there. The SNDL number is an alpha-numeric number that is used to group commands or activities by classification. Do not list offices within the same activity individually, group them together in parentheses after the entry.

#### Endorsements:

When a letter is transmitted via your activity, use an endorsement to forward comments, recommendations, or information. While an endorsement is mostly used to transmit correspondence through the chain of command, you may also use it to redirect a letter. Do not use an endorsement to reply to a routine letter. Additionally, a "Via" addressee may alter the order of any remaining "Via" addressees or add others. The length of the endorsement and the amount of space that is available on the basic letter or on the preceding endorsement determines if you should use a same-page or new page endorsement.

- Start the endorsement line at the left margin on the second line below the date line. If the correspondence is classified, start the endorsement line on the second line below the classification line. When preparing a same-page endorsement, as long as the entire page will be photocopied, you may omit the SSIC, subject and the basic letter's identification symbols.
- Number each endorsement in the sequence in which it is added to the basic letter. Indicate the numbers of the endorsement by using ordinal numbers such as FIRST, SECOND, THIRD, etc. Following the number, type "ENDORSEMENT on" and identify the basic letter using the same style as a

# **104 ADMINISTRATIVE FUNDAMENTALS (CONT'D)**

reference line. When the heading exceeds one line, start the succeeding line with the word "on"

- When preparing your endorsement, include in the "Via:" line any remaining "Via" addressees, if any. If there is only one via addressee remaining, do not number it. If there is more than one remaining, number the remaining addresses starting with the number (1) in parenthesis and consecutively number the rest.
- Do not repeat a reference in the reference line of your endorsement that has already been identified in the reference line of the basic letter or a previous endorsement.
- Do not repeat an enclosure in your enclosure line that has already been identified in the enclosure line of the basic letter or prior endorsements. Identify only the enclosures that you add.
- If your endorsement is significant and not routine, each activity that endorsed the basic letter before you and the originator of the basic letter shall be included as a copy to addressee on your endorsement. Additionally, all copy to addressees from the basic letter and previous endorsements shall be included as a copy to addressee. Significant endorsements include "forwarded, recommending disapproval," "readdressed and forwarded," and those with substantive comments. Routine endorsements include "forwarded," "forwarded for consideration," and "forwarded, recommending approval."

#### Memorandums:

- A memorandum provides a less formal way to correspond within an activity/command. Subordinates within that activity or command may use a memorandum to correspond directly with each other on routine official business or as an informal means of communication.
- There are several memorandum formats. All DON activities shall use the appropriate memorandum that suits the subject, occasion, and audience. The following paragraphs discuss the different types of memorandums:
  - Memorandum for the Record. Use a Memorandum for the Record (MFR) as an internal document to record supporting information in the record that is not recorded elsewhere.
  - From-To Memorandum. Use OPNAV 5215/144A DON Memo (8-1/2 X 11) or OPNAV 5215/144B DON Memo (8-1/5 X 5-1/2) for the "from—to" memorandum. Memorandum may be directed to one or more addressees. If very informal, it may be handwritten.
  - Plain-Paper Memorandum. Use plain-paper memorandums for informal communications 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.
  - Letterhead Memorandum. The letterhead memorandum may be used within your activity and provides more formality than the printed form or plain-paper memorandum. When direct liaison with individuals outside of your activity is authorized, the letterhead memorandum may be used to correspond on routine matters that neither make a commitment nor take an official stand.
  - Decision Memorandum. When only requesting an approval/disapproval decision from a single addressee, it is appropriate to type a decision block at the left margin, two lines below the signature line in the following format:

COMMANDING OFFICER DECISION: Approved Disapproved Other
#### - Memorandum of Agreement or Memorandum of Understanding

- The Memorandum of Agreement or Understanding may be used to document mutual agreements of facts, intentions, procedures, limits on future actions, and areas of present or future coordination, or commitments, etc.
- Center "MEMORANDUM OF AGREEMENT" on the second line below the date line. Center "BETWEEN" on the next line and follow with the names of the agreeing activities (centered). To prepare a "Memorandum of Understanding", substitute those words for "Memorandum of Agreement,"
- 104.3 Discuss the purpose of the following in Official Military Personnel File (OMPF) [ref. c]

NAVPERS 1070/602 - DEPENDENCY APPLICATION/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.

#### NAVPERS 1070/880 - LIST OF HONORS AND AWARDS.

 NDAWS is the authoritative source for awards. Once entered into NDAWS and mailed with full SSN to NPC, PERS-313; PERS-3 will validate and submit into members OMPF.

#### NAVPERS 1070/881 - TRAINING SUMMARY

Replaced the old page 4, which is a chronological history of their occupational and training related qualifications.

#### NAVPERS 1070/613 - ADMINISTRATIVE REMARKS

- Also known as, a page 13.
- Service as a chronological record of significant miscellaneous entries which are not provided elsewhere or more detailed information may be required to clarify entries on other pages of the U.S. Navy Enlisted (Field) Service Record (FSR).

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 Courts-Martial

- Composed of one active duty Commissioned Officer with the rank of Captain or higher.
- The lowest level of authority to convene Summary courts-martial is normally a Battalion Commander or other equivalent; however, under special circumstances, the superiors of a Commanding Officer of a separate or detached command may grant the authority.
- Adjudge any punishment not forbidden by the UCMJ, except:
  - confinement for more than 1 month with hard labor
  - hard labor without confinement for more than 45 days
  - restriction for more than 2 months
  - forfeiture of more than 1 month's pay
  - In the case of sergeants and above, Summary courts-martial may not award a reduction of more than one rank and hard labor without confinement.
- May not try a Commissioned Officer, Warrant Officer, Cadet, or Midshipman for any capital offenses.
- You cannot be compelled to accept Summary courts-martial. Since Summary courts-martial is less formal than the other two types of courts-martial, you may refuse to accept trial by Summary courts-martial and may request a Special courts-martial. However, you should be aware that conviction by a Special or General courts-martial constitutes a felony conviction.

### Special Courts-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 you, the accused, are a Commissioned Officer, no member can be a Warrant Officer or enlisted person.
- If you, the accused, are an enlisted person, you may request that at least one third of the members of the court be enlisted.
- The lowest level of authority to convene a Special courts-martial is normally a squadron or battalion commander or equivalent. However, under special circumstances, the superiors of a Commanding Officer of a separate or detached command may grant the authority.
- May adjudge any punishment not forbidden by the UCMJ, including:
  - confinement for 6 months
  - hard labor without confinement for 3 months
  - forfeiture of more than two-thirds pay for 6 months
  - a bad conduct discharge
  - reduction in rank
- Normally, Special courts-martial may not try any capital offense when there is a mandatory punishment beyond the maximum power of a Special courtsmartial.

#### General Courts-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 you, the accused, are a commissioned officer, no member can be a warrant officer or enlisted person.
- If you, the accused, are an enlisted person, you may request that at least one third of the court's members be enlisted.
- The lowest level of authority to convene General courts-martial is usually the Commanding General of a division, wing, base, or the equivalent. However, under special circumstances, the Commanding Officer of a separate or detached command may be granted the authority by his superiors. General courts-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 courts-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 courts-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.
  - The procedures to appeal:
  - 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 following policies: [ref. d, pp. 1-7-13 thru 1-7-21]

#### Sexual Assault

- An intentional sexual contact, characterized by:
  - use of force
  - physical threat
  - abuse of authority
  - when the victim does not or cannot consent
- Sexual assault includes:
  - rape
  - nonconsensual sodomy (oral or anal sex)
  - indecent assault (unwanted, inappropriate sexual contact or fondling)
  - attempts to commit these acts
- Sexual assault can occur without regard to gender.
- Sexual assault is a criminal act incompatible with the Department of Navy Core Values, high standards of professionalism, and personal discipline. Military personnel alleged to have committed a sexual assault offense may be subject to trial and, if found guilty, punishment by courts-martial. Additionally, such military personnel are subject to being processed for administrative separation.

#### Sexual Harassment

- Sexual harassment 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

- Provide equal opportunity for all military members without regard to:
  - Race
  - Color
  - Creed
  - Sex
  - Age
  - 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.
- Promote equal opportunity for all Marines.

#### Hazing

- 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 to violating MCO 1700.28.
- Any violation, attempted violation, or solicitation of another to violate MCO 1700.28 subjects involved members to disciplinary action under Article 92 of the Uniform Code of Military Justice (UCMJ).

#### Fraternization

- Defined as unduly familiar 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. Fraternization violates good order and discipline, which is the essential quality of behavior within the Armed Forces.
- 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.

#### **Suicide Prevention**

Suicide is a preventable personnel loss that impacts unit readiness, morale and mission effectiveness. Relationship disruption, substance abuse, financial problems, legal problems, and mental health problems (such as depression) can interfere with individual efficiency and unit effectiveness and also increase a person's suicide risk.

Navy suicide prevention programs consist of four elements:

- Training
  - Increasing awareness of suicide concerns, improving wellness, and ensuring people know how to intervene when someone needs help.
- Intervention
  - Ensuring timely access to needed services and having a plan of action for crisis response.
- Response
  - Assisting families, units, and service members affected by suicidal behaviors.
- Reporting
  - Reporting incidents of suicide and suicide related behaviors.

## 105 GENERAL COMBAT LEADERSHIP FUNDAMENTALS

References:

[a] Marine Corps Common Skills Handbook, Book 1A (PCN 5060000900)

- [b] USMC, Marine Corps University Sergeant's Course (SCRS0810)
- [c] The Law of Land Warfare, FM 27-10, MCRP 5-12.1A (PCN 144 00004400)
- 105.1 Identify and explain the nine common elements found in a combat environment. [ref. a, p. 1-8-3]
  - Violent, unnerving sights and sounds
  - Casualties
  - Confusion and lack of information
  - Isolation
  - Communications breakdown
  - Individual discomfort and physical fatigue
  - Fear, stress, and mental fatigue
  - Continuous operations
  - Homesickness
- 105.2 Explain the characteristics that enable Marines and Sailors to overcome fear. [ref. a, p. 1-8-7]

#### Morale

The capacity of an individual or unit to maintain belief in the team or mission, particularly in the face of opposition or hardship. Morale improves unit cohesion, and can be measured by the ability of a unit to pull together persistently and consistently to complete the mission.

#### Discipline

The assertion of willpower over more base desires, and is usually understood in conjunction with self-control. It ensures prompt obedience to orders and initiation of appropriate action in the absence of orders in both individuals and units.

#### Esprit de Corps

A French expression meaning "Spirit of Corps". It denotes a strong-shared unit spirit, mutual solidarity and fellowship, sense of duty, and devotion to a cause among the unit's members. It exemplifies not only the fighting spirit, but the pride for the unit and country, and the devotion and loyalty to the other members of the unit that the men and women fight and serve with.

#### Proficiency

The technical, tactical, and physical ability to perform the job or mission.

#### Motivation

Compels people to act, based on needs, desires, and impulses.

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

#### **Begin Planning**

- Use METT-T (Mission, Enemy, Terrain, Troops, and Time Available) to begin estimates of the situation based on the content of the order received from the next senior echelon.
- Terrain orientation as seen from a vantage point, map, or aerial photograph.

- Plan use of available time for personal/subordinates reconnaissance and planning
- Movement of the unit (when movement and planning cannot be conducted. concurrently)
- Formulate a tentative plan of action based on the preliminary estimate of the situation, the higher commander's order, and the commander's intent.

#### Arrange for Reconnaissance

- Reconnaissance
- Movement of the unit, to include the route, persons to accompany the commander/leader and the schedule of prearranged meetings with adjacent and supporting unit leaders.
- Subordinate leaders are notified of the time and place where the order will be issued and a time and place for prearranged meetings with adjacent and supporting unit leaders for coordination.

#### Make Reconnaissance

- Revise the estimate of the situation and preliminary plan, as necessary.
- Select a vantage point from which to orient subordinates.
- Effect coordination with adjacent and supporting unit leaders, as planned.
- Confirm tactical control measures.

#### Complete the Plan

- Receive recommendations.
- Complete the estimate and arrive at a decision.
- Prepare the order.

#### Issue the order

- Orient subordinate leaders.
- Ensure a thorough understanding of the orientation.
- Utilize standard operation order format.
- Ensure a thorough understanding of the order.

#### Supervise

– The planning and preparation by subordinates and the conduct of operations.

The acronym **BAMCIS** is utilized to memorize the six troop leading steps. Understanding it is the first step in applying it.

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

The six Articles of the Code of Conduct are a personal conduct mandate, and serve as a guide for all American military forces in time of war, and in time of peace. The articles of the code embrace statements of dedication to the United States and to the cause of freedom, conduct on the battlefield, and conduct as a prisoner of war.

#### **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."

#### **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

#### **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."

#### **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."

#### **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."

#### 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."

105.5 Discuss and explain the Rights of a Prisoner of War [ref. c, pp. 47-48, 51-54, 56, 59-60, 67, 73-74]

#### **Humane Treatment of Prisoners**

Prisoners of war (POW) 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 prisoner of war in its custody is prohibited, and will be regarded as a serious breach of the Geneva Convention.

- No prisoner of war 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 interest.
- Prisoners of war must at all times be protected, particularly against acts of violence, intimidation, insults, and public curiosity.
- Measures of reprisal against prisoners of war are prohibited.

#### **Respect for the Person of Prisoners**

- Prisoners of war are entitled in all circumstances to respect for their persons and their honor.
- Women shall be treated with all regards due to their sex, and shall in all cases benefit from treatment equal to men.
- Taking into consideration any privileged treatment which may be granted due to their state of health, age or professional qualifications, all prisoners of war shall be treated alike by the Detaining Power, without any adverse distinction based on race, nationality, religious belief or political opinions, or any other distinction founded on similar criteria.

#### Questioning of Prisoners

- Every prisoner of war, when questioned on the subject, is bound to give only full name and rank, date of birth, and serial number, or failing this, provide equivalent information.
- No physical or mental torture, nor any other form of coercion, may be inflicted on prisoners of war to secure information of any kind. Prisoners of war who refuse to answer may not be threatened, insulted, or exposed to unpleasant or disadvantageous treatment of any kind.

#### Quarters

- Prisoners of war shall be housed under conditions as favorable as those for the forces of the Detaining Power who are billeted in the same area.
- In any camps in which both women and men are accommodated as prisoners of war, separate dormitories shall be provided for them.

#### Food

- The basic daily food rations shall be sufficient in quantity, quality and variety to keep prisoners of war in good health and prevent loss of weight or the development of nutritional deficiencies.
- Collective disciplinary measures affecting food are prohibited.

#### Clothing

 Clothing, underwear and footwear shall be supplied to prisoners of war in sufficient quantities by the Detaining Power, which shall make allowance for the climate of the region where the prisoners are detained.

#### Hygiene

 The Detaining Power shall be bound to take all sanitary measures necessary to ensure the cleanliness and healthfulness of camps and to prevent epidemics.

#### **Medical Attention and Inspections**

- Prisoners of war may not be prevented from presenting themselves to the medical authorities for examination.
- Every camp shall have an adequate infirmary where prisoners of war may have the attention they require, as well as appropriate diet. Isolation wards shall be set aside for cases of contagious or mental disease.
- Prisoners of war suffering from serious disease, or whose condition necessitates special treatment, a surgical operation or hospital care, must be admitted to any military or civilian medical unit where such treatment can be given, even if their repatriation is contemplated in the near future.
- Medical inspections of prisoners of war shall be held at least once a month. They shall include the checking and the recording of the weight of each prisoner of war. Their purpose shall be, in particular, to supervise the general state of health, nutrition and cleanliness of prisoners and to detect contagious diseases.

### **Authorized Work and Conditions**

 The Detaining Power may utilize the labor of prisoners of war who are physically fit, taking into account their age, sex, rank and physical aptitude, and with a view particularly to maintaining them in a good state of physical and mental health.

- Prisoners of war must be granted suitable working conditions, especially regarding accommodation, food, clothing and equipment; such conditions shall not be inferior to those enjoyed by nationals of the Detaining Power employed in similar work.
- No prisoner of war shall be assigned to labor which is of military character or purpose.
- Conditions of labor shall in no case be rendered more arduous by disciplinary measures.

#### **Dangerous or Humiliating Labor**

- Unless they volunteer, no prisoner of war may participate in labor which is of an unhealthy or dangerous nature.
- No prisoner of war shall be assigned to labor which would be looked upon as humiliating for a member of the Detaining Power's own forces.

#### **Religious Freedoms**

 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.

#### Correspondence

- Prisoners of war shall be allowed to send and receive letters and cards.
- Prisoners of war shall be allowed to receive individual parcels or collective shipments containing foodstuffs, clothing, medical supplies, and articles of a religious, educational or recreational character.

#### Punishment

- No prisoner of war may be punished more than once for the same act or on the same charge.
- Collective punishment for individual acts, corporal punishment, imprisonment in premises without daylight and, in general, any form of torture or cruelty, are forbidden.
- No prisoner of war may be tried or sentenced for an act which is not forbidden by the law of the Detaining Power or by international law, in force at the time the act was committed.
- No prisoner of war may be convicted without having had an opportunity to present their defense and the assistance of a qualified advocate or counsel.

## Posting of the Geneva Convention, Regulations, and Orders concerning Prisoners

- In every camp, the text of the Geneva Convention, its Annexes, and the contents of any special agreement, shall be posted, in the prisoners' own language, at places where all may read them.
- Copies shall be supplied, on request, to the prisoners who cannot have access to the copy, which has been posted.
- Regulations, orders, notices and publications of every kind relating to the conduct of prisoners of war shall be issued to them in a language which they understand.
- Every order and command addressed to prisoners of war individually must likewise be given in a language, which they understand.

105.6 Discuss the obligations of a prisoner of war. [ref. a]

#### **Obligations of Prisoners of War**

Among the different classifications available (e.g. unlawful enemy combatant, detainee to an enemy captive), the Prisoner of War status is considered favored. With this favored status, there are certain obligations expressed within the Geneva Convention that must be adhered to by POW's:

- Prisoners of war may in no circumstances renounce in part or in entirety the rights secured to them by the Geneva Convention.
- Prisoners of war shall retain the full civil capacity which they enjoyed at the time of their capture. The Detaining Power may not restrict the exercise, either within or without its own territory, of the rights such capacity confers except in so far as the captivity requires. Prisoners of war must salute and show to all officers of the Detaining Power the external marks of respect provided for by the regulations applying in their own forces.

## 106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS

References:

[a]	COTCCC GUIDELINES
[b]	NAVMED P-5010

106.1 Discuss the history of Tactical Combat Casualty Care (TCCC). [ref. a]

Historical data shows that 90% of combat wound fatalities die on the battlefield before reaching a military treatment facility. TCCC guidelines are currently used throughout the US Military and various allied countries. TCCC guidelines were first introduced in 1996 for use by Special Operations Corpsmen, Medics, and Pararescumen (PJs).

106.2 Discuss the meaning triage. [ref. a]

**Triage** is a French word meaning "to sort", is the process of quickly assessing patients in a multiple casualty incident and assigning patients a priority (or classification) for receiving treatment according to the severity of the illnesses or injuries. Triage is a dynamic (ongoing) process, and a patient's priority is subject to change to reflect situational changes.

106.3 Discuss the three phases of Tactical Combat Casualty Care. [ref. a]

#### Care Under Fire (CUF)

- Care rendered by the first responder or combatant at the scene of the injury while under hostile fire.

#### **Tactical Field Care (TFC)**

 Care rendered by the first responder or combatant when no longer under effective hostile fire.

#### **Tactical Evacuation Care (TACEVAC)**

- Care rendered once the casualty has been picked up by an aircraft, ground vehicle or boat.
- \*\*Note: The term "Tactical Evacuation" encompasses both Casualty Evacuation (CASEVAC) and Medical Evacuation (MEDEVAC).
- 106.4 Explain the treatment plans for Care Under Fire. [ref. a]

#### Casualty Management Plan

- Maintain fire superiority and take cover. Fire supremacy is the key to preventing combat trauma.
- If able, casualty should stays engaged as a combatant.
- Instruct casualty to move to cover and apply self-aid if possible.
- Keep casualty from sustaining additional wounds.

#### **Treatment Plan**

- Stop any life-threatening external hemorrhage from extremities with a tourniquet over the uniform (if tactically feasible).
- If not tactically feasible (e.g. fire superiority has not been obtained), do not try
  to treat the casualty in the kill zone. Application of a tourniquet may be
  deferred until patient has been moved to safety.

\*\*NOTE: The decision regarding the relative risk of further injury versus that of bleeding to death must be made by the person rendering care.

- Non-life threatening bleeding should be deferred until Tactical Field Care.
- Move casualty to cover as quickly as possible utilizing an evacuation plan.

## 106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS (CONT'D)

106.5 Explain the treatment plan for Tactical Field Care. [ref. a]

The goal of this phase is to allow the Combat Life Saver (CLS) to systemically find, identify, and treat all injuries.

#### Mental Status

- Determine responsiveness using AVPU acronym. Check if casualty is Alert, responsive only to Vocal commands, responsive only to Pain, or Unresponsive.
- Any casualty with an altered mental status should be disarmed immediately.

### Airway Management

Anatomical Structures

- Airway consists of nose, mouth, throat, voice box, and wind pipe.
- Air is diverted to the left and right lungs at the bronchial tree, the bottom of the wind pipe.
- Lungs are elastic organs composed of thousands of small air spaces and covered by an airtight membrane.
- The rib cage protects the lungs.
- The diaphragm is a large dome-shaped muscle that separates the bottom of the lungs from the abdominal cavity.

General guidelines:

- Assess the airway by using the look, listen and feel technique for 5 to 10 seconds.
- Open airway using modified jaw thrust or chin lift techniques.
- Look for foreign obstructions and clear if possible.
- Insert a nasopharyngeal airway (NPA) if required (Do not use an NPA if a facial fracture is suspected).
- Reassess airway after any interventions.

#### **Breathing Assessment**

- Inspect the anterior thorax for bilateral rise and fall and for possible penetrating trauma.
- Auscultate the chest, bad side then good side.
- Palpate in order to feel any abnormalities.
- Treat all life-threatening penetrating injuries of the chest, such as a sucking chest wound, with an occlusive dressing.
- Perform a needle thoracentesis (needle decompression) if a pneumothorax is suspected.
- Repeat the assessment on the posterior thorax by carefully performing a log roll.

### **Circulatory Assessment**

- Check for a carotid pulse
- Perform a blood sweep by sweeping the downside of each limb in order to identify wounds and bleeding.
- If blood is found, gain control of any life-threatening hemorrhage with a tourniquet or hemostatic agent.
- Assess the radial pulses for rate (beats per minute) and quality (strong, weak, thread).

## **106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS** (CONT'D)

- Estimated blood pressure (BP). Blood pressure can be estimated based on the presence of a casualty's heart rate. Below are the parameters for estimating blood pressure:
  - Radial pulse detected 80/P
  - Femoral pulse detected 70/P
  - Carotid pulse detected 60/P
  - Normally, a BP reading consists of 2 numbers, but if assessing BP by palpation (touch); "P" is substituted for the second number to denote that it was determined by palpation.
- Assess peripheral perfusion by checking:
  - Skin color (pale/flushed/normal)
  - Skin temperature (cold/cool/warm/hot)
  - Skin condition (dry/moist)
- Check for capillary refill and ensure it is less than three seconds.

#### **Assess for Shock**

- Shock is an abnormality of the circulator system that results in an inadequate amount of blood flow and oxygen to organs and tissues.
- Hemorrhagic shock is the most common form of shock encountered in the battlefield.
- Anatomy of the Cardiovascular System:
  - Pump
    - Heart (Contains 4 chambers)
  - Container
    - Arteries, veins, and capillaries
  - Fluid
    - Blood and blood plasma

Signs & Systems of Shock:

- Heart rate: Greater than 100 beats per minute
- Respirations: Greater than 20 beats per minute
- Capillary Refill: Greater than 3 seconds
- Skin: Cool, clammy, pale, or cyanotic
- Mental Status: Restless, disoriented, lethargic, or unconscious

#### Treatments:

- Control life-threatening extremity hemorrhage and non-life-threatening hemorrhage with hemostatic agents and pressure dressings.
- Provide supportive care for internal bleeding
- Maintain the patient's airway
- Keep patient warm to prevent hypothermia
- Reassess interventions and monitor vital signs.
- TACEVAC.

### Management of Burns

The severity of all burns will vary depending on the source of the burn, duration of exposure, and location of the burn.

Anatomy of the Skin:

- The most important function is to form a protective barrier against the external environment.
- Skin also prevents fluid loss, regulates body temperature, and allows for sensation.

106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS (CONT'D)

The skin is composed of three layers:

- Epidermis
  - Outermost layer; made up of skin cells with no blood vessels.
- Dermis
  - Underneath the epidermis; made up of connective tissues containing blood vessels, nerve endings, sebaceous glands, and sweat glands.
- Subcutaneous
  - Innermost layer; made up of a combination of elastic and fibrous tissue as well as fat deposits.

#### **Burn Classifications**

Burns are classified by the depth of the burn and the extent of the total body surface area (TBSA) of the burn.

#### First-Degree Burns/Superficial Thickness Burns

- Involves only the epidermis.

- Signs & Symptoms:
  - Dry, red and inflamed skin.
  - Painful.
  - The burned area blanches (whites out) under firm pressure.
- Typically will heal within one week.

#### Second-Degree Burns/Partial Thickness Burns

 A burn in which the surface (epidermis) is destroyed and various portions of the dermis are damaged.

Signs & Symptoms:

- Skin will appear glistening or have a wet appearance.
- Blisters or open weeping wounds
- Deep, intense pain
- Typically will heal in two to three weeks.
- Fluid loss may be significant depending on the extent of the burn.

#### Third-Degree Burn/Full Thickness Burn

– All three layers of the skin are damaged.

- Signs & Symptoms:
  - Skin has a dry, leathery appearance.
  - The skin can range in color from white, yellow, cherry red, brown, or charred black.
  - First and second-degree burns surround the third degree burn.
  - Severe pain around periphery of burn, but little to no pain near center of burn.

#### Fourth-Degree Burns

 A burn that not only encompasses all three layers but also includes underlying fat, muscles, bone, or internal organs.

#### Types of Burns

- Thermal
  - Most common type of burn, generally from fire or excessive heat.
- Electrical
  - These are often more serious than they appear. Entrance and exit wounds may be small but the electricity burns a large area as it travels through the body.
- Chemical
  - Occurs when skin comes in contact with various caustic agents.

## **106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS** (CONT'D)

Radiation

Associated with nuclear blasts and other forms of radiation.

#### Treatment of Burns

- Thermal/Radiation Burns
  - Stop the burning process
  - Remove all clothing and jewelry; however do not pull away clothes that are stuck to skin.
  - Wrap the burn loosely with a dry sterile dressing.
  - Keep the casualty warm as the casualty will not be able to maintain their body temperature.
  - Provide pain relief
- Electrical Burns
  - Stop the electrical source
  - Use a nonconductive item, such as a wooden beam to disengage the casualty from the source.
  - Wrap the burn loosely with a dry sterile dressing.
- Chemical Burns
  - Flush the affected area with large amounts of water.
  - Brush dry chemicals off away from both yourself and the casualty.
  - For a confirmed acid burn. Irrigate the area for 15 minutes.
  - Wrap the burn loosely with a dry sterile dressing.
- Prevent Hypothermia
  - Ensure all hemorrhage is controlled.
  - Keep patient warm by wrapping in available material.

#### **Management of Fractures**

In an open fracture there is a break in the skin, while in a closed fracture the skin remains intact.

Signs & Symptoms:

- Deformity
- Crepitus
- Pain with or without movement
- Inability to move extremity
- Protruding bone
- Swelling
- Obvious Injury

Splints are used to immobilize a fracture.

- Rigid Splints: cannot be changed in shape.
- Formable Splints: can be molded in various shapes.
- Improvised Splints: made from any available material such as a stick or branch.
- Anatomical Splints: the casualty's body is used as a splint.
- Sling: used to Support an upper extremity.
- Swath: used to immobilize a fracture.

Guidelines for splinting:

- Control hemorrhage and treat for shock.
- Establish distal pulse prior to splinting.
- Expose fracture site.
- If bone is exposed, ensure to cover the ends with sterile dressing prior to splinting.

# 106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS (CONT'D)

- Splint fracture in position found.
- Attempt to straighten a deformed limb only if it is a closed injury with no distal pulses.
- Do not try to reposition or put back an exposed bone.
- Move the fractured part as little as possible while applying the splint.
- Pad the splint at any bony prominence points (elbow, wrist or ankle).
- Immobilize the splint above and below the fracture.
- Reassess distal pulses after splint is secured.
- When in doubt, treat all injuries as a possible fracture.

#### Administration of Medications

- Utilize the combat pill pack in the treatment of all wounds. Combat pill pack contains:
  - Moxifloxacin: One 400mg tablet PO; used as an antibiotic.
  - Mobic: One 15mg tablet PO; used for pain management.
  - Tylenol: Two 650mg tablets PO; for pain management.

#### **Document Baseline Vital Signs**

- Respiratory Rate
- Pulse Rate
- Estimated blood pressure

#### **Casualty Movement Technique Considerations:**

- Conscious vs. Unconscious: A conscious casualty may be able to provide assistance as opposed to an unconscious one.
- Location of nearest cover
- Best way to move patient to cover
- Risk to rescuer: Some carries may expose rescuer to enemy fire.
- Weight differences: A heavier casualty may be more difficult to maneuver.
- Distance covered: A faster carry might be used as opposed to a carry that produces a smaller target.

#### 106.6 Discuss the Tactical Evacuation priorities. [ref. a]

If the casualty requires further medical treatment after being re-triaged and stabilized at the BAS, they will need to be evacuated to a higher echelon of care. During this evacuation, the casualty must be prioritized based on their injuries:

#### **Urgent Evacuation**

- Evacuation to the next higher echelon of medical care is needed to save life or limb.
- Must occur within 2 hours

#### **Priority Evacuation**

- Evacuation to the next higher echelon of medical care is needed or the patient will deteriorate into the URGENT category.
- Must occur within 4 hours

#### Routine evacuation

- Evacuation to the next echelon of medical care is needed to complete medical treatment.
- Must occur within 24 hours

# 106 TACTICAL MEDICINE AND FIELD SANITATION FUNDAMENTALS (CONT'D)

106.7 Discuss how to purify water under field conditions. [ref. b, ch.10 pp. 26 thru 27]

#### **Iodine Tablets**

- Fill the canteen with the cleanest water available.
- Add two tablets for a one-quart canteen (four tablets for a two 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.

\*\*NOTE: Tincture of Iodine 2% can be substituted for Iodine tablets. Five drops are equivalent to one Iodine tablet.

#### **Boiling Water**

- Boiling is a means of disinfecting small quantities of water when no other means are available.
- Boiling water has the following disadvantages:
  - Fuel is needed to boil water.
  - Water can take a long time to boil and must cool before drinking.
  - Must be kept in a covered, uncontaminated container.
  - Water must be held at a rolling boil for at least 5 minutes at sea level to make it safe for drinking.

\*\*Note: The command surgeon may prescribe longer boiling times at higher altitudes and in areas where certain heat-resistant organisms are prevalent.

106.8 Discuss the methods to dispose of human waste. [ref. b, pp. 9-17 thru 9-18]

The methods for disposing of human waste in the field varies with the tactical situation, soil conditions, water table, weather conditions, availability of materials, and local environmental regulations. The following need to be taken into consideration when choosing a waste disposal method and location:

- Must be 50 feet from berthing areas
- Must be 100 feet from nearest natural water source
- Must be 300 feet from food service areas

#### Cat Hole

- Approximately 1-foot wide and 1-foot deep.
- Used when on the march.
- Packed down with dirt after each use.

#### Straddle Trench

- Approximately 4-feet long, 2 ½ feet deep, and 1foot wide (Additional trenches must be 2 feet apart).
- Used for 1 3 day bivouac sites.
- Serves 25 people, accommodating 2 at a time.
- Packed with dirt after each bivouac site or when trench is filled to within one foot





References:

- [a] Marine Corps Common Skills Handbook, Book 1A (PCN 5060000900)
- [b] SECNAVINST 5510.30 DON Personnel Security Program
- [c] DoD 5205.02-M, "DoD Operations Security (OPSEC) Program Manual
- [d] DoDI 2000.16, DoD Antiterrorism (AT) Standards
- [e] DoDD 5210.56 Carrying of Firearms and the Use of Force by DoD Personnel Engaged in Security, Law and Order, or Counterintelligence Activities
- [f] MCO 5530.15 U.S. Marine Corps Interior Guard Manual
- [g] MCWP 2-1 Intelligence Operations
- [h] SECNAVINST 5510.37 DON Insider Threat Program
- [i] Marines Social Media Handbook
- [j] CJCS Guide 5260
- [k] U.S. Department of Justice Introduction to Insider Threat
- [I] Department of Homeland Security Personally Identifiable Information Handbook
- 107.1 Explain the Anti-Terrorism program. [ref. f, p. 7]

**The Anti-Terrorism (AT) program** is a security-related program that falls under the overarching Combating Terrorism and Force Protection programs. The AT program is a collective, proactive effort focused on the prevention and detection of terrorist attacks against Department of Defense (DoD) personnel, their families, facilities, installations, and infrastructure critical to mission accomplishment as well as the preparation to defend against and planning for the response to the consequences of terrorist incidents.

107.2 Discuss the Interior Guard chain of command. [ref. f, p. 2-1-2-7]

The **Interior Guard** is detailed by a Commander to preserve order, protect property and enforce regulations within the jurisdiction of his/her command. Responsibilities include:

## Commanding Officer (CO)

- The responsibility of the CO for the security of the command is absolute.
- May delegate authority to subordinates for the execution of duties, but such delegation shall in no way relieve the CO of the responsibility for the security of the command.

### Field Officer of the Day

- Supervises the entire Interior Guard.
- Receives orders from the CO only, and serves as the CO's direct personal representative.

### Officer of the Day (OOD)

- The OOD (Officer of the Deck aboard ships) supervises the main guard.
- Charged with the execution of all orders of the CO which concern the security of the area within the assigned jurisdiction.
- In case of alarm, acts immediately to protect life, government property and to preserve order.

### Commander of the Guard

- Ensures proper instructions, discipline and performance of the duty of the main guard.
- Ensures that all members of the guard are correctly instructed in their orders and duties, and they are understood and properly executed.
- When an alarm is sounded, expeditiously forms the reserve, if necessary.
- Ensures the security of prisoners under charge of the guard.

### Sergeant of the Guard (SOG)

- Assists the Commander of the Guard in ensuring proper instructions, discipline, and performance of the duties of the main guard.
- Ensures that the property under charge of the guard is cared for and accounted for properly.
- Ensures that the guardhouse and its surrounding areas are maintained in proper police.
- Forms the guard whenever necessary.

## Corporal of the Guard (COG)

- Supervises the members of the guard assigned to that relief.
- Assigns sentries on that relief to posts.
- Forms the relief in sufficient time to accomplish the following: issue guard property, inspect appearance, fitness for duty, condition of arms, issue ammunition and supervise loading of weapons

#### Main Guard Sentries

- All members of the guard will memorize, understand, and comply with the General Orders for sentries.
- Members of the guard not on post will remain in the immediate vicinity of the guardhouse except when granted permission to leave by the Commander of the Guard.
- 107.3 Discuss and provide explanations for the eleven general orders. [ref. a, p. 1-9-3, 1-9-4]

#### 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

107.4 Define deadly force and when it may be used. [ref. e, p. 10-11]

Deadly force is the efforts of an individual used against another to cause death, substantial risk of death, or serious bodily harm. Deadly force is justified only under conditions of necessity and may be used only when lesser means cannot be reasonably employed or have failed and the risk of death or serious bodily harm to innocent persons is not increased by its use.

Deadly force is authorized under the following circumstances:

### Inherent Right of Self-Defense

When there is reasonable belief that a person(s) poses an imminent threat of death or serious bodily harm to DoD persons. Self-defense includes defense of other DoD persons in the vicinity.

#### **Defense of Others**

 In defense of non-DoD persons in the vicinity when directly related to the assigned activity or mission.

#### Assets Vital to National Security

 When deadly force reasonably appears to be necessary to prevent the actual theft or sabotage of assets vital to national security.

### Inherently Dangerous Property

 When deadly force reasonably appears to be necessary to prevent the actual theft or sabotage of inherently dangerous property.

#### **National Critical Infrastructure**

When deadly force reasonably appears to be necessary to prevent the sabotage or destruction of national critical infrastructure defined as President-designated public utilities, or similar critical infrastructure, vital to public health or safety, the damage to which the President of the United States determines would create an imminent threat of death or serious bodily harm or injury.

### Serious Offenses against Persons

When deadly force reasonably appears to be necessary to prevent the commission of a serious offense, one that involves imminent threat of death or serious bodily harm or injury (e.g., sniping), including the defense of other persons where deadly force is directed against the person threatening to commit the offense (e.g., murder, armed robbery, or aggravated assault).

### Arrest or Apprehension

- When deadly force reasonably appears to be necessary to arrest or apprehend when there is probable cause to believe a person has committed a serious offense and there is an imminent threat of death or serious bodily harm to DoD personnel or others in the vicinity as referred to in subparagraphs 4.d.(3) through 4.d.(6) of this enclosure.

#### Escape

When deadly force reasonably appears to be necessary to prevent the escape of a prisoner provided there is probable cause to believe that such person(s) has committed or attempted to commit a serious offense that is one that involves imminent threat of death or seriously bodily harm and would pose an imminent threat of death or serious bodily harm to DoD personnel or others in the vicinity.

107.5 Discuss the following terms: [ref. b, p. 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. Compromise can be intentional or inadvertent.

#### Spillage

 Occurs when data is placed on an information technology system possessing insufficient information security controls to protect the data at the required classification, i.e. secret information on an unclassified machine.

#### **Classified Information**

- Information that has been determined under Executive Order (EO) 12958, or any successor order, EO 12951, or any successor order, or the Atomic Energy Act of 1954 (42 USC. 2011) to require protection against unauthorized disclosure.
- 107.6 Discuss and explain the three Classification Levels.

#### **Top Secret**

Classification level applied to information whose unauthorized disclosure could reasonably be expected to cause exceptionally grave damage to the national security. Example includes information whose unauthorized release could result in armed hostilities against the U.S. or its allies.

#### Secret

Classification level applied to information whose unauthorized disclosure could reasonably be expected to cause serious damage to the national security. Example includes information whose unauthorized release could result in the disruption of foreign relations significantly affecting the national security.

#### Confidential

Classification level applied to information whose unauthorized disclosure could reasonably be expected to cause damage to the national security. Example includes information whose unauthorized release could result in disclosure of ground, air, and naval forces (e.g., force levels and force dispositions).

Upon finding unsecured classified material, protect it from further compromise and notify the custodian or security manager immediately.

107.7 Discuss the steps of the Operational Security (OPSEC) process. [ref. c, p.12-14]

The OPSEC process is a systematic method used to identify, control, and protect critical information using the following:

#### **Identify Critical Information**

 Information about DoD activities, intentions, capabilities, or limitations that an adversary seeks in order to gain a military, political, diplomatic, economic, or technological advantage. Such information, if revealed to an adversary, may prevent or degrade mission accomplishment, cause loss of life, or damage friendly resources.

#### **Conduct a Threat Analysis**

 Threat information is necessary to develop appropriate countermeasures. The threat analysis includes identifying potential adversaries and their associated capabilities and intentions to collect, analyze, and exploit critical information and indicators.

#### **Conduct a Vulnerability Analysis**

 An OPSEC vulnerability exists when the adversary is capable of collecting critical information or indicators, analyzing it, and then acting quickly enough to impact friendly objectives. Conducting exercises, red teaming, and analyzing operations can help identify vulnerabilities.

#### **Conduct a Risk Assessment**

 The risk assessment is the process of evaluating the risks to information based on susceptibility to intelligence collection and the anticipated severity of loss. It involves assessing the adversary's ability to exploit vulnerabilities that would lead to the exposure of critical information and the potential impact it would have on the mission.

#### Apply Countermeasures

- Countermeasures are designed to prevent an adversary from detecting critical information, provide an alternative interpretation of critical information or indicators (deception), or deny the adversary's collection system.
- 107.8 Methods used in the collection of information. [ref. g, p.3-9 thru 3-11]

#### Human Intelligence (HUMINT)

The collection of information from human sources. The collection may be done openly, such as interview of witnesses and suspects, or it may be done through clandestine or covert means (espionage).

#### Signals Intelligence (SIGINT)

Refers to electronic transmissions that can be collected by ships, planes, ground sites, or satellites. Communications Intelligence (COMINT) is a type of SIGINT and refers to the interception of communications between two parties.

#### **Open-Source Intelligence (OSINT)**

Refers to a broad array of information and sources that are generally available, including information obtained from the media (newspapers, radio, television, etc.), professional and academic records (papers, conferences, professional associations, etc.), and public data (government reports, demographics, hearings, speeches, etc.).

#### Imagery Intelligence (IMINT)

Intelligence derived from the exploitation of imagery collected by visual photography, infrared, lasers, multi-spectral sensors, and radar. These sensors produce images of objects optically, electronically, or digitally on film, electronic display devices, or other media.

#### Measurement and Signatures Intelligence (MASINT)

Relatively little-known collection discipline that concerns weapons capabilities and industrial activities. MASINT includes the advanced processing and use of data gathered from overhead and airborne IMINT and SIGINT collection systems.

107.9 Discuss the concept of an insider threat and how to identify one. [ref. h, p.2; ref. k, p.2]

An **insider threat** is a person with authorized access, who uses that access, wittingly or unwittingly, to harm national security interests or national security through unauthorized disclosure, data modification, espionage, terrorism, or kinetic actions resulting in loss or degradation of resources or capabilities.

#### Insider threat Identification:

#### Information Collection

- Keeping classified materials in an unauthorized location
- Attempting to access sensitive information without authorization
- Obtaining access to sensitive information inconsistent with present duty requirements

#### Information Transmittal

- Using an unclassified medium to transmit classified materials
- Discussing classified materials on a non-secure telephone
- Removing classification markings from documents

#### **Additional Suspicious Behaviors**

- Repeated or un-required work outside of normal duty hours
- Sudden reversal of financial situation or a sudden repayment of large debts or loans
- Attempting to conceal foreign travel
- 107.10 Define Terrorism and identify its characteristics: [ref. a, p. 1-9-13]

#### Terrorism

Unlawful use or threatened use of violence to force or to intimidate governments or societies to achieve political, religious, or ideological objectives.

#### **Terrorist Motivations**

Terrorists are motivated by religion, prestige, power, political change, and material gain. Terrorists believe that they are righteous and act in the name of the people.

#### **Perspectives of Terrorism**

Terrorism can be 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:

- Topple governments,
- Influence top level decisions,
- Gain recognition for their cause

#### Short Range Goals:

- 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
- Causing a government to overreact
- Gain recognition for their causes
- 107.11 Define and explain the Force Protection Condition (FPCON) system. [ref. d, p. 9, 39-45]

FPCON is a standardized DoD identification system for recommended preventive actions and responses to terrorist threats against U.S. personnel and facilities. The system is the principal means for a commander to apply an operational decision on how to protect against terrorism and facilitates coordination among DoD Components and support for antiterrorism activities.

DoD FPCON consists of five progressive levels of increasing AT protective measures:

#### **FPCON NORMAL**

Applies when a general global threat of possible terrorist activity exists and warrants a routine security posture. At a minimum, access control will be conducted at all DoD installations and facilities. Actions taken at this level include, but are not limited to:

- Secure and randomly inspect buildings, rooms, and storage areas not in regular use.
- Conduct random security spot checks of vehicles and persons entering facilities under the jurisdiction of the United States.
- Limit access points for vehicles and personnel commensurate with a reasonable flow of traffic.
- Identify defense critical assets and high occupancy buildings.

#### **FPCON ALPHA**

Applies when there is an increased general threat of possible terrorist activity against personnel or facilities, and the nature and extent of the threat are unpredictable. ALPHA measures must be capable of being maintained indefinitely. Actions taken at this level include, but are not limited to:

- Continue, or introduce, all measures of the previous FPCON level.
- Personnel with access to building and area evacuation plans must be available at all times. Plans should be in place to execute access control procedures. Key personnel required to implement security plans should be on-call and readily available.
- Initiate food and water risk management procedures, brief personnel on food and water security procedures, and report any unusual activities.
- Test mass notification system.

#### **FPCON BRAVO**

Applies when an increased or more predictable threat of terrorist activity exists. Sustaining BRAVO measures for a prolonged period may affect operational capability and military-civil relationships with local authorities. Actions taken at this level include, but are not limited to:

- Fully implement all measures of lower FPCON levels.
- Enforce control of entry onto facilities containing U.S. infrastructure critical to mission accomplishment, lucrative targets, or high-profile locations; and randomly search vehicles entering these areas. Particular scrutiny should be given to vehicles that are capable of concealing a large IED (e.g., cargo vans, delivery vehicles) sufficient to cause catastrophic damage to property or loss of life.
- Randomly inspect commercial deliveries. Advise family members to check home deliveries.
- Increase security measures and guard presence or initiate increased patrols and surveillance of DoD housing areas, schools, messes, on-base clubs, military treatment facilities, and similar high-occupancy targets to improve deterrence and defense.

#### **FPCON CHARLIE**

Applies when an incident occurs or intelligence is received indicating some form of terrorist action or targeting against personnel or facilities is likely. Prolonged implementation of CHARLIE measures may create hardship and affect the activities of the unit and its personnel. Actions taken at this level include, but are not limited to:

- Fully implement all measures of lower FPCON levels.
- Recall additional required personnel. Ensure armed augmentation security personnel are aware of current rules of engagement and any applicable Status of Forces Agreements (SOFA). Review types of weapons and ammunition issued to augmentation personnel.
- Limit access points in order to enforce entry control. Randomly search vehicles.
- Increase patrolling of the installation/facility/unit including waterside perimeters, if appropriate. Be prepared to assist local authorities in searching for threatening actions and persons outside the perimeter.

#### **FPCON DELTA**

Applies in the immediate area where a terrorist attack has occurred or when intelligence has been received that terrorist action against a specific location or person is imminent. This FPCON is usually declared as a localized condition. FPCON DELTA measures are not intended to be sustained for an extended duration. Actions taken at this level include, but are not limited to:

- Fully implement all measures of lower FPCON levels.
- Search all personally carried items (e.g., suitcases, briefcases, packages, backpacks) brought into the installation or facility.
- Restrict all non-essential movement.
- Begin continuous monitoring for chemical, biological, and radiological contamination.

107.12 Methods to reduce visibility to adversaries: [ref. b, p.4-2 ref. l, p.7-10 ref. j, p. 1, 4, 14-16]

#### Social Media

- Refrain from posting mission/personally identifiable information onto social media webpages.
- Always set privacy settings to allow only friends to view.
- Turn off location services.
- All affiliation requests should be verified for credentials prior to accepting.
- Avoid opening email messages from unknown or unreliable sources.
- Practice Operational Security at all times.

#### Workplace Guidance

- Remove CAC when leaving the workspace.
- Ensure personally identifiable information (PII) is secured.
- Refrain from sending emails with PII. Apply proper encryption if it is absolutely necessary.
- Properly mark all media with appropriate classification level.
- Report all suspicious persons loitering near your office or in unauthorized areas.
- Watch for unfamiliar vehicles cruising or parked frequently in the area, particularly if one or more occupants remain in the vehicle for extended periods.
- Report any suspicious videotaping/photography or unusual accommodation requests.

#### 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

- Avoid establishing a pattern and vary the 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.
- Seek knowledge of the local situation and be aware of your surroundings.
- 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 security officer.

### Protect your Automobile

- Park in well-lighted areas with multiple exits 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, or loose wiring, string, or tape.
- Check the interior of the vehicle for objects out of place, or anything out of the ordinary.

## **108 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 5060000900)
- [c] AN/PRC-117F Operations Publication Number: 10515-0109-4500

## 108.1 Discuss the overview of an AN/PRC-117F manpack radio system and its components. [ref. d]

- AN/PRC-117F Transceiver
- H-250/U Handset
- VHF-LO Blade antenna w/flex adapter
- VH-HI & UHF Combo antenna
- Antenna bag
- Spare HUB (Hold Up Battery)
- Battery Box
- CD-ROM, Wireless Messaging Terminal
- CD-ROM, Radio Programing Application
- Operation manual
- Quick Reference Guide **Cables:**
- KDU Extension Cable
- HPW Data Cable
- "Y" Cable Sync/Async data
- Optional RPA Cable- Black Remote, Blue Dot
- 108.2 Discuss the designated frequency ranges for each of the following settings for the PRC-117F/SINCGARS: [ref. c]

Band or Mode: Frequency range from 30-512 MHz Frequency coverage: 30-512 MHz VHF Low: 30-90 MHz VHF High: 90-225 MHz UHF: 225-512 MHz

Frequency ranges for the SINCGARS radio: **SINGLE CHANNEL** 

When using the SC mode of operation, the RT communicates on one frequency (selected using RT keyboard) that has been loaded into the RT. The SC frequency can be cleared or offset as desired.

#### 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. In order for your RT to use the FH mode of operation, it must be loaded with FH data. The data necessary for FH operation are (1) cold start TSK, (2) SC frequency loaded into MAN channel, (3) hopset (4) lockout set(s), if required, and (5) FH sync time.

LO (low power) – Manpack: 300 M M (medium power): 300 M – 4 KM HI (high power): 4 KM – 8 KM PA (power amplifier) - Vehicular only: 8 KM - 35 KM

\*\*NOTE: Every radio system requires 5 basic components, (1) Transmitter (2) Receiver (3) Power Supply (4) Antenna (5) H-250(HANDSET).

\*\*NOTE: The above ranges are based upon line of sight and are averages for normal conditions. Range depends on location, sighting, weather, and surrounding noise level, among other factors. Use of OE-254 antenna will increase ranges for both voice and data transmissions. Enemy jamming and mutual interference conditions will degrade these ranges. In data transmissions, use of lower baud rate will increase range.

\*\*NOTE: The primary Portable Radio Communication (PRC) used by the Marine Corps is PRC-117F.The PRC-119 A and B are no longer in service (it has been replaced by the PRC-117). However, the PRC-119C still exists (which go into the MRC-145S) and PRC 119 F (it can go into a vehicle or manpack). Utilization of current comm assets and other means of communications (ex: SWAN/VSAT, Blue Force Tracker, ManPack, and handheld radios) are the current source of communication within vehicles, foot patrols, and combat operation's centers (COC's).

108.3 Explain the procedures for the setup and use of the AN/PRC-117F and AN/PRC-119F. [ref. a]

#### **AN/PRC-117F Radio Set Operation**

Function switch control positions are used to turn the radio on or off, and to select the radio's COMSEC operating mode. The selections are:

- OFF: Radio powered off (a good HUB will retain ALL data)
- PT: Plain Text (requires a pull-to-turn action)
- CT: Cipher Text
- TD: Cipher Text Time Delay (VINSON COMSEC only)
- RV: Receive Variable (OTAR, variable generate)
- LD: Load crypto variables or FH data
- Z-ALL: ZEROIZE RED Data (requires a pull-to-turn action)
- CLR: Clears ALL programming (Black data) and keys (Red data) (requires a pull-to-turn action)

\*\*NOTE: Place battery in CLR position to save HUB battery in long term storage

#### **AN/PRC-117F System Setup Procedures**

- Ensure radio is in the OFF position
- Insert batteries into battery box and attach to AN/PRC-117F
- Two (2) each BB-390, BB-590, BB-2590, BA-5590, BA-5390
- Connect the 6-foot KDU remote cable to the KDU left side connector and to the
- AN/PRC-117F chassis connector (Line up with dots).
- Connect H-250/U handset to the J1 Audio/Data/Fill connector.
- Connect the Flexible Adapter to the J5 VHF-LOW antenna.
- Connect the VHF Blade Antenna to J8 VHF/UHF Flex Antenna or, for SATCOM, connect the SATCOM antenna coax cable to the radio J8 VHF-HI/UHF antenna connector.

#### **External GPS Operation:**

 Connect GPS interface cable from GPS J2 input connector or, for NMEA (GARMIN) GPS, use stub adapter with PC cable

### AN/PRC-117F LOADING SC FREQUENCIES

- Turn Function Switch to PT (Radio will conduct SELF TEST at this time).
- Press Key pad #8 (Program button).
- Select NORM & press ENT.
- Press ENT on Net.
- Select Preset net to Modify (00-99 user defined).
- Select YES for activate in list.
- Select NET type (LOS Fixed Freq).
- Select FREQ & press ENT.
- Enter desired Freq and press ENT.
- Select NO on receive only and press ENT.
- Press CLR 3 time (to get to Main Menu).
- Place Radio on PRESET you just programed.
- Conduct Radio Check.

\*\*NOTE: <sup>(b)</sup> button is the 'toggle' button, which moves to different screens to view the channel, net and frequencies.





#### MANPACK

To assemble a manpack radio, you must first check and install the battery. *WARNING:* THE LITHIUM BATTERY USED WITH YOUR MANPACK RADIO IS HAZARDOUS IF MISUSED OR TAMPERED WITH BEFORE, DURING, OR AFTER DISCHARGE. STRICTLY OBSERVE THE FOLLOWING PRECAUTIONS TO PREVENT INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

**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.

**DO NOT** expose the battery to water; it may cause it to explode.

#### ANTENNA

- 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.

**DO NOT** use antenna as a handle. Equipment damage may result. \*\*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.

#### HANDSET

- Connect and secure handset connector to AUD/DATA connector.
- Make sure that keys line up on handset connector and RT AUD/DATA connector.
- 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.

### **FIELD PACK**

- Place RT in field pack with antenna on the left as shown.
- Fold top flap of field pack over RT and secure flap to field pack using straps and buckles.



#### AN/PRC 119F Loading Single Channel Frequencies.

The procedure for loading SC frequencies requires setting the proper switches, pressing the correct number keys for the frequency you wish to load, and storing the load in RT permanent memory by pressing STO button.

- Obtain authorized operating frequency from SOI or NCS.
- Refer to the illustration of RT front panel above: then set FCTN to LD.
- Set MODE to SC.
- Set CHAN to 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 performing 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 (background noise is on) or normal operating position.
   SQ OFF (background noise is off).



AN/PRC-119F



#### Vehicle Radio Communication (VRC)

Vehicular radios are installed programmed and removed by either a field radio operator or maintenance personnel. However, if you have to dismount radio, you need to know how to remove the RT.

- Unscrew the antenna adapter assembly (1)
- Unscrew the Automated Network Control (2)
- Pull handheld latch (3)

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- Lift radio straight and to remove.
- Install either a Whip Antenna or Blade Antenna



VRC-110 (WARNING HIGH VOLTAGE)

108.4 Discuss the purpose of the Hold-Up Battery (HUB) and explain the procedure to replace the HUB battery. [ref. a]

> The HUB is a commercial 3.6 volt lithium type battery used to retain radio programming and COMSEC variables. If a bad HUB is discovered during BIT-TEST and the radio has been programmed and/or has COMSEC loaded, perform the following HOT SWAP procedure PRIOR to setting the function switch to OFF:

- Leave radio ON
- Remove one (1) main battery at a time, until HUB compartment is exposed. \_
- Leave one (1) battery connected to retain all data.
- Replace the HUB and ensure it is correctly installed. \_
- Perform BIT-TEST

#### Types of HUBs:

- BA-5390/U
  - Lithium-Manganese Dioxide
  - NON-RECHARGEABLE BA-5372/U
- BA 5590/U
  - Lithium
  - NON-RECHARGEABLE
- BB-390/U
  - Ni-MH RECHARGEABLE
- BB-2590/U
  - Lithium-Ion RECHARGEABLE (manpack radio primary power battery)
- 108.5 Discuss the phonetic alphabet and pronunciation of numbers during radio communications. [ref. a]

#### PHONETIC ALPHABET

#### PRONUNCIATION N = NOVEMBER A = ALFAA = AL FAHN = NO VEM BER B = BRAVOO = OSCARB = BRAH VOH O = OSS CAHC = CHARLIE P = PAPAC = CHAR LEE P = PAH PAHD = DELTA Q = QUEBEC D = DELL TAH Q = KEH BECK E = ECHO R = ROMEO E = ECH OH R = ROW ME OH F = FOXTROT S = SIERRA F = FOKS TROT S = SEE AIR RAH G = GOLF T = TANGO G = GOLFT = TANG GO H = HOH TELL H = HOTEL U = UNIFORM U = YOU NEE FORM I = INDIA V = VICTOR I = IN DEE AH V = VIK TAHJ = JULIETW = WHISKEY J = JEW LEE ETT W = WISS KEY X = X-RAY X = ECKS RAY K = KILOK = KEY LOH L = LIMAY = YANKEE L = LEE MAH Y = YANG KEY Z = ZULUZ = ZOO LOO M = MIKEM = MIKE

#### NUMERIC PRONUNCIATION

16,000 = WUN SIX THOUSAND

1 = WUN	6 = SIX	70 = SEVEN ZERO
2 = TOO	7 = SEV-EN	84 = ATE FO-WER
3 = TREE	8 = ATE	131 = WUN TREE WUN
4 = FO-WER	9 = NIN-ER	500 = FIFE HUN-DRED
5 = FIFE	0 = ZE-RO	1,468 = WUN FO-WER SIX ATE
		7,000 = SEVEN THOUSAND

108.6 Discuss the procedures to perform operator's level maintenance on the AN/PRC 117. [ref. a]

#### Inspect the Equipment

- Ensure the equipment SL3 is complete.
- Check all major components for damage and serviceability.
  - Receiver-transmitter
  - 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 with a damp rag
- 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
- Clean antenna ports with an eraser
- Clean battery ports with a dry rag
- Perform Operation Checks
  - Conduct inventory
  - Make sure all parts are present
  - Check the accessories for cleanliness and serviceability using the memory aid

FITCAL (helpful acronym for maintenance of equipment)

- 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
## 109 WEAPONS FUNDAMENTALS

References:

- [a] USMC, Marine Corps University Sergeant's Course 1006
- [b] TM05538D/10012B-12/1, USMC Operator's Manual with Components List (PCN
- 18405538000)
- [c] USMC TM 10698A-10/1
- [d] USMC TM 1330-12/1A
- USMC, Marine Corps University Sergeant's Course 1001
- [f] USMC, Marine Corps University Sergeant's Course 1002
- [g] USMC, Marine Corps University Sergeant's Course 1003
- [h] USMC, Marine Corps University Sergeant's Course 1004
- [i] USMC, Marine Corps University Sergeant's Course 1005
- [j] USMC TM 11064-OR
- [k] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
- 109.1 State the four weapon safety rules. [ref. a]
  - 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
- 109.2 Discuss the following characteristics of the M9 service pistol: [ref. a]

#### **Description and Technical Data**

- semiautomatic
- magazine fed
- recoil operated
- double action pistol

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

#### Weapon Conditions

Condition 1

- Magazine inserted, round in chamber, slide forward, hammer in the forward position and de-cocking/safety lever is on.
- Condition 2
- Does not apply to the M9 Pistol.

Condition 3

- The chamber is empty, 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 Magazine

- Hold the magazine in one hand. With the other hand place a cartridge on the follower in front of the lips. Press down and slide the cartridge completely back under the lips. Repeat the step above until the magazine is fully loaded (15 cartridges). Holes on the backside of the magazine allow for visual counting of cartridges.
- 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. WARNING: PISTOL IS NOW LOADED! Unloading the Pistol
  - Place de-cocking/safety lever in "safe" (down) position. (2) Depress the magazine release button to (3) remove the magazine 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 and (4) visually inspect the chamber to ensure that it is empty.

Unloading the Magazine

- With one hand, hold magazine upright with front end forward. With the thumb firmly press down on the cartridge rim and push forward. As the cartridge moves forward, tip it upward and out with the index finger. Repeat the above step until the magazine is empty.



### **Immediate and Remedial Action**

Immediate Action

 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. It is important that the user apply immediate action instinctively to correct a stoppage.

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 de-cocking/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.
   Attempt to push the slide fully forward with the other hand. If the slide will not move forward, proceed as follows:
  - Place de-cocking/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 de-cocking/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.

### 109.3 Discuss the following characteristics of the M16A4 service rifle: [ref. b]

### **Description and Technical Data**

- lightweight
- gas-operated
- air-cooled
- magazine-fed
- shoulder-fired weapon
- can be fired in the semi-auto and auto (3 round burst)

Caliber	5.56mm
Length (w compensator)	39 5/8 in
Weight (w/30 round magazine)	8.13 lbs.
Maximum effective range	550 meters point target/800 meters
	area target
Maximum range	3600 meters
Magazine	staggered, 30 round capacity

#### Weapon Conditions

Condition 1

- Safety on, magazine inserted, round in chamber inserted, bolt forward, ejection port cover closed.
- Condition 2
  - Does not apply to the M16A4 rifle, M9 Pistol.
- 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.

#### Load and Unload Procedures

Loading a magazine

- The magazine may be loaded quickly using the 10-round stripper clips and the magazine filler found in each bandoleer. With the magazine filler in place, place a 10-round stripper clip in position. Using thumb pressure on the rear of the top cartridge, press down firmly until all 10 rounds are below the feed lips of the magazine. Remove the stripper clip while holding the magazine filler in place. Repeat until 3-round clips have been loaded. Remove magazine filler and retain for future use.

Unloading the magazine

- With one hand, hold magazine upright; front end forward. Using your thumb; firmly press down on the cartridge rim and push forward. As the cartridge moves forward, tip it upward and out with the index finger. Repeat above step until the magazine is empty.

#### Immediate and Remedial Action

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

- Tap Rack Bang
- 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

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.

Perform remedial action.

- 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.

109.4 Discuss the following characteristics of the M16/M4 service rifle: [ref. b]

### Description and Technical Data

- lightweight
- gas-operated
- air-cooled
- magazine-fed
- shoulder-fired weapon
- can be fired in the semi-auto and auto (3 round burst)

Caliber	.5.56mm
Length (w compensator, buttstock extended)	. 39 5/8 in
Length (w compensator, buttstock collapsed)	. 29.75 in
Weight (w/30 round magazine)	7.12 lbs.
Maximum effective range	.500 meters point target
	594 meters area target
Maximum range	.3600 meters
Magazine	staggered, 30 round capacity

## Weapon Conditions

Condition 1

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

Condition 2

– Does not apply to the M16M4 rifle, M9 Pistol

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.

## Load and Unload Procedures

Loading a magazine

- The magazine may be loaded quickly using the 10-round stripper clips and the magazine filler found in each bandoleer. With the magazine filler in place, place a 10-round stripper clip in position. Using thumb pressure on the rear of the top cartridge, press down firmly until all 10 rounds are below the feed lips of the magazine. Remove the stripper clip while holding the magazine filler in place. Repeat until 3-round clips have been loaded. Remove magazine filler and retain for future use.
- Unloading the magazine
  - With one hand, hold magazine upright with front end forward. With the thumb firmly press down on the cartridge rim and push forward. As the cartridge moves forward, tip it upward and out with the index finger. Repeat the above step until the magazine is empty.

#### Immediate and Remedial Action

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

- Tap Rack Bang
- 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:

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.

109.5 Discuss the following characteristics of the M4 Super 90(M1014) Shotgun: [ref. c]

#### **Description and Technical Data**

- semi-automatic
- fixed magazine tube.
- uses the ARGO (Auto Regulating Gas Operated) Twin Operating System with rotating bolt head and dual locking lugs:
  - self-cleaning
  - unaffected by fouling
  - requires little or no maintenance
  - self-regulated for cartridges of varying length and power levels and functions reliably under all environmental conditions

Caliber	12 gauge
Length (w buttstock extended)	39.8 in
Length (w buttstock collapsed)	34.9 in
Weight (empty)	.8.44 lbs.
Maximum effective range	Dependent upon ammunition used
Maximum range	Dependent upon ammunition used
Magazine	Fitted for (7)-2.75in and (6)-3in shells

## Weapon Conditions

Condition 1

- Safety on, round in chamber, bolt forward

Condition 2

- Does not apply to the M1014
- Condition 3
- Round in magazine

Condition 4

- Safety on, no rounds in magazine, bolt forward

#### Load and Unload Procedures

Administrative Loading (Bolt Assembly Locked Rearward)

- Administrative loading is the initial loading of the M1014 after the weapon has been cleared or when reloading after the weapon is fired dry (empty).
   Administrative loading is as follows:
  - Point the weapon's muzzle in a safe direction; keep fingers off the trigger and outside the trigger guard.
  - Place the cross-bolt safety button in the SAFE position (depressed).
  - Through the open ejection port, place one live shell on the shell carrier with the rim of the shell facing the rear of the weapon.
  - Press the bolt release button to close the bolt and chamber the shell.
  - Push up on the shell carrier and insert shells individually into the magazine tube through the loading port.
  - Ensure that: (a) each shell is inserted into the magazine with its rim facing

rearward; (b) each shell is pushed fully into the magazine tube until the shell stop holds the shell in place. A click can be heard when the shell stop snaps behind the rim of the shell.

 Continue this procedure until the magazine tube is full or the desired number of shells have been loaded.

Unloading/Exchanging rounds

- If ammunition is switched, both the chambered shell and the shell on the carrier must be removed. The free carrier in the M1014 allows the chambered shell to be removed or exchanged with a different shell without having to first unload the magazine tube. Also, the operator can quickly remove chambered shell and replace it with a different shell that is more appropriate for the target at hand.
  - Grasp the forearm of the weapon firmly with the non-firing hand.
  - Remove the firing hand from the buttstock and retrieve a shell from the ammunition pouch. Hold the shell between the thumb and index finger of the firing hand with the rim or base of the shell pointing towards the palm.
  - Using the edge of the firing hand below the small finger, pull rearward on the bolt handle and hold it open. The chambered shell will eject from the weapon.
  - While holding the bolt open, insert the new shell into the weapon through the ejection port.
  - Release the bolt handle to chamber the new shell. Do not ride the bolt handle forward or the shell may not fully chamber.
  - To remove a chambered shell, tilt the weapon to the right (ejection port facing down) and repeat step 3 above.

## Immediate and Remedial Action

The operator will perform the immediate actions below whenever the weapon does not operate correctly and a backup weapon is unavailable.

- Fully release the trigger and attempt to fire the weapon again.
- If the weapon does not fire, press the shell release lever to release a shell from the magazine tube onto the shell carrier.
- Pull the bolt fully rearward and release to chamber another shell. If the bolt locks to the rear, manually insert a single shell through the ejection port.
   Press the bolt release button to chamber the shell.
- Pull the trigger and attempt to fire the chambered shell. If the weapon does not fire, switch to a back-up weapon, if available, or seek cover and perform the remedial actions in paragraph 2-11.
- If the weapon fires, combat reload the weapon as described in paragraph 2-6 to bring the shotgun back to maximum capacity.

Perform remedial action when immediate action does not solve the problem. To perform remedial action, check for the following:

- An empty magazine.
- An obstruction in the chamber and / or receiver such as an empty or ruptured case, a miss-fed shell or foreign matter.
- A faulty, dented or corroded magazine tube, jammed follower or unserviceable spring.
- Faulty ammunition (misshapen, bulging, corroded or gouged).
- Improperly or incompletely assembled weapon or magazine.
- Broken firing pin, hammer or other component part.
- Immobile (stuck) gas piston(s).

109.6 Discuss the following characteristics of the M67 grenade: [ref. d]

#### **Description and Technical Data**

## Weapon Conditions do not apply to the M67

109.7 Discuss the following characteristics of the M203 grenade launcher: [ref. e]

## **Description and Technical Data**

- Lightweight
- single shot
- breech-loaded
- pump action (sliding barrel)
- shoulder-fired weapon
- attached to either an M16A1 or an M16A2 rifle

Length of rifle and grenade launcher (overall) Length of barrel only Length of rifling Weight of launcher unloaded Weight of launcher loaded	9.0 cm (39 inches) .30.5 cm (12 inches) 25.4 cm (10 inches) .1.4 kg (3.0 pounds) 1.6 kg (3.5 pounds)
Wt. of rifle and grenade launcher with both fully loaded	5.0 kg (11.0 pounds)
Maximum range (approximatery)	400 meters (1,312it)
Fire-team sized area target	350 meters (1,148ft)
Vehicle or weapon point target	. 150 meters (492ft)
Minimum safe firing range (HE) (Training)	165 meters (541ft)
(Combat)	31 meters (102ft)
Minimum arming range (approximately)	14 to 38 meters (46 to
	125ft)
Rate of fire	5 to 7 rounds per
	minute

## **Weapon Conditions**

- 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

- 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
  - 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.

#### 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.

109.8 Discuss the following characteristics of the M249 Squad Automatic Weapon (SAW): [ref. f]

#### **Description and Technical Data**

- gas-operated
- air-cooled
- belt or magazine-fed
- automatic weapon
- 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

#### Weapon Conditions

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.

CAUTION: This weapon will not be half-cocked.

## Load and Unload Procedures

Load

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

Belt Method

- Clear the weapon as stated earlier. 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

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

Belt Method:

- 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

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#### WEAPONS FUNDAMENTALS (CONT'D)

#### Magazine method:

 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

 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.

### Malfunction

- A failure of the machine gun to function appropriately. 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. Actions taken are:
    - 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.

## 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 and 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.

WARNING! If nothing is ejected and the barrel is hot (200 rounds or more in 2minutes or less), do not open the cover. Push the safety to the right (red ring not visible), which places the weapon on safe. Keep the weapon pointed down range and remain clear for 15 minutes, then clear the weapon.

### **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 no tightly grip the base of the cartridge, it may fail to extract a round when the bolt moves to the rear ensure 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 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.
- 109.9 Discuss the following characteristics of the M240G machine gun: [ref. g]

#### **Description and Technical Data**

- air cooled
- belt fed
- gas operated
- automatic weapon

<ul> <li>fires from the open bolt position</li> </ul>	
Total system weight (gun and tripod complete)	45.6 lbs
Weight of machine gun	25.6 lbs
Weight of barrel	6.6 lbs
Weight of spare barrel, case, and all SL-3 components	. 12.90 lbs
Weight of tripod, complete with flex-mount including T&E mechanism	.20 lbs
Length of machine gun	49 inches
Height of machine gun on tripod	17 inches
Ranges Maximum	3,725 m
Maximum effective	.1,800 m
Grazing fire	. 600 m
Caliber	7.62mm

#### 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)

## Weapon Conditions

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.

CAUTION: This weapon will not be half-cocked.

### Load and Unload Procedures

Load

- 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 feed tray 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 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

- 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.

#### Malfunction

 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.
  - 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 has ejected. If a cartridge case, belt link, or a round is ejected, push the cocking handle to its forward position, take aim and 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.

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#### WEAPONS FUNDAMENTALS (CONT'D)

WARNING! If nothing is ejected and the barrel is hot (200 rounds or more in 2 Minutes or less), do not open the cover. Push the safety to the right (red ring not visible), which places the weapon on safe. Keep the weapon pointed down range and remain clear for 15 minutes, then clear the weapon.

## **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 action 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 no 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 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.
- 109.10 Discuss the following characteristics of the M2 50 CAL machine gun: [ref. h]

#### **Description and Technical Data**

- caliber .50, Browning, M2HB (M2 .50 cal),
- belt-fed
- recoil-operated
- air-cooled
- crew-served machine gun

<ul> <li>capable of single shot as well as automatic fire.</li> </ul>	
Total system weight (gun, and tripod complete)	128 pounds
Weight of receiver	60 pounds
Weight of barrel	24 pounds
Weight of tripod mount M3	·
(w/traversing and elevating mechanism and pintle w/bolt)	44 pounds
Length of gun	65 inches
Length of barrel	45 inches
Ranges:	
Maximum (M2 ball)	7,400 m
(app	vrox)
Maximum effective	<sup>′</sup> 1,830 m
Grazing fire	700 m
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

### Weapon Conditions

Condition 1

 The ammunition is in position on the feed tray. 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.

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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 feed tray 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

This is that action taken by the gunner and/or crew to reduce a stoppage, without investigating the cause, and quickly return the weapon to action. Two terms used to describe ammunition condition should be understood in conjunction with immediate action procedures

Malfunction

 A malfunction is a failure of the gun to function satisfactorily; the gun will fire, but fires improperly. The two most common types of malfunctions are sluggish operation and run away gun.

Sluggish Operation

 Gun fires very slowly. Usually due to human failure to eliminate excessive friction caused by lack of lubrication or excessive dirt/carbon and burred parts or by tight headspace adjustment or incorrect timing. 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 bent trigger, forward end of the trigger lever sprung downward, burred beveled contacting surfaces of the trigger lever and sear, or jammed or broken side plate trigger. Use one 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. In an emergency, twist the ammunition belt. This causes the gun to jam, and may damage the feeding mechanism. Replace broken, worn, burred parts. Check the side plate trigger and trigger control mechanism, when applicable

### 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. Stoppages are:

#### **Failure to Feed**

 Lubricate the weapon, remove and replace the ammunition, remove obstruction, clean the latch cover, align rounds, reinstall link belt with open end of link facing down, or notify organizational maintenance.

#### **Failure to Chamber**

 Clean the ammunition, cylinder, receiver, and chamber, remove round and re-cock weapon, or notify organizational maintenance.

#### Failure to Fire

 Failing to fire is caused usually by either defective parts in the firing mechanism, defective ammunition, or incorrect timing.

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

#### 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. Time (5 seconds) is allotted for this malfunction before investigating a stoppage further because of injury to personnel and damage to equipment.

- If the barrel is hot, the round must be extracted within the next 5 seconds to prevent a cook off. When more than 150 rounds have been fired in a 2minute period, the barrel is hot enough to produce a cook off.
- If the barrel is hot and the round cannot be extracted within 10 seconds total, it must remain locked in the chamber, with the cover closed, for at least 5 minutes to allow cooling of the barrel. This guards against a cook off occurring with the cover open.
- The following are the steps that must be taken in order to conduct immediate action on the M2. 50 cal.
  - Wait 5 seconds. In the next 5 seconds pull the bolt to the rear (check for ejection and feeding of belt).
  - Release the bolt, allowing it to move forward.
  - Relay (aim) the gun on the target and attempt to fire
  - If the weapon again fails to fire, wait 5 seconds, pull and lock the bolt to the rear, and return the retracting slide handle forward.
  - \*\*CAUTION: Determine if the barrel is hot or cold.
  - If the barrel is hot (more than 150 rounds fired within 2 minutes prior) and the round can't be extracted within 10 seconds, it must remain locked in the chamber (cover closed) for at least 5 minutes to guard against a cook-off.
  - If cold, open the cover and remove the ammunition and inspect the weapon.

If immediate action fails, remedial action must be applied by doing the following, either disassemble the weapon and inspect or check to see if the weapon has a round stuck on the t-slot or a ruptured cartridge: Remove the cartridge from the T-slot, hold the bolt to the rear, and with the extractor raised, use a length of cleaning rod to push the cartridge out the bottom of the receiver. Remove the ruptured cartridge with a length of cleaning rod or ruptured cartridge extractor.

109.11 Discuss the following characteristics of the MK19 machine gun: [ref. i]

### **Description and Technical Data**

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

Gun	75.6 pounds
Cradle (MK64 Mod 5)	21 pounds
Tripod.	44 pounds
Total	140.6 pounds
Length of gun	43.1 inches
Ranges:	
Maximum (M2 ball)	2,212 (approximate)
Maximum effective	1500 meters (point target)
Grazing fire	
Boar diameter	40 mm
Muzzle velocity	790 feet per second

#### Rates of Fire:

Sustained

40 rounds or less per minute

Rapid

– 60 rounds per minute

Cyclic

- 325 n-375 rounds per minute

### Weapon Conditions

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 locks 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. Clearing

- Put the weapon on safe and keep it pointed down range.
- Charge the weapon and leave the charger handles to the rear and down. Do not open the cover.
- Insert a length of cleaning rod through the right hand receiver rail as close to the face of the bolt as possible.
- Push down on the casing (the round may be live or spent) forcing it off the face of the bolt and out the bottom of the gun. The squad leader/assistant gunner should catch the round as it falls out.
- Dispose of the live round per applicable directives
- Push down on the casing (the round may be live or spent) forcing it off the face of the bolt and out the bottom of the gun. The squad leader/assistant gunner should catch the round as it falls out.

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### WEAPONS FUNDAMENTALS (CONT'D)

– Dispose of the live round per applicable directives.

## 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

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 Safe
- 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.

#### 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 the following method when you have a runaway 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.

#### 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.

#### 109.12 Discuss the Rifle Combat Optic (RCO): [ref. j]

## Description

The RCO is a fixed 4X optical aiming sight designed for use with the service rifle configured with the MIL-STD-1913 Rail Adapter System. It attaches to the rail to provide the user a targeting tool to engage distant daylight and near low-lit targets with increased identification certainty. The RCO is designed for the M4 Carbine family.

## 110 TACTICAL MEASURES FUNDAMENTALS

References:

- [a] Marine Corps Common Skills Handbook, Book 1B (PCN 5060000900)
- [b] USMC, Marine Corps University Sergeant's Course (SCRS0808)
- [c] MARADMIN 0415/09
- 110.1 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 Fields of View**

Off-center Vision Method

- The technique of viewing an object using daytime central vision is ineffective at night. This is due to the night blind spot that exists during low illumination. Marines must learn to use off-center vision. 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.
- 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 figure 1. At night, it is essential to avoid looking directly at a faintly visible object when trying to confirm its presence.

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 shown in the below figure.



Figure 2

## Preserve Night Vision

- 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.

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

Information must be reported as quickly, accurately, and completely as possible. An established method to remember how and what to report about the enemy is to use the acronym **SALUTE**:

- 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 131815Z Oct 10 carrying 1 machinegun and 1 rocket launcher"

110.3 Define and discuss the five paragraphs of an 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 the patrol leader's brief summary of the tactical plan the patrol is to execute.
- Task organization of the patrol.
- Movement to the objective area to include navigation method.
- Actions in the objective area.
- The return movement to include navigation method.
- Use of supporting forces, including illumination if required.
- 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.
- Time of assembly in the assembly area.
- Time of inspections and rehearsals that have not already been conducted.
- Time of departure and estimated time of return.
- Location of departure and re-entry of friendly lines,
- Details on the primary and alternate routes to and from the objective area.
- Details on formations and order of movement.
- Rally points and actions at rally points.
- Final preparation position and actions at this point.
- Objective rally point and actions at this point.
- Actions at danger areas/- Actions in the event of enemy contact.
- Details on actions in the objective not covered elsewhere.
- Estimate time of patrol debriefing upon return.

## Administration and Logistics

- Rations and ammunition
- Location of the distribution point
- Corpsman and aid station
- Handling of prisoners of war
- Other administrative and supply matters.

#### **Command and Signal**

- Special instructions on communications (prearranged signals)
- Password and countersign
- Radio call signs and frequencies
- Emergency signals
- Radio procedures
- Pyrotechnics
- Restrictions on the use of communications
- Location of patrol leader
- Location of assistant patrol leader

110.4 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.

**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.

**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.

**Wedge Formation** - Extend both arms downward and to the side at an angle of 45 degrees below the horizontal, palms to the front.

**Fire Team** - The right arm should be placed diagonally across the chest.









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## 110 TACTICAL MEASURES FUNDAMENTALS (CONT'D)

**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.

**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.

**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.

**Open Up/Extended** - 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.

**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.

**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.













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



- 110.5 Define and discuss the acronym SAFE when constructing a fighting position. [ref. a, p. 15-1]
  - S Security: Set up security before digging in.
  - A **Automatic Weapons:** Set up your automatic weapons so that they are oriented to the most likely avenues of approach.
  - F Field of Fire: Clear your fields of fire.
  - E Entrenchment: Dig in your position.
- 110.6 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. 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 to revert 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. As shown in figure 1.

## Dos and Don'ts

- Do not disturb the natural concealment around your position while digging.
- Avoid creating fresh paths near the position.
- Use old paths or vary the route to and from the position.
- Camouflage the path if necessary.
- Marines at their fighting positions dig fighting holes.
- Fighting holes provide excellent protection against small arms fire, shell fragments, airplane strafing's or bombings, the effects of nuclear detonations, and the crushing action of tanks.
- If not prescribed by higher authority, the squad leader will designate either one- or two-man fighting holes.
- The type of fighting hole used is based upon squad strength, fields of fire, size of squad sector of fire, and morale.
- 110.7 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.

110.8 Discuss the Armor Protection Level system. [ref. c]

The intent of creating the Armor Protection Levels (APLS) is to enable commanders to tailor protective postures based on their estimate of the situation and/or based on guidance from service/joint/theater combatant commanders. The Marine Corps recognizes the operational requirement to move away from the one-size-fits-all approach in dealing with ballistic protection. Unit commanders must rely instead on mission analysis and military judgment in making critical decisions which affect the personal protective posture of their Marines, and take advantage of the full scalability that the family of Marine Corps personal protective equipment provides. The following APLS are established and apply to all Marine Corps issued body armor sets, including, but not limited to the Modular Tactical Vest (MTV), Outer Tactical Vest (OTV), Plate Carrier (PC), and Full-Spectrum Battle Equipment (FSBE).

110.9 Identify equipment worn for the following APLs: [ref. c]

APL	Description
Level 0	No Body Armor Worn
Level 1	Vest/PC with Soft Armor Only
Level 2	Vest/PC with Front and Back Hard Armor Plates
Level 3	Vest/PC with Front, Back, and Side Hard Armor Plates

110.10 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 the enemy's observations. Concealment does not protect you from enemy fire

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

## High Crawl

The high crawl is used when

- 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

- 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, and 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

- 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 as shown in figure
- 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, as shown in Figure 3.



Figure 3

## 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. They can be crossed safely if certain fundamentals are applied by Marines and small-unit leaders.
  - When using the correct procedure for crossing an open area, develop a plan for your own movement.
  - 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 as shown in figure 4.



Figure 4

110.12 Discuss the following CASEVAC categories of precedence and the criteria used to determine their assignment: [ref. b, p. 0808H1]

**Determine the Precedence of the Casualty.** Casualties needing air CASEVAC will be given appropriate degrees of precedence so that, if aircraft space is limited, more urgent patients are evacuated before those whose conditions are less serious.

- The senior military person present makes the determination to request medical evacuation and assignment of precedence. This decision is based on the advice of the senior medical person at the scene, the patient's condition, and the tactical situation.
- Assignment of medical evacuation precedence is necessary. The precedence provides the supporting medical unit and controlling headquarters with information that is used in determining priorities for committing their evacuation assets. For this reason, correct assignment of precedence cannot be overemphasized; over classification remains a continuing problem.
- Patients will be picked up as soon as possible, consistent with available resources and pending missions.

The following are categories of precedence and the criteria used in patient 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

110.13 Discuss the criteria for selection of a helicopter landing zone. [ref. b, pp. 0808H2, 0808H3]

#### Landing Zones

CASEVAC pickup zones cannot always be selected in favorable terrain, but the size of the landing zone will dictate what type of helicopters will be able to support your CASEVAC and may determine how large of a landing zone will need to be

cleared. (See Table below) Notice that the size of the obstacles around the landing zone is paramount, locations requiring vertical ascent or decent are not desirable.

OVERALL LENGTH		LANDING ZONE DIAMETER OBSTRUCTION HEIGHT (FEET)			
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	
	Landing Zor	ne Diameter			

 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 from enemy direct fire weapons.
- Terrain cover and an effective base of suppressive fire can provide this protection during the critical landing, loading, 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.
- Landing zones may have to be cleared by the platoon. Tools likely to be used would be chain saws, hatchets, K-bars, entrenching tools, and explosives such as TNT and C-4. 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 figure 0808-2 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.
- 110.14 Discuss the procedures for requesting a CASEVAC. [ref. b, pp. 0808H3 thru 0808H5]

Requesting a CASEVAC.

- Helicopters are normally requested through battalion, but the platoon and rifle company commanders should be aware of their availability under all circumstances.
- A CASEVAC request is submitted to the appropriate unit using a CASEVAC request. The casualty evacuation request is used for requesting evacuation support for both air and ground ambulances.
- There are two established casualty evacuation formats and procedures one for wartime use and one used in peacetime.

Several differences exist between the wartime and the peacetime casualty evacuation request formats and procedures. The peacetime request form differs in two line item areas:

- 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.

L I N		ITEM		EXPLANATION	WHERE/HOW OBTAINED		WHO NORMALLY PROVIDES		REASON	
<u>E</u> 1		Location of Pickup site	Dickup Encrypt the grid coordinates of the pickup from map 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).		Unit Leaders		quired so evacuation vehicle ows where to pickup patient. so, so at the unit coordinating acuation mission n plan the route for the acuation vehicle (if the acuation vehicle must k up from more than e location).			
2		Radio Frequency, call sign, and suffix	Encrypt the free pickup site, not sign (and suffix contacted at the transmitted in th	quency of the radio at the a relay frequency. The call if used) of person to be e pickup site may be he clear.	From SOI		RTO	Re tio rec rou infi infi	equired for that evacua n vehicle can contact questing unit while en ut (obtain additional ormation or change situation or direction)	
3		Number of Patients by Precedence	Report only app encrypt the bre A- Urgent B- Urgent-Surg C- Priority D- Routine E-Convenience If two or more of the same reque between each	blicable information and vity codes. ategories Must be reported in est, insert the word "Break" category.	From SOI		RTO	Re co Ve mis	equired by the unit ntrolling the evacuation hicles to assist in prioritizing ssions	
4		Special Equipment Required	Encrypt the a A- None B-Hoist C- Extraction D-Ventilator	pplicable brevity codes Equipment	From evaluation Patient(s)	of	Medic or Senior Person Present	F E F F	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 a encrypt the b	pplicable information and revity code. If requesting	From Evaluation Patient(s)	s of	Medic or Senior Person	r a	equired so that the appropriate number of	
	6	Security of Pickup Site (WARTIME)	N- No enemy troo P- Possibly enemy (approach with ca E- Enemy troops i with caution) X- Enemy troops i escort required)	I- No enemy troops in area - Possibly enemy troops in area approach with caution) - Enemy troops in area (approach ith caution) (- Enemy troops in area (armed scort required)		Unit Leader	Req evac Asse and assi: Morr can evac it is loca assi plan	uired to assis cuation crew i assing the sit determining i stance is requ e definitive gu be furnished cuation vehicle enroute (spec st an aircraft ning its appro	st the in uation if uired. uidance the e while e while cific in oach).	
	6		Number and Type of Wound, Injury, or Illness PEACETIME	Specific information regardin by type (gunshot or shrapne bleeding, along with patient t known	g patient wounds I). Report serious Ilood type, if	From evalua of patient.	ation Me Sei Pre	dic or nior Person esent	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 an Availability	Me d Sei Pre	dic or nior Person ssent.	Required to assist the evacuation crew in identifying the specific location of the pickup. 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	

## **REQUESTING A CASEVAC**
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 WARTIME	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 PEACETIME	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.

# 111 MARINE CORPS OPERATIONS FUNDAMENTALS

References:

- [a] Headquarters Marine Corps, Department of Aviation Website (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
- [f] MARADMIN 315/04; MV-22 Transition Policy for Enlisted Marines
- [g] Operation al-Fajr (http://www.globalsecurity.org/military/ops/oif-phantom-fury
- [h] Http:www.Wikipedia.org
- 111.1 Discuss the primary function and mission of the following Marine Corps aviation platforms: [ref. a]

#### AH-1W Cobra

Crew: 2 officers

Primary function: Attack helicopter Length: 58 feet (17.67 meters) Height: 13.7 feet (4.17 meters) Rotor Diameter: 48 feet (14.62 meters) Speed: 147 knots (169.05 miles per hour) in basic combat attack configuration Range: 256 nautical miles (294.4 miles) in basic combat attack configuration Ceiling: 18,700 feet (5703.5 meters) in basic combat attack configuration (limited to 10,000 feet (3050 kilometers) by oxygen requirements)



**Armament:** One 20MM turreted cannon with 750 rounds; four external wing stations that can fire 2.75"/5.0" rockets and a wide variety of precision guided missiles, to include TOW/Hellfire (point target/anti-armor), Sidewinder (anti-air) and Sidearm (anti-radar).

**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.

- Provide fire support and security for forward and rear area forces.
- Conduct point target/anti-armor operations.
- Conduct anti-helicopter 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.

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#### MARINE CORPS OPERATIONS FUNDAMENTALS (CONT'D)

Perform organizational maintenance on assigned aircraft in all environmental conditions.

**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 AH-1W is a two-place, tandem-seat, twin-engine helicopter capable of land- or sea-based operations. The Cobra provides fire support and fire support coordination to the landing force during amphibious assaults and subsequent operations ashore.

#### CH-53E Super Sea Stallion

Primary function: Transportation of heavy equipment and supplies during the ship-to-shore movement of an amphibious assault and during subsequent operations ashore. Length: 99 feet 5 inches (2.64 meters) Height: 28 feet 4 inches (.81 meters) Rotor diameter: 79 feet (24.07 meters) Speed: 172.5 miles per hour (150 knots) Range:

- Without refueling: 621 miles
- With aerial refueling: indefinite



Armament: Two XM-218 .50 caliber machineguns.
Crew: 4 - pilot, copilot, crew chief, and 1st mechanic/aerial gunner
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 (Landing, Helicopter, Assault: an amphibious assault ship) and LHD (Landing, Helicopter, Dock: an amphibious assault ship) 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. A typical load would be a 16,000 pound (7264 kilogram) M198 howitzer or a 26,000 pound (11,804 kilogram) Light Armored Vehicle. 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.

- 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.

**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. Precision navigation is provided by an integrated global positioning system (GPS) and augmented by the Helicopter Night Vision System Forward Looking Infrared sensor.

**Background:** With four and one half hours' endurance, the CH-53E Super Stallion can mass combat power at long distances over rugged terrain, day or night. The Super Stallion has established itself as the prime workhorse of the Marine Corps' forward deployed units and has become a critical pillar in the expeditionary logistics capability for the future The CH-53E has consistently proven its worth to the Fleet commanders with its versatility and range. During Operation Eastern Exit two CH-53Es launched from amphibious ships and flew 463 nautical miles (532.45 miles) at night, refueling twice enroute, to rescue American and foreign allies from the American Embassy in the civil war-torn capital of Mogadishu, Somalia in January of 1990. Two CH-53Es rescued Air Force Capt. Scott O'Grady in Bosnia in June 1995, and the aircraft has been involved in multiple non-combatant evacuations.

#### UH-1Y Huey

Primary function: Utility helicopter Length: 57.3 feet (17.46 meters) Height: 14.9 feet (4.54 meters) Rotor Diameter: 48 feet (14.62 meters) Speed: 121 knots (139.15 miles per hour) at sea level Range: 172 nautical miles (197.8 miles) Crew: Officer: 2, Enlisted: 2 Armament: M-240 7.62mm machine gun or the GAU-16 .50 caliber machine gun or the GAU-17 7.62mm automatic gun. All



three weapons systems are crew-served, and the GAU-2B/A can also be controlled by the pilot in the fixed forward firing mode. The helicopter can also carry two 7-shot or 19-shot 2.75" rocket pods.

**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.

- 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.

**Features:** The UH-1N is a twin-piloted, twin-engine helicopter used in command and control, resupply, casualty evacuation, liaison and troop transport. The Huey provides utility combat helicopter support to the landing force commander during ship-to-shore movement and in subsequent operations ashore. The aircraft can be outfitted to support operations such as command and control with a specialized communication package (ASC-26), supporting arms coordination, assault support, medical evacuation for up to six litter patients and one medical attendant, external cargo, search and rescue using a rescue hoist, and reconnaissance and reconnaissance support. The currently fielding of the 2nd generation Navigational Thermal Imagining System/Forward Looking Infrared Radar for the UH-1N will increase its night mission capability.

### MV-22B Osprey

**Primary function:** Assault transport of combat troops in the initial assault waves and follow-on stages of amphibious operations and subsequent operations ashore. **Description:** 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.



**Mission:** 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.

- Provide combat assault troop transport as a primary function.
- Provide combat assault transport of supplies and equipment as a secondary function.
- Assault support for evac 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.

**Variants:** The CV-22 will be utilized by the Air Force and SOCOM for Special Operations missions maintaining maximum commonality with the MV-22. Aircraft avionics peculiar to Air Force/SOCOM unique mission requirements constitute primary aircraft differences. The Navy will use the HV-22 for Combat Search and Rescue and fleet logistics support

Dimensions:

Spread: Length..57' 4"..Width..84' 7"..Height..22' 1 Folded: Length..63' 0"..Width..18' 5" Height ..18' 1"

### **Cruise Airspeed**

MV-22: 240 kts (258 kts)

CV-22: 230 kts

Planned Inventory:

350 MV-22 (USMC) 50 CV-22 (USAF) 48 HV-22 (USN)

### EA-6B Prowler

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)

Length: 59 feet (17.98 meters) Height: 15 feet (4.57 meters)

Wing Span: 53 feet (16.15 meters) Speed: Maximum .99 mach; cruise .72 mach Range:

Unrefueled in combat configuration: 850 nautical miles (977.5 miles)



- Refueled: unlimited (crew fatigue factor - approximately 8 hours)

**Armament:** ALQ-99 Tactical Jamming System (TJS); USQ-113 Communications Jammer, High-Speed Anti-Radiation Missile (HARM)

**Sensors:** ALQ-99 On-board System (OBS), USQ-113 Communications Receiver **Crew:** 4

**Mission:** The EA-6B's ALQ-99 OBS 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. The ALQ-99 TJS is used to provide active radar

jamming support to assault support and attack aircraft, as well as ground units. Additional suppression of enemy air defenses (SEAD) capability is available with the employment of HARM. The USQ-113 communications jammer can detect and jam a wide range of communication frequencies to further degrade air defense and ground units' capabilities.

- Conduct airborne Electronic Attack (EA) and Electronic Warfare (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.

**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. Marine Prowlers are unique in their integration with the Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES). TERPES provides post-mission analysis of EA-6B ES data for reporting and updating orders of battle for EA-6B and MAGTF mission planning. It also provides post-mission analysis of jamming and HARM employment for reporting, assessing and storing mission data.

#### **AV-8B Harrier II**

Primary function: Attacks and destroys surface targets under day and night

visual meteorological conditions and provides helicopter escort.

Length: 46.3 feet (14.11 meters) Wing span: 30.3 feet (9.24 meters) Cruise speed: Subsonic to transonic Ferry range: 2100 nautical miles(2416.64 miles)

### Combat radius:

 Close air support: 163 nautical miles (187.45 miles) with 30 minutes time on station.



- Interdiction: 454 nautical miles (522.45 miles)

**Armament:** Seven external store stations, comprising six wing stations for AIM-9 Sidewinder and an assortment of air-to-ground weapons, external fuel tanks and AGM-65 Maverick missiles; one centerline station for a DECM pod. A GAU-12 25MM six-barrel gun pod and accompanying ammunition pod can be mounted either side of centerline and has a 300 round capacity with a lead computing optical

sight system (LCOSS).

#### **Crew:** 1

**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 groundto-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.
- 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.

**Features:** The AV-8B V/STOL strike aircraft was designed to replace the AV-8A and the A-4M light attack aircraft. The Marine Corps requirement for a V/STOL light attack force has been well documented since the late 1950's. Combining tactical mobility, responsiveness, reduced operating cost and basing flexibility, both afloat and ashore, V/STOL aircraft are particularly well-suited to the special combat and expeditionary requirements of the Marine Corps. The AV-8BII+ features the APG-65 Radar common to the F/A-18, as well as all previous systems and features common to the AV-8B Harrier II

### KC130F/R/T/J Hercules

Primary function: Aerial refueling service in support of Fleet Marine Force (FMF)

air operations and provides assault air transport of personnel, equipment, and supplies.

**Length:** Aircraft: 97 feet, 9 inches (22.16 meters).

Cargo compartment: 41 feet (12.49 meters). Width of Cargo compartment: 10feet, 3

inches (3.12 meters).

Height: Aircraft: 38 feet, 4 inches (11.68 meters).

Cargo compartment: 9 feet (2.74 meters).

Wing span: 132 feet, 7 inches (40.39 meters).

Speed: 315 knots (362.25 miles per hour).

**Range:** Tanker mission: 1000 nautical mile (1150 mile) radius with 45,000 pounds of fuel (20,430 kilograms) (KC-130R/T).

Cargo mission: 2875 nautical miles (3306.25 miles) with 38,258 pounds (17,369 kilograms) of cargo (KC-130R/T) or 92 combat troops or 64 paratroopers or 74 litters.

Landing distance: Less than 2,600 feet.

**Crew:** 2 pilots, 1 navigator/systems operator, 1 flight engineer, 1 first mechanic, 1-2 loadmasters

**Mission:** The KC-130 is a multi-role, multi-mission tactical tanker/transport, which provides the support required by Marine Air Ground Task Forces.

- 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.

**Features:** The KC-130 is equipped with a removable 3,600 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. Development is currently under way for the incorporation of interior/exterior night vision lighting, night vision goggle heads-up displays, global positioning system, and jam-resistant radios.

### F-18A/B/C/D/G Hornet

Primary function: Intercept and destroy enemy aircraft under all-weather conditions and attack and destroy surface

targets.

Length: 56 feet (17.06 meters) Wing Span: 37.5 feet (11.43 meters) Cruise Speed: High subsonic to supersonic Ferry Range: Over 2,000 nautical miles (2300 miles)



#### **Combat Radius:**

- Fighter Mission: 400 nautical miles (460 miles)
- Attack Mission: 575 nautical miles (661.25 miles)

**Armament:** Nine external wing stations, comprising two wingtip stations for an assortment of air-to-air and air-to-ground weapons, including AIM-7 Sparrows, AIM-9 Sidewinders, AMRAAMs, AGM-84 Harpoons and AGM-65 Maverick missiles; two inboard wing stations for external fuel tanks or air-to-ground stations; two nacelle fuselage stations for Sparrows or AN/AAS-38 Forward Looking Infrared Radar (FLIR) pods; and a center station for fuel tank or air-to-ground weapons. Air-to-ground weapons include all GBU series bombs, JSOW, JDAM, Mk 80 series general-purpose bombs, and CBU-59 cluster bombs. AN M61 20mm six-barrel gun is mounted in the nose and has a McDonnell Douglas director gun sight. **Crew:** 1-F/A-18 A/C; 2 F/A-18 B (trainer model).

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.
- 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.

**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-35 A/B/C Lighting II Joint Strike Fighter (JSF)

**Primary function:** Is a family of single-seat, single-engine, all-weather multirole fighter undergoing testing and final development by the United States. The fifth

generation combat aircraft is designed to perform ground attack, aerial reconnaissance, and air defense missions. Length: 50.5 ft (15.67m) Wing Span: 35 ft (10.7 m) Cruise Speed: 1,043 knots. Ferry Range: 1,200 nmi/ 220 km on internal fuel.

**Combat Radius:** 613 nmi (1,135 km) on internal fuel.

Armament: The F-35A is armed with a GAU-



22/A, a four-barrel version of the 25mm GAU-12 Equalizer cannon. The cannon is mounted internally with 182 rounds for the F-35A or in an external pod with 220 rounds for the F-35B and F-35C; the gun pod has stealth features. The F-35 has two internal weapons bays, and external hard points for mounting up to four underlying pylons and two near the wingtip pylons. The two outer hardpoints can carry pylons for the AIM-9X Sidewinder and AIM-132 ASRAAM short-range air-to-air (AAM) only. The other pylons can carry the AIM-120 AMRAAM BVR AAM, Storm Shadow cruise missile, AGM-158 Joint Air to Surface Stand-off Missile (JASSM) cruise missile, and guided bombs. The external pylons can carry missiles, bombs, and external fuel tanks at the expense of increased radar cross-section; thus reduced stealth. There are a total of four weapons stations between the two internal bays. Two of these carry air-to-surface missiles up to 2,000 (910 kg) in A and C models, or two bombs up to 1,000 lb. (450 kg) in the B model; the other two stations are for smaller weapons such as air-to-air missiles.

Mission: Ground Attack, Aerial Reconnaissance and Air Defense Missions.

**Features:** The JSF program was designed to replace the United States military F-16, A-10, F/A-18 (excluding newer E/F "Super Hornet" variants) and AV-8B tactical fighter and attack aircraft. The F-35 has three main models: F-35A conventional takeoff and landing (CTOL) variant, the F-35B short take-off and vertical –landing (STOVL) variant, and F-35C carrier-based Catapult Assisted Take-Off Barrier Arrested Recovery (CATOBAR) variant. 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.

111.2 Discuss the primary mission of each of the following classes of ships used to support the Marine Corps mission: [ref. b]

### LHA

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 multiship Amphibious Readiness Group (ARG). Some 3,000 Sailors and Marines contribute to a forward-deployed ARG composed of approximately 5,000 personnel.



#### LHD

The **Wasp-class LHD** is the largest amphibious ship 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 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

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

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



#### LCU

Landing Craft Utility (LCU) Landing craft are used by amphibious forces to

transport equipment and troops to the shore. They are capable of transporting tracked or wheeled vehicles and troops from amphibious assault ships to beachheads or piers. The use of landing craft in amphibious assault dates from World War II. The craft are carried aboard amphibious assault ships to the objective area. The mission of the LCU is to land/retrieve personnel and equipment (tanks, artillery, equipment, motor vehicles) during amphibious operations.



LCU's are scheduled to land personnel and equipment after the initial assault waves of an amphibian operation. The LCU has the capability of sustained sea operations for approximately seven days. Each LCU has its own galley and berthing spaces.

#### LCAC

#### The Landing Craft, Air Cushion (LCAC)

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. The advantages of air-cushion landing craft are numerous. 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 (sealift)

Two Hospital Ships (Comfort and Mercy) [HSS] 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.

The **HSS** mission in joint operations is to minimize the effects of wounds, injuries, and disease on unit effectiveness, readiness, and morale. 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). One measure of this system's effectiveness is its ability to save life and limb, to reduce the disease and non-battle injury (DNBI) rate, and to return patients to duty quickly and as far forward in the theater as possible. Another measure is the system's ability to stabilize patients for evacuation to the Communications Zone (COMMZ) or out of the theater as appropriate, within the operational evacuation policy guidelines, and with minimum delay of the fleet and fleet activities located in areas where hostilities may be imminent.

#### T-AK (sealift)

Each of the five ships of the T-AK-3000 Cpl. Louis J. Hauge Jr. 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 rollon/roll-off capabilities. Navy lighterage carried onboard consists of causeways, both powered and unpowered, and small boats to move them around. They are certified to land up to CH-53E helicopters onboard. They also have break-bulk cargo capacity, which is used for carrying general cargo. The ships are prepositioned in Diego Garcia.



Thirteen MSC prepositioning ships are specially configured to transport supplies for the US Marine Corps. Known as the Maritime Prepositioning 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 Prepositioning 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

111.3 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.

**MOOTW** focuses 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 specific goal of MOOTW may be peaceful

settlement, assistance rendered to civil authorities, or providing security for 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.

111.4 Explain the following types of MOOTW and give examples of each [ref. c, pp. III-1 thru III-15]

#### **Arms Control**

A concept that predicts 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 systems (including the command and control, logistic support arrangements, and any related intelligence gathering mechanism); 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. All of these actions help reduce threats to regional security. Other examples include military support for the Conventional Armed Forces in Europe Treaty by conducting and hosting site inspections, participating in military data exchanges, and implementing armament reductions. Finally, the US military's implementation of Vienna Document 1992 confidence and security building measures such as unit/formation inspections, exercise notifications/observations, air and ground base visits, and militarv equipment demonstrations are further examples of arms control.

#### **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). Antiterrorism programs form the foundation for effectively combating terrorism. The basics of such programs include training and defensive measures that strike a balance among the protection desired, the mission, infrastructure, and available manpower and resources. The US Government may provide antiterrorism assistance to foreign countries under the provisions of Chapter II of the Foreign Assistance Act of 1961. Joint Pub 3-07.2, "JTTP for Antiterrorism," provides detailed guidance on this subject. 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. DOD provides specially trained personnel and equipment in a supporting role to governmental lead agencies. Counterterrorism is a principal special operations mission (see Joint Pub 3-05, "Doctrine for Joint Special Operations."). 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. The Assistant to the President for National Security Affairs resolves any uncertainty on the designation of lead agency or responsibilities.

### **Enforcement of Sanctions/Maritime Intercept Operations**

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. The political objective is to compel a country or group to conform to the objectives of the initiating body. The military objective is to establish a barrier which is selective, allowing only those goods authorized to enter or exit. Depending on geography, sanction enforcement normally involves some combination of air and surface forces. Assigned forces should be capable of complementary mutual support and full communications compatibility. 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. The measures are usually imposed by the UN, or other international bodies of which the United States is a member. However, they may also be imposed unilaterally by the United States. Exclusion zones are usually imposed due to breaches of international standards of human rights or flagrant abuse of international law regarding the conduct of states. Situations which may warrant such action include: The persecution of the civil population by a government, to deter an attempt by a hostile nation to acquire territory by force. The sanctions may create economic, political, military, or other conditions where the intent is to change the behavior of the offending nation. 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 Over Flight**

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. These norms are developed by the International Civil Aviation Organization. An example is the Berlin air corridors that existed from 1948 until 1990, allowing air access to

West Berlin. 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)

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. DOD provides assistance when the relief need is gravely urgent and when the humanitarian emergency dwarfs the ability of normal relief agencies to effectively respond The US military can respond rapidly to emergencies or disasters and achieve order in austere locations. 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. Within DOD, the Undersecretary of Defense for Policy has the overall responsibility for developing the military policy for international HA operations. HA operations may cover a broad range of missions. An HA mission could also include securing an environment to allow humanitarian relief efforts to proceed. 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. Support to civil authorities can be as diverse as temporary augmentation of air traffic controllers and postal workers during strikes. restoration of law and order in the aftermath of riots, protection of life and federal property, or providing relief in the aftermath of a natural disaster. Authority for additional support to law enforcement officials is contained in DOD Directive 5525.5, "DOD Cooperation with Civilian Law Enforcement Officials," and permits such support as loan of equipment, use of facilities, training, and transfer of information. Support is constrained in some instances by the Economy Act (31 US Code Section 1535), which may require the requesting agency to provide reimbursement. 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. Statutory exceptions to the Posse Comitatus Act which allow active duty military members to respond to civil disturbances are included under Title 10 Sections 331 to 333: Request from a State (331), Enforcement of Federal Law (332), and Protection of Civil Rights (333). Additional important exceptions to Posse Comitatus are found in Title 10 Sections 371-380. Examples of military support to civil authorities are disaster relief

provided during Hurricanes Andrew in Florida and Iniki in Hawaii in 1992, and deployment of troops during a civil disturbance in California in 1992. Under DOD Directive 3025.1, "Military Support to Civil Authorities," the Secretary of the Army is designated the Executive Agent for MSCA.

#### Nation Assistance/Support to Counterinsurgency

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 a HN by promoting sustainable development and growth of responsive institutions. The goal is to promote long-term regional stability. Nation assistance programs often include, but are not limited to, security assistance, FID, and HCA. All nation assistance actions are integrated through the US Ambassador's Country Plan. Security Assistance. Security assistance refers to a group of programs by which the United States provides defense articles, military training, and other defense-related services to foreign nations by grant, loan, credit, or cash sales in furtherance of national policies and objectives. Some examples of US security assistance programs are Foreign Military sales, Foreign Military Financing Program, International Military Education and Training Program, Economic Support Fund, and commercial sales licensed under the Arms Export Control Act. • Security Assistance Surges, Security assistance surges accelerate release of equipment, supplies, or services when an allied or friendly nation faces an imminent military threat. Security assistance surges are military in nature and are focused on providing additional combat systems (weapons and equipment) or supplies, but may include the full range of security assistance, to include financial and training support.

#### Noncombatant Evacuation Operations (NEOs)

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. Pursuant to Executive Order 12656, the DOS is responsible for the protection and evacuation of American citizens abroad and for quarding their property. This order also directs the DOD to advise and assist the DOS in preparing and implementing plans for the evacuation of US citizens. 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. The conduct of military operations assist implementation of Emergency Action Plans is the responsibility of the geographic combatant commander. Evacuation operations are characterized by uncertainty. Evacuation operations may be directed without warning because of sudden changes in a country's government, reoriented political or military relationship with the United States, a sudden hostile threat to US citizens from elements within or external to a foreign country, or in response to a natural disaster. Joint Pub 3-07.5, "JTTP for Noncombatant Evacuation Operations,"

provides detailed guidance. 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.

#### **Peace Operations**

Military operations to support diplomatic efforts to reach a long-term political settlement and categorized as peacekeeping operations (PKO) and peace enforcement operations. PO 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. Military PO are tailored to each situation and may be conducted in support of diplomatic activities before, during, or after conflict. 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. An example of PKO is the US commitment to the Multinational Force Observers in the Sinai since 1982. Joint Pub 3-07.3, "JTTP for Peace Operations," (in draft) provides additional information on peacekeeping 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. Examples of PEO are Operation POWER PACK conducted in the Dominican Republic in 1965 and the secondary effort in Somalia (UNITAF), 1992-1993. Relationship of Peace Operations to Diplomatic Activities. US military peace operations support political objectives and diplomatic objectives. Military support improves the chances for success in the peace process by lending credibility to diplomatic actions and demonstrating resolve to achieve viable political settlements. In addition to PO, the military may conduct operations in support of the following diplomatic peace activities: Preventive Diplomacy. Preventive diplomacy consists of diplomatic actions taken in advance of a predictable crisis to prevent or limit violence. Military support to diplomacy may, for example, take the form of a preventive deployment. 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. Peacemaking. Peacemaking is the process of diplomacy, mediation, negotiation, or other forms of peaceful settlements that arranges an end to a dispute, and resolves issues that led to conflict. Military activities that support peacemaking include military-to- military relations and security assistance. Peace Building. Peace building consists of post-conflict actions, predominantly diplomatic and economic, that strengthen and rebuild governmental infrastructure and institutions in order to avoid a relapse into conflict. Military support to peace building may include, for example, units rebuilding roads, reestablishing or creating government entities, or the training of defense forces.

#### **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. With the consent of the flag state this protection may be extended to foreign flag vessels under international law. 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. Protection of shipping is accomplished by a combination of operations. Area operations, either land-based or sea-based, are designed to prevent a hostile force from obtaining a tactical position from which to attack friendly or allied shipping This includes ocean surveillance systems that provide data for threat location and strike operations against offending bases or facilities. Threats not neutralized by area operations must be deterred or addressed by escort operations. Generally, escorts are associated with convoys, although individual ships or a temporary grouping of ships may be escorted for a specific purpose. Mine countermeasures operations are integral to successful protection of shipping and are an essential element of escort operations. An example of protection of shipping is Operation EARNEST WILL, the reflagging of Kuwaiti ships in 1987. Environmental defense operations provide for coordinated Coast Guard/DOD response to major pollution incidents both at home and overseas. These incidents have the potential for grave damage to natural resources, the economy, and military operations.

#### **Recovery Operations**

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. Show of force operations are military in nature but often serve both political and military purposes. These operations can influence other governments or politicomilitary 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. Military forces conduct these operations within legal and political constraints. The force coordinates its operations with the country teams affected. A show of force can involve a wide range of military forces including joint US military or multinational forces. Additionally, a show of force may include or transition to joint or multinational exercises. As an example of a show of force, Operation JTF-Philippines was conducted by US forces in 1989 in support of President Aguino during a coup attempt against the Philippine government. During this operation, a large special operations force was formed, USAF fighter aircraft patrolled above rebel air bases, and two aircraft carriers were positioned off the Philippines

#### 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. Joint Pub 3-02, "Joint Doctrine for Amphibious Operations," provides specific guidance on amphibious raids

#### 111.5 Define Military Operations on Urbanized Terrain (MOUT). [ref. d, pp. 1-1, 1-2]

Throughout history, military planners have viewed cities as centers of gravity. As such, in war, cities are something to be either protected or taken away, depending upon one's perspective (MCDP 1, Warfighting). Cities house the population centers, transportation hubs, seats of government, sources of wealth, centers for industry, information networks, and key nodes of communication within a nation. Recent forecasts based on population statistics and the worldwide migration trend from agrarian to industrialized societies predict that 85 percent of the world's population will reside in urbanized areas by the year 2025. As the world trend toward urbanization increases, the military significance of cities is likely to increase proportionally. Urbanized areas, themselves, may be significant sources of future conflict. Cities historically are where radical ideas ferment, dissenters find allies, mixtures of people cause ethnic friction, and discontented groups receive media attention. Adversaries may focus on the capture of radio and television stations in an attempt to influence public opinion and attain their political goals. Our political leaders may take advantage to neutralize or stabilize some extremely volatile political situations, or to provide assistance to allies in need of support, by deploying U.S. forces into urban environments.

#### 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. Today's Marine Air-Ground Task Forces (MAGTFs) are deployed as part of naval expeditionary forces (NEFs) that maintain a global forward presence for rapid crisis response. These integrated combined-arms forces are part of the Nation's proven contingency and naval power projection force. Therefore, Marines may find

themselves rapidly deployed and employed in actions across the spectrum of military operations. Many of these trouble spots will likely be located in or around large urban centers. 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. Enhancing our adaptability are the maritime prepositioning forces (MPFs). MPFs provide a rapid buildup of combat and logistics equipment that is joined with Marines on a distant shore, creating a substantial combat force. 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. Navy and Marine forces should anticipate deployment to urbanized areas on a day-to-day basis

111.6 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+)

#### 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 (I). Later, the city was recaptured (II) by a smaller ARVN force using extensive artillery and air support. 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+)

#### Fallujah Iraq (2004)

**First Battle (4 April-01 May 2004):** The largest combat mission since the declaration of the end of "major hostilities", the First Battle of Fallujah marked a turning point in public perception of the on-going conflict. This was because insurgents, rather than Saddam loyalists, were seen as the chief opponents of U.S. forces. The battle also pushed Abu Musab al-Zarqawi into the public

spotlight as the best-known commander of anti-Coalition forces in Iraq, and brought public attention to the concept of a Sunni Triangle. (Length of battle 30 days) (Casualties: 27 U.S. service members were killed).

**Second Battle (7 November- 23 December 2004):** A joint American, Iraqi and British offensive in November and December 2004, considered the highest point of conflict in Fallujah, Iraqi War. It was led by the U.S. Marine Corps against Iraqi Insurgency stronghold in the city of Fallujah and was authorized by the U.S.-appointed Iraqi Interim Government. The U.S. military called it "some of the heaviest urban combat U.S. Marines have been involved since the Battle of Hue City in Vietnam in 1968. (Length: of battle, greater than 30 days) (Casualties: Coalition Forces had suffered 107 killed and 613 wounded during operation Phantom Fury).

#### Marjah, (Feb 2010)

Operation Moshtarak (Dari for Together or Joint) was an International Security Assistance Force (ISAF) pacification offensive in the town of Marjah, Helmand Province, Afghanistan. It involved 15,000 American, Afghan, Canadian, Estonian, Danish and British troops and constituted the largest joint operation of the War in Afghanistan up to that point and aimed to remove the Taliban from Marjah and eliminate the last Taliban stronghold in central Helmand Province. The main target of the offensive was the town of Marjah, which had been controlled for years by the Taliban as well as drug traffickers. Although Moshtarak was described as the largest in Afghanistan since the fall of the Taliban, it was originally supposed to be the prelude to a much larger offensive in Kandahar that would follow Moshtarak by several months. However ISAF chose to heavily publicize the operation before it was launched, comparing its scope and size to the 2004 Second Battle of Fallujah, in the hopes that Taliban fighters in the town would flee. The operation was also designed to showcase improvements in both the Afghan government and Afghan security forces. ISAF claimed that the operation was "Afghan-led" would use five Afghan brigades. General Stanley A. McChrystal, the commander of ISAF, also promised that following the offensive ISAF would install a "government in a box" in Marjah. Although initially successful, ISAF and the Afghans failed to set up a working government in the town, leading to a successful resurgence by the Taliban: 90 days into the offensive General McChrystal famously referred to it as a "bleeding ulcer". In October the town was still described as "troubling", but by early December 2010 the fighting there was declared "essentially over". (Length of battle: 11 months). The number of coalition casualties could not be disclosed; however, intelligence sources in the early days of the fighting estimated 120 Taliban fighters killed.

111.7 Discuss the noncombatant's impact on urban warfare. [ref. d, p. 6-1]

Large concentrations of noncombatants (civilians) can greatly impede tactical operations and have the following effects on military operations: **Mobility** 

Noncombatants attempting to escape the battle space, 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. Detailed guidance

on the use of fires in the presence of noncombatants is promulgated by the MAGTF commander. 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, 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 booby-traps may be curtailed until noncombatants have been evacuated. Commanders need to review and understand current national and international treaties concerning the employment of mines and booby-traps.

# 111.8 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.

References:

[a] Marine Corps Common Skills Handbook, Book 1B (PCN 5060000900)

- [b] MCRP 3-37A, NBC Field Handbook (PCN 14400004300)
- [c] NAVEDTRA 14295, Hospital Corpsman
- [d] Chemical Biological Radiological Nuclear School, Fort Leonard Wood, MO
- 112.1 Explain the shape, colors, and purposes of the standard North Atlantic Treaty Organization (NATO) Nuclear, Biological, and Chemical (CBRN) contamination markers and the information contained on them. [ref. a, pp. 1-20-1 thru 1-20-3]



### Biological



### Radiological



**Chemical Minefield** 



112.2 Discuss the purpose of the M-50 Joint Service General Purpose Mask. [ref. d]



The M50 Joint Service General Purpose Mask is the United States Armed Forces Field Protective mask, which began service in December 2009, replacing the M-40 Field Protective Mask.

M50 Joint Service General Purpose Mask (JSGPM) Description:

- The M50 is compact, lightweight, comfortable and more effective as determined by the Defense Department Joint Program Executive Office for Chemical and Biological Defense.
- The M-50 allows for a wide field of view with a single lens that spans the width of the face. It has twin conformal filters, which decreases breathing resistance by 50 percent. This protective mask provides 24 hours continuous protection in nuclear, biological and chemical (NBC environments).
- It has an indicator, which turns blue when the filter is expired.

- Designed to provide 24 hours of continuous head-eye-respiration for protection against chemical/biological (CB), radiological particulates, and toxic industrial chemicals (TIC), and improve overall mission performance of the warfighter.
- The M50 will fulfill all of the functional requirements for inter-service and service-unique mission.

### Characteristics

- Lightweight, approximately 5 lbs. in carrier.
- Mask carrier for transportation and storage. Dimensions (with carrier) are 12 x 12 x 5.5 in.
- The face piece is made of a butyl/silicone rubber faceblank with an inverted peripheral face seal and an integrated chin cup.
- The face piece assembly incorporates a flexible, single, polyurethane eye lens.
- There are two filter mounts (left and right) that integrate the air inlet/outlet disk valves, the self-sealing disk valves allow for protection during filter exchange.
- A nose cup that controls the flow of air throughout the mask and minimizes fogging of the eye lens while breathing.
- Other features include face pieces that have serial numbers which are bar coded as well as human readable and a human readable mask lot number printed on the right filter mount.

#### Capabilities

The M50 is issued in three sizes; small, medium, and large. Masks are equipped with a clear out sert assembly for eye lens protection. The M50 uses twin M61 filters, positioned on either side of the face piece, to provide protection against NBC threats. The face piece assembly forms a comfortable seal on the warfighter's face and protects the face, eyes, and respiratory tract from CB agents, designated TICs and radiological particulates.

#### Improvements over M40 FPM

- Lighter in weight. Reduced on-the-face weight and bulk.
- Single Eyelens. 23% improvement in field of view compared to the M40 mask.
- Extended Beard. Added CB protection.
- Outlet Valve Cover. Direct speech capabilities.
- Improved Drink System. Over 200ml/min for greater drinking capacity.
- Carrier reduces dirt intrusion, provides better protection to medical items, and is MOLLE compatible.
- Improved weapons, helmet, and sighting system compatibility.
- Compatible with current and co-developmental CB garments.
- Twin Conformal Filter 50% improvement in breathing resistance. Over 24hrs protection against Chemical/ Biological Agent's and radioactive particulate matter. Innovative self-sealing valve for protection during filter exchange. Filter service life indicator turns blue to indicate when unpackaged filters are no longer serviceable due to prolonged exposure to humidity.
- Over 50% reduction in audio amplifier weight. Sealed electronic pass through for enhanced integration with current and future communications systems such as an audio amplifier.

112.3 Discuss the proper way to don and clear the M-50 Joint Service General Purpose Mask. [ref. d]

#### Upon receiving the command or detecting a contamination presence:

- Close your eyes, stop breathing, and hold your breath.
   CAUTION: This does not mean take one last breath.
- Place the rifle between your legs.
- Remove your headgear and place it on the weapon.
- If you are wearing glasses, take them off.

**CAUTION:** Do not wear contact lenses with any field protective mask. Wearing contact lenses with the optical inserts will over correct your vision.



 With your left hand grasp the mask carrier flap tab and pull to open mask carrier flap. With your right hand, grasp the mask and remove it from the mask carrier.



- Raise the mask to your face and place your chin firmly in the chin cup.

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Grasp the head harness tab and pull head harness over your head. Be sure your ears are between the temple straps and cheek straps. Pull down the head harness at the back as far as possible so that the brow straps are tight and temple straps are approximately parallel to the ground.



 Tighten the cheek straps one at a time or both at the same time, ensuring straps lay flat against your head.

### Clearing the M50 mask.



- Seal the outlet disk valve by placing one hand over the outlet valve cover assembly. Blow out hard to ensure that any contaminated air is forced out around the edges of the mask assembly.
- Conduct a negative pressure test. With both hands locate and cover M61 filter air inlet passages on both filters and breathe in. Mask should collapse against your face and remain so while you hold your breath. If it does, your

mask is airtight. If the mask does not collapse, check for hair, clothing, or other matter between mask and your face and clear again.

- Resume breathing.
- Put on headgear.
- Close mask carrier flap.

### Checking the M50 mask for leaks.

Check for leaks at edge of mask by feeling for incoming air on your face. Check for bulges in the face seal by running finger around edge of your mask.

- Eliminate leaks by making minor adjustments to straps:
- To stop leaks at brow, ensure head harness is pulled down as far as possible on back of head and skullcap is centered at the back of your head. To stop leaks at temple, adjust temple straps. Stop leaks at cheek, adjust cheek straps.
- To stop leaks at the throat or under the chin, lift mask assembly higher on face, seating chin firmly in chin cup. Adjusting temple and cheek straps may also help. If mask still fails to seal have an individual service M50/51 trained field level CB equipment maintenance technician check proper fitting of mask.
- Check to see if M61 filters are properly installed.
- 112.4 Identify the following CBRN 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 as shown in figure 2.



Figure 2

**Percussion -** Metal on metal. Metal triangles are used to give the CBRN alarm by striking them repeatedly. Sirens, intermittent horns, biological/chemical alarm systems, or other devices as outlined by unit's standard operating procedures (SOP)

112.5 Explain Mission Oriented Protective Posture (MOPP) Levels. [ref. a]

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.

- 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.

MOPP LEVELS					
Levels	Over garment	Booties	Mask	Gloves	
*Ready	-	-	Carried	-	
**0	Available	Available	Available	Available	
1	Worn (open/closed)	Carried	Carried	Carried	
2	Worn (open/closed)	Worn	Carried	Carried	
3	Worn (open/closed)	Worn	Worn	Carried	
4	Worn	Worn	Worn	Worn	

 \*MOPP level ready is the condition when a Marine carries their gas mask.
 \*\*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.

112.6 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. Instructions for use:

- Open package of M9 tape.
- Unroll a small portion of detector tape.
- 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 as shown in figure 3.



Figure 3

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 as shown in figure 4.





 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	Н	Blister	
Note: Some C typical	3 agents give a between H an	t red-brown color d 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. When in doubt, re-test the area with an M256A1 kit and report the findings.

112.7 Discuss the three levels of decontamination. [ref. b, pp. 3-34, 3-35]

**Immediate Decontamination** minimizes casualties, saves lives, and limits the spread of contamination. Immediate decontamination is carried out by individuals upon becoming contaminated. There are three immediate techniques: skin decontamination, 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.

Level	Technique	Best Start Time*	Done By	Gains	
	Skin Decon	Before 1 minute	Individual		
Immediate	Personal Wipedown	Within 15 minutes	Individual or Crew	Stops agent from penetrating	
	Operator Spraydown				
	MOPP Gear Exchange	Within 6 hours	Unit	Possible temporary relief from MOPP4. Limit liquid agent spread.	
Operationa	Vehicle Washdown***		Battalion Crew or decon PLT (-)		
Thorough	Detailed Equipment/Air- craft Decon	When mission allows reconstitution	Decon platoon	Probable long-term MOPP reduction wit minimum risk	
	Detailed Troop Decon		Unit		

Operational

Decontamination

112.8 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.

#### 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.



112.9 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.
- 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 muscular twitching where the agent was absorbed.
- Other symptoms will include rhinorrhea, dyspnea, diarrhea and vomiting, convulsions, hyper salivation, 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 (3) 2mg auto-injectors of atropine and three (3) 600mg auto injectors of 2-PAM CI.
- DO NOT give nerve agent antidotes for preventive purposes before contemplated exposure to a nerve agent.
- The atropine auto injector consists of a hard plastic tube containing 2mg (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 auto injector containing Oxime therapy (using pralidoxime chloride, or 2-PAMCI) can also be used for regeneration of the blocked cholinesterase. Since 2-PAMCI is contained in the kit of auto
injectors, additional Oxime therapy is not generally medically recommended for those who have already received treatment by auto injection. The 2-PAM Cl auto injector 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 coiledspring mechanism identical to that in the atropine auto injector.

- 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 CI injections into your lateral thigh muscle or buttocks. Position the needle end of the atropine injector against the injection site and apply firm, even pressure (not a 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. The seconds can be estimated by counting one thousand one, one thousand two, and so forth. 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 CI 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, 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:
  - Mark 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 auto injectors when providing aid. Do not use your injectors on a casualty.

#### BLISTER AGENTS

- Also known as, 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 similar in their physical characteristics and toxicology.

# MUSTARD (HN)

- 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.
- 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 obstructions.

#### 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)

- 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 anti arsenical 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**

- Interferes with enzyme functions in the body, i.e., block oxygen transfer.
- Hydrocyanic acid (AC) and cyanogen chloride (CK) are cyanidecontaining 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 non-persistent 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)
  - 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. 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 (CI)**, 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

- Incapacitating agents, which are mainly comprised of psychochemical, produce mental confusion and an inability to function intelligently.
- The psychochemical 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.

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- 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.
  - Treatment does not shorten the duration of BZ intoxication, and premature discontinuation of therapy will result in relapse.

# RIOT CONTROL/HARASSING

- 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
  - 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 orthochlorobenzilidine 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. Protection against all tear agents is provided by protective masks and ordinary field clothing secured at the neck, wrists, and ankles. 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.
- Any chest discomfort after CS exposure can be relieved by talking.
- 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 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, hyper salivation, 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. 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.

#### SCREENING SMOKES

- 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.
- 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.

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
- 113.1 Explain the five purposes of close order drill and how they enable a commander. [ref. a, p. 0503H-2]
  - 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.
- 113.2 Discuss the meaning of the following drill terms: [ref. a, pp. 0503H-2, 0503H3]

#### 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.
- 113.3 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
- 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

- Inflection is the rise and fall in pitch and tone in the voice.

#### Cadence

- 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.

113.4 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 is in normal speaking voice.
- Rising in inflection.

**Command of Execution** is the command which indicates when a movement is to be executed.

- Beginning Pitch is higher than the last pitch of the preparatory command.
- No inflection.
- The Snap is given sharply and succinctly.
- 113.5 Discuss the positions of individuals in the following color guards: [ref. b, p. 12-1]

The color guard consists of four (4) men. Two (2) noncommissioned officers are the color bearers, and two (2) 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 below:

# Marine Corps Color Guard



# Navy-Marine Corps Color Guard

Left	Navy	Marine Corps	National	Right
Rifleman	Color	Color	Ensign	Rifleman
(Sailor)	(Sailor)	(Marine)	(Marine)	(Marine)

#### **Joint Armed Forces Color Guard**

Left	Coast Guard	Air Force	Navy	Marine Corps	Army	National	Right
Rifleman	Color	Color	Color	Color	Color	Ensign	Rifleman
(Marine)	(Coast Guard)	(Airman)	(Sailor)	(Marine)	(Solider)	(Solider)	(Solider)

# 113.6 Discuss the following recognized Marine Corps traditional events. [ref. c, pp. 0401H-1 thru 0401H-4]

#### Wet Down

- A party thrown by a newly promoted Staff NCO or officer to celebrate his/her new rank. It must be pointed out that this is not an initiation.
- At no time will anyone 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

- This 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 is often held 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.
- The departing Marine should be given the chance to make comments.

#### **Promotions and Re-enlistment's**

- 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
  - Promotions
  - Re-enlistments

#### Procedures for awarding the member:

#### Step 1

 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.

#### Step 2

 The commander will then command "POST". The senior enlisted marches in a most direct route to the left of the Commander.

#### Step 3

 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.

#### Step 4

 Next 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".

#### Step 5

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 staff personnel, advances to the first person to be recognized. Then 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 hand shake for receiving a promotion or re-enlistment.

#### Step 6

- Immediately after shaking hands, the person being promoted or reenlisted 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.
- Step 7
  - 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", and 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.
  - Guests and 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 procedure is prescribed as a guide for the conduct of the Marine Corps Birthday Ceremony. It is outlined on the basis of a Marine Corps post commanded by a general officer.
- At posts where no general officer is present, and in enlisted men's messes, modifications may be made as necessary to meet local conditions.
- Rehearsals must be conducted to ensure that the ceremony proceeds smoothly and precisely.
- It is recognized that considerable variation must be made in this ceremony to conform to the configuration of the dance floor or in the absence of a band or field music. Examples are:

- 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

### Change of Command (Relief/Appoint)

- When practicable, the ceremony will be held upon the change of command for an organization of battalion or squadron size, or larger units and directors of schools. The ceremony is normally a parade, however, it may be a review or as simple as a formation of the unit affected.
- The color guard is normally trooped as part of the sequence of events.
- However, if the incoming commander is being promoted at the parade or the outgoing commander is retiring or receiving an award during the parade, the color guard marches on with the formation and the colors are brought forward for the promotion/retirement/awards portion of the ceremony.

# 114 LAND NAVIGATION FUNDAMENTALS

References:

[a] USMC, Marine Corps University Sergeants' Course 1201

114.1 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:
  - center of the upper margin.
  - 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.
  - 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 on many maps 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 land forms.
- 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.
- Exercise care when using the scales, especially in the selection of the 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

114.2 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.
- 114.3 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 square meters, on the map, which is called a grid square.

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

114.4 Explain the difference between true north, magnetic north, and grid north. [p. 1201H-20]

#### True North

- The true north line 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.
- Usually represented on the declination diagram by a line ending with a star.
- 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 direction to this north magnetic pole is indicated by the northseeking arrow of your lensatic compass.
- 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

- This base line 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.
- 114.5 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.



#### Ridge

- A ridge is a series of hills that are connected to each other near the top.
- A ridge line 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



#### 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.



#### 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.



#### 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.



#### 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



114.6 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.
- Letters fall at the east (E) 90 degrees and (W) 270 degrees.
- 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. A relationship can be established between degrees and mils. A circle equals 6400 mil divided by 360 degrees, or 17.78 mils. To convert degrees to mils, multiply degrees by 17.78.

#### **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.
- 114.7 Explain how to convert a magnetic azimuth to a grid azimuth. [pp. 1201H-26, 1201H-27]

#### Azimuths

- Azimuths measured with a protractor are grid azimuths (measured from grid north),
- Azimuths determined with the compass are magnetic azimuths (measured from magnetic north).
- 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 (between grid north and magnetic north) is called the G-M ANGLE (Grid-Magnetic angle).

- The G-M angle varies for each map. Because of this angular difference (the G-M angle), before you can plot a magnetic azimuth on a map, you must convert it to a grid azimuth.
- 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.
- A complete set of instructions is included in MOST declination diagrams for your use in converting azimuths.
- The G-M angle often is not expressed as a whole degree, such as 1/2 degrees or 7 degrees 15'.
- Since you will not need to work with such precise numbers as minutes, round the G-M angle off to the nearest whole degree.
- If the G-M angle is 1/20 or 30' then round the angle up to the next highest whole degree.
- 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.

# TO CONVERT A MAGNETIC AZIMUTH TO A GRID AZIMUTH ADD G-M ANGLE

114.8 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.
- Since the north-seeking arrow of the compass points to magnetic north, pay special attention to the declination diagram.
- Use the following technique to orient your map.
  - 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. If there is a road off to your left, then 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

114.9 Discuss the technique for determining your position using the following methods: [pp. 1201H-33, 1201H-34]

#### Location by Inspection

- 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 onepoint 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° but not greater that 150° 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.



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