

Chapter 1

Fundamentals

Logistics is defined as “the science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: a. design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; b. movement, evacuation, and hospitalization of personnel; c. acquisition or construction, maintenance, operation, and disposition of facilities; and d. acquisition or furnishing of services.” (Joint Publication [JP] 1-02, *Department of Defense Dictionary of Military and Associated Terms*)

Logistics is a fundamental element of Marine air-ground task force (MAGTF) expeditionary operations. Marine expeditionary forces provide self-contained and self-sustained forces that have everything necessary to accomplish the mission—from individual equipment to expeditionary airfields and medical treatment facilities. These forces are structured to meet a wide range of contingency operations and possess the logistic capabilities needed to initiate an operation, sustain forces, and reconstitute for follow-on missions.

Effective logistic support must be viewed from the perspectives of supported (e.g., ground combat element) and supporting (e.g., combat service support element) organizations. It emphasizes the need for detailed planning and close integration of logistic capabilities of both supported combat units and supporting combat service support units.

Combat service support (CSS) is defined as “the essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war. Within the national and theater logistic systems, it includes but is not limited to that support rendered by service forces in ensuring the aspects of supply, maintenance, transportation, health services,

and other services required by aviation and ground combat troops to permit those units to accomplish their missions in combat. Combat service support encompasses those activities at all levels of war that produce sustainment to all operating forces on the battlefield.” (JP 1-02) CSS in the Marine Corps is a function or tasking associated with a unit that, by table of organization (T/O) and table of equipment (T/E), is organized, equipped, and trained as a CSS organization to perform CSS operations.

1001. Levels of War

Military operations require specific logistic support which is based on the strategic, operational, or tactical levels of war.

a. Strategic

“The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) security objectives and guidance, and develops and uses national resources to accomplish those objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of national power; develop global plans or theater war plans to achieve these objectives; and provide military forces and other capabilities in accordance with strategic plans.” (JP 1-02)

b. Operational

“The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operations objectives needed to accomplish the strategic objectives sequencing events to achieve the operational

objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives.” (JP 1-02)

c. Tactical

“The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives.” (JP 1-02)

1002. The Logistic Continuum

Strategic, operational, and tactical logistics parallel and complement the levels of war. Strategic logistics supports the organizing, training, and equipping of forces needed to further the national interest. Operational logistics links tactical requirements and strategic capabilities to accomplish operational goals and objectives. Tactical logistics includes organic unit capabilities and combat service support activities required to support military operations.

Effective tactical logistic support results from the proper employment of logistic capabilities within the MAGTF concept of operations and scheme of maneuver. Commanders and logisticians must carefully integrate logistic considerations into operations planning and execution. Tactical-level logistic capabilities are a primary element of a self-sufficient MAGTF, which is supported externally through the logistic activity at the strategic and operational levels. Figure 1-1 depicts the continuum of logistic support through the levels of war.

1003. Strategic Logistics

Strategic logistic capabilities are generated based on guidance from the National Command Authorities and logistic requirements identified by the operating forces. The combatant command and staff plan and oversee logistics from a theater strategic perspective. They assign execution responsibilities to Service components unless a joint or multinational functional command is formed to perform theater strategic logistic functions. The joint staff and combatant commanders generate and move forces and materiel into theater and areas of operations where operational logistic concepts are employed.

1004. Operational Logistics

Operational logistics connects the logistic efforts of the strategic level with those of the tactical level. The Marine component commander is responsible for conducting operational logistics and coordinating operational logistic support with tactical logistic operations. The component commander may assign operational-level logistic tasks to the combat service support element and aviation combat element commanders in addition to their tactical logistic responsibilities. In larger operations, a Marine logistic command may be

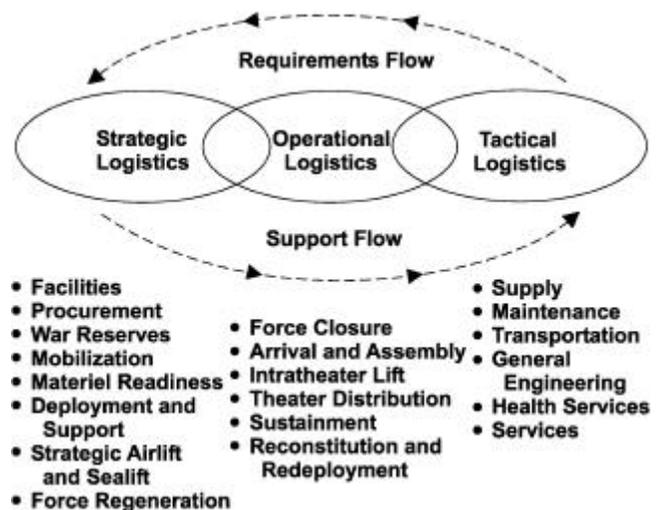


Figure 1-1. The Logistic Continuum.

established to conduct operational-level logistic tasks.

To provide operational-level support to tactical operations, Commander, Marine Corps Forces (COMMARFOR), may establish a Marine logistics command (MLC). The MLC would be responsible for establishing the theater support structure to facilitate arrival, assembly, reception, staging, onward movement, and integration operations. In addition, the MLC could provide operational logistic support to Marine Corps forces as the Marine component commander's operational-level logistic agency in theater. Normally, COMMARFOR assigns the MLC mission to a specific force service support group (FSSG). The COMMARFOR also assigns additional resources, based on the operational situation, theater geography, and infrastructure requirements, to the FSSG for the conduct of theater-supported logistic operations.

1005. Tactical Logistics

Effective logistic support is a command responsibility. The MAGTF commander must plan and coordinate tactical logistics within the MAGTF and coordinate with higher headquarters for the operational-level logistic support necessary to sustain MAGTF operations. Subordinate element commanders are responsible for the efficient employment of organic logistic capabilities, while the combat service support element (CSSE) commander is also responsible for executing CSS operations in support of the entire MAGTF.

All elements of the MAGTF execute tactical logistics to some degree by employing organic capabilities. The initial source of logistic support available to any unit is its own organic capabilities. Organic capabilities are defined in T/Os and T/Es. The CSSE, possessing capabilities beyond those found in the other MAGTF elements, con-

ducts CSS operations to provide any additional logistic support the other MAGTF elements require.

1006. Functions and Subfunctions of Tactical Logistics

Marine Corps tactical-level logistics encompasses all of the logistic support activities performed at the tactical-level of war, to include combat service support. Tactical logistics is normally categorized in six functional areas: supply, maintenance, transportation, general engineering, health services, and services. See table 1-1, on page 1-4.

a. Supply

Supply is a cyclic process of acquiring and issuing materiel to supported units. This materiel may be consumable or durable materiel, components, and end items. See MCWP 4-11.7, *MAGTF Supply Operations*, for additional information. Logisticians normally calculate requirements for each class and subclass of supply. See table 1-2, on page 1-5.

b. Maintenance

Maintenance involves those actions taken to keep materiel in serviceable condition (preventive maintenance) and actions required to return materiel to serviceable condition (corrective maintenance). Maintenance tasks are grouped by levels of support that determine assignment of maintenance responsibilities. Tables 1-3 and 1-4, on page 1-6, depict the levels of support as they are defined for ground equipment and aviation equipment, respectively; tactical logistic maintenance levels are highlighted. See MCWP 4-11.4, *Maintenance Operations*, for additional information.

Table 1-1. Functions and Subfunctions of Tactical Logistics.

Supply	Maintenance	Transportation
Determination of requirements Procurement Storage Distribution Salvage Disposal	Inspection and classification Service, adjustment, and tuning Testing and calibration Repair Modification Rebuilding and overhaul Reclamation Recovery and evacuation	Embarkation Landing support Port and terminal operations Motor transport Air delivery Freight/passenger transportation Materials handling equipment
General Engineering	Health Services	Services
Engineer reconnaissance Horizontal/vertical construction Facilities maintenance Demolition and obstacle removal Explosive ordnance disposal Bridging	Health maintenance Casualty collection Casualty treatment Temporary casualty holding Casualty evacuation	Command services: Personnel administration Religious ministries support Financial management Communications Billeting Messing Band Morale, welfare, and recreation CSS services: Disbursing Postal services Exchange services Security support Legal services support Civil affairs support Graves registration

Table 1-2. Classes of Supply.

Class	Description	Subclass
I	Subsistence, which includes rations and gratuitous health and welfare items.	A—air (in-flight rations), C—combat rations, R—refrigerated subsistence, and S—nonrefrigerated.
II	Minor end items, which include clothing, individual equipment, tentage, organizational tool sets and tool kits, hand tools, and administrative and housekeeping supplies and equipment.	B—ground support materiel, E—general supplies, F—clothing and textiles, M—weapons, and T—industrial supplies (e.g., bearings, block and tackle, cable, chains, wire rope, screws, bolts, studs, steel rods, plates, bars).
III	Petroleum, oils, and lubricants, which include petroleum fuels, lubricants, hydraulic and insulating oils, preservatives, liquid and compressed gases, bulk chemical products, coolants, de-icing and antifreeze compounds and the components and additives of such products, and coal.	A—air and W—ground (surface).
IV	Construction, which includes construction materiel, installed equipment, and all fortification or barrier materiel.	
V	Ammunition of all types, which includes chemical, biological, radiological, and special weapons, bombs, explosives, mines, fuzes, detonators, pyrotechnics, missiles, rockets, propellants, and other associated items.	A—air and W—ground.
VI	Personal demand items and nonmilitary sales items.	
VII	Major end items, which are the final combination of end products assembled and configured in their intended form and ready for use (e.g., launchers, tanks, mobile machine shops, and vehicles).	A—air, B—ground support materiel (includes power generators and construction, barrier, bridging, fire-fighting, petroleum, and mapping equipment), D—administrative vehicles (commercial vehicles used in administrative motor pools), G—electronics, K—tactical vehicles, L—missiles, M—weapons, and N—special weapons.
VIII	Medical materiel, which includes medical-unique repair parts.	A—medical and/or dental materiel and B—blood and blood products.
IX	Repair parts, which include components and kits, assemblies, and subassemblies (reparable and non-reparable) required for maintenance support of all equipment.	A—air, B—ground support materiel, D—administrative vehicles, G—electronics, K—tactical vehicles, L—missiles, M—weapons, N—special weapons, and T—industrial supplies.
X	Nonmilitary materiel, which includes materiel to support nonmilitary programs (e.g., agriculture and economic development), that is not included in classes I-IX.	

Table 1-3. Levels and Echelons of Ground Equipment Maintenance.

Levels of Maintenance	Echelons of Maintenance ¹
Organizational —Authorized at, performed by, and the responsibility of the using unit. Consists of cleaning, servicing, inspecting, lubricating, adjusting, and minor repair.	First —Limited action performed by crew or operator as prescribed by applicable manuals. Second —Limited action above the operator level performed by specialist personnel in the using unit.
Intermediate —Performed by designated agencies in support of the using unit or, for certain items of equipment, by specially authorized using units. Includes repair of subassemblies, assemblies, and major end items for return to lower echelons or to supply channels.	Third —Component replacement usually performed by specially trained personnel in owning or CSS units. Fourth —Component and end item overhaul and rebuilding performed by CSS units at semipermanent or fixed sites.
Depot —Major overhaul and complete rebuilding of parts, subassemblies, assemblies, and end items.	Fifth —End item overhaul and rebuilding performed by industrial-type activities using production line techniques, programs, and schedules.
¹ Equipment technical manuals and stock lists specify echelon of repair for each item.	

Table 1-4. Levels of Aviation Equipment Maintenance Activities.

Levels of Maintenance	Maintenance Activities
Organizational	Tactical and training squadrons, Marine Corps air stations with aircraft assigned.
Intermediate	Marine aviation logistics squadrons (MALS).
Depot	Naval aviation depots, contract maintenance depot activities. Each MALS has limited depot-level capability.

c. Transportation

Transportation is moving from one location to another using railways, highways, waterways, pipelines, oceans, and airways. Throughput is the amount of cargo and personnel passed through the transportation systems. The transportation system includes the means and the controls for managing the transportation means. The transportation subfunctions are generally applicable to all levels of support, although the means, methods, control, and management procedures employed at each level will vary. Although transportation is discussed as a logistic function, at the tactical level, transportation is a combat support function. Combat organizations use organic, attached, and supporting transportation assets for tactical movement.

d. General Engineering

General engineering is distinct from combat engineering. General engineering is typically considered a CSS function (e.g., engineer support battalion), while combat engineering is considered a combat support function (e.g., combat engineer battalion). General engineering assets at the tactical level may be used to reinforce or augment combat engineer organizations in specific situations for mobility, countermobility, or survivability tasks. These assets are normally in general support of the MAGTF for a wide range of tasks. These tasks often involve more detailed planning and preparation and higher standards of design and construction than typical combat engineer tasks.

e. Health Services

Health services support (HSS) seeks to minimize the effect that wounds, injuries, and disease have on unit effectiveness, readiness, and morale. HSS is accomplished by a preventive-medicine program that initially safeguards personnel against potential health risks and by the establishment of a system that provides medical support from the point of wounding, injury, or illness through evacuation. See MCWP 4-11.1, *Health Service Support Operations*, for additional information.

f. Services

The services function provides for the effective administration, management, and employment of military organizations. Services subfunctions are essentially administrative in nature. These are categorized as either command services, which are services provided to Marines by their individual commands, or CSS services, which are services provided by a CSS unit.

1007. Tactical Logistic Support External to the Marine Air-Ground Task Force

Cross-Service support is appropriate when there are standing Department of Defense (DOD) procedures for common-item support (e.g., for material managed by the Defense Logistics Agency [DLA]) or there are existing inter-Service support agreements (ISSAs) (e.g., for the U.S. Army to provide line-haul transportation to Marine Corps forces in certain theaters). Commanders of unified commands have directive authority for logistics by which they may authorize cross-Service support within their theater. Coalition, bilateral, and/or host nation support agreements authorize specified support across national lines. Requests for cross-Service or cross-national logistic support are coordinated by the Marine component commander.

1008. Combat Service Support Installations

The CSSE established fixed installations to build up logistic capabilities in support of the MAGTF. These installations are physical locations either aboard ship or ashore. Their number, location, and specific capabilities are dictated by the concept of CSS, which is based on the MAGTF mission and concept of operations. The MAGTF concept of operations must address the requirement to defend and protect the following CSS installations and facilities, as required.

a. Beach Support Area

In amphibious operations, the beach support area (BSA) is “the area to the rear of a landing force or elements thereof, established and operated by shore party units, which contains the facilities for the unloading of troops and materiel and the support of the forces ashore; it includes facilities for the evacuation of wounded, enemy prisoners of war, and captured materiel.” (JP 1-02)

The BSA is one of the first CSS installations established ashore during an amphibious operation and maritime prepositioning force (MPF) operations involving in-stream offload. It is established by the shore party group or team, but the CSSE commander may eventually disestablish it or consolidate it as part of the combat service support area (CSSA). In some situations, the BSA may be the only CSS installation ashore; in other situations, it may be one of several CSS installations.

b. Landing Zone Support Area

The landing zone support area is “a forward support installation which provides minimum essential support to the helicopterborne assault forces of the Marine air-ground task force. It can expand into a combat service support area but it is most often a short term installation with limited capabilities, normally containing dumps for rations, fuel, ammunition, and water only; maintenance is limited to contact teams and/or support teams.” (MCRP 5-12C)

This CSS installation is established to support helicopterborne assault elements. It is established by the CSSE when a buildup of supplies or other CSS capabilities is anticipated. When a logistic buildup is not planned, the supported unit is responsible for helicopter support team (HST) operations associated with support of the helicopterborne force.

c. Combat Service Support Area

A CSSA is “an area ashore that is organized to contain the necessary supplies, equipment, installations, and elements to provide the landing force with combat service support throughout the operation.” (JP 1-02)

The CSSEs operate CSSAs in accordance with the CSSE operation order (OPORD). Because CSSAs are primary targets, the landing force must plan for their defense. The BSAs or landing zone support areas are often developed into CSSAs when the CSSE establishes the necessary CSS capabilities in the installation to support sustained operations.

d. Force Combat Service Support Area

An force combat service support area (FCSSA) is “the primary combat service support installation established to support MAGTF operations ashore. Normally located near a beach, port, and/or airfield, it usually contains the command post of the combat service support element commander and supports other combat service support installations.” (MCRP 5-12C)

The FSSG establishes an FCSSA near a beach, seaport, and/or airfield to support other CSS installations and to provide support not available at forward installations. Normally, the FCSSA contains the command post of the FSSG commander.

e. Repair and Replenishment Point

A repair and replenishment point is “a combat service support installation, normally in forward areas near the supported unit, established to support a mechanized or other rapidly moving force.

It may be either a prearranged point or a hastily selected point to rearm, refuel, or provide repair services to the supported force.” (MCRP 5-12C)

Normally, a CSSD establishes a repair and replenishment point in support of a mechanized or other rapidly moving force. It may be either a prearranged point or a hastily selected point at which to rearm, refuel, or provide repair services to the supported force. Depending on the size of the supported force, the CSSD may establish multiple points.

Although the main body of the CSSD normally follows in trace of the advancing mechanized force, repair and replenishment points are normally in forward areas near the supported unit. This presents some unique command and control problems because CSS assets can become scattered over a wide area. The CSSD can also select repair and replenishment points farther to the rear of the mechanized force. Optimally, however, the CSS unit minimizes handling of supplies by having vehicles from the rear make deliveries directly to the users at repair and replenishment points.

f. Forward Arming and Refueling Point

A forward arming and refueling point (FARP) is a temporary facility organized, equipped, and deployed by an aviation commander to rapidly refuel and rearm simultaneously. The aviation combat element (ACE) commander may establish a FARP to support the force scheme of maneuver.

The FARP locations are selected where natural camouflage and terrain features can hide equipment and aircraft. Good drainage and room for tactical dispersion (helicopter servicing, fueling, arming) are of primary importance. Towns and villages are usually ideal locations because they provide hard land for easy movement of aircraft and wheeled vehicles, intersecting road networks, and excellent night operation capabilities.

After selection of the site, preloaded supplies (e.g., refueling equipment, bladders, ammunition) can be transported to the site by truck along with ma-

terial handling equipment and personnel. Helicopters may be used for rapid, initial emplacement of the FARP. Resupply may be accomplished by air or surface transportation. Under certain situations, a combination of aerial and ground-established FARPs may be operationally desirable. The FARPs are usually established in or near the forward assembly areas. Locations and routes to and from FARPs should be masked from radar detection. Because of the volume of air traffic and its importance to helicopter operations, FARPs should be kept beyond medium artillery range. To minimize this threat, FARPs must be displaced often when they are located farther forward.

g. Airfields

The availability of existing airfields within or close to the MAGTF objective area is a key planning consideration. ACE fixed-wing aircraft may require runway surfaces as long as 10,000 feet. Helicopter, short takeoff, vertical landing, and tilt-rotor aircraft runway requirements are considerably less.

Fixed-wing aircraft can operate from runways as short as 4,000 feet by reducing fuel and ordnance loads and by using arresting gear. Additionally, less developed strips can be enhanced with expeditionary airfield equipment. If required and if time permits, a complete expeditionary airfield can be installed.

(1) Expeditionary Airfields. An expeditionary airfield is a prefabricated and portable airfield. The effort (e.g., material, engineer support, operational guidance, security) required for the installa-

tion and operation of an expeditionary airfield may require the support of all elements of the MAGTF. When deployed, it provides the capability to launch and recover MAGTF helicopters and fixed-wing aircraft under all weather conditions. Expansion of expeditionary airfield facilities into a strategic expeditionary landing field (SELF) allows the support and maintenance for a complete wing-sized ACE. The SELF has parking and taxiways to accommodate the Air Mobility Command and Civil Reserve Air Fleet aircraft. Small expeditionary airfields are constructed by the Marine wing support squadron (MWSS). Larger airfields may require the MWSS to be augmented by the FSSG engineer support battalion or naval construction forces. The Navy mobile construction battalion provides augmentation to the FSSG and MWSS, or, if required, it assumes full responsibility for construction of the expeditionary airfield.

(2) Bare Base Expeditionary Airfields. Bare base expeditionary airfields provide the capability for using an existing airfield or road network to establish an expeditionary airfield. A bare base expeditionary airfield is established in place of a full expeditionary airfield due to the extensive embarkation or construction requirements associated with the full expeditionary airfield. The bare base expeditionary airfield concept calls for the use of available concrete and/or asphalt-surfaced facilities. This concept involves embarking only those assets that are necessary for conducting air operations (e.g., airfield lighting or marking, landing aids, arresting gear). Bare base kits have been established to support all expeditionary airfields.

Chapter 3

Command and Control

“Command and control is the means by which a commander recognizes what needs to be done and sees to it that appropriate actions are taken.” (MCDP 6). Through effective tactical-level logistic command and control, commanders recognize and prioritize critical logistic requirements and direct the appropriate logistic and CSS response. This chapter describes procedures, responsibilities, and systems that are the means for executing tactical logistic and CSS command and control in the MAGTF.

Command and control processes assist commanders in dealing with the following influences on warfare:

- 1 **Uncertainty.** Commanders seek to clearly identify support requirements for tactical-level logistic and CSS operations. Absolute certainty will never be achieved in the dynamic situations that are characteristic of warfare. Commanders reduce uncertainty by employing a fully integrated planning process, prioritizing requirements, ensuring redundancy and flexibility in their plans, as well as maintaining situational awareness.
- 1 **Time.** There will rarely be enough time available to complete all desired planning and preparation for logistic operations, especially at the tactical level. Therefore, the planning, decision, execution, and assessment (PDE&A) cycle must be tailored to function effectively in the time available. The PDE&A is facilitated by a continuous exchange of information between all command echelons and functional activities and by exchange of liaison officers.
- 1 **Tempo.** It is essential to maintain a constant, uninterrupted operational rhythm that leaves insufficient time for the enemy to react. To assist in maintaining a command’s operational tempo, logisticians must anticipate support required and balance this with other battlespace activities. For example, attacks should not be

interrupted or delayed because units need re-supply or because CSSDs are using critical main supply routes. To maximize operational tempo in this way, logisticians must participate fully in the operations planning process, stay updated on the status of battlespace activities, and prepare to conduct support operations.

Command and control for tactical-level logistics is focused on monitoring, directing, and executing logistic operations in support of tactical operations. Tactical logisticians establish and maintain communications links to higher, adjacent, and supporting and/or supported commands to ensure MAGTF elements can pass logistic information. (See figure 3-1, on page 3-2.)

3001. Establishing Command and Control

The MAGTF commander exercises command and control over MAGTF logistics. The commander evaluates logistic requirements based on subordinate organizations’ capabilities, mission, and concept of operations. Based on this logistic evaluation, the MAGTF commander provides guidance to subordinate commanders. Typically, the guidance addresses three primary areas: requirements, priorities, and allocations. The subordinate commanders employ organic logistic resources to support their respective elements and then identify requirements beyond their organic capabilities to the CSSE.

The CSSE commander assigns support missions to subordinate elements based on the tactical situation, the supported unit’s needs, and CSSE capabilities. The CSSE commander coordinates mission assignments with the MAGTF commander and supported unit commanders.

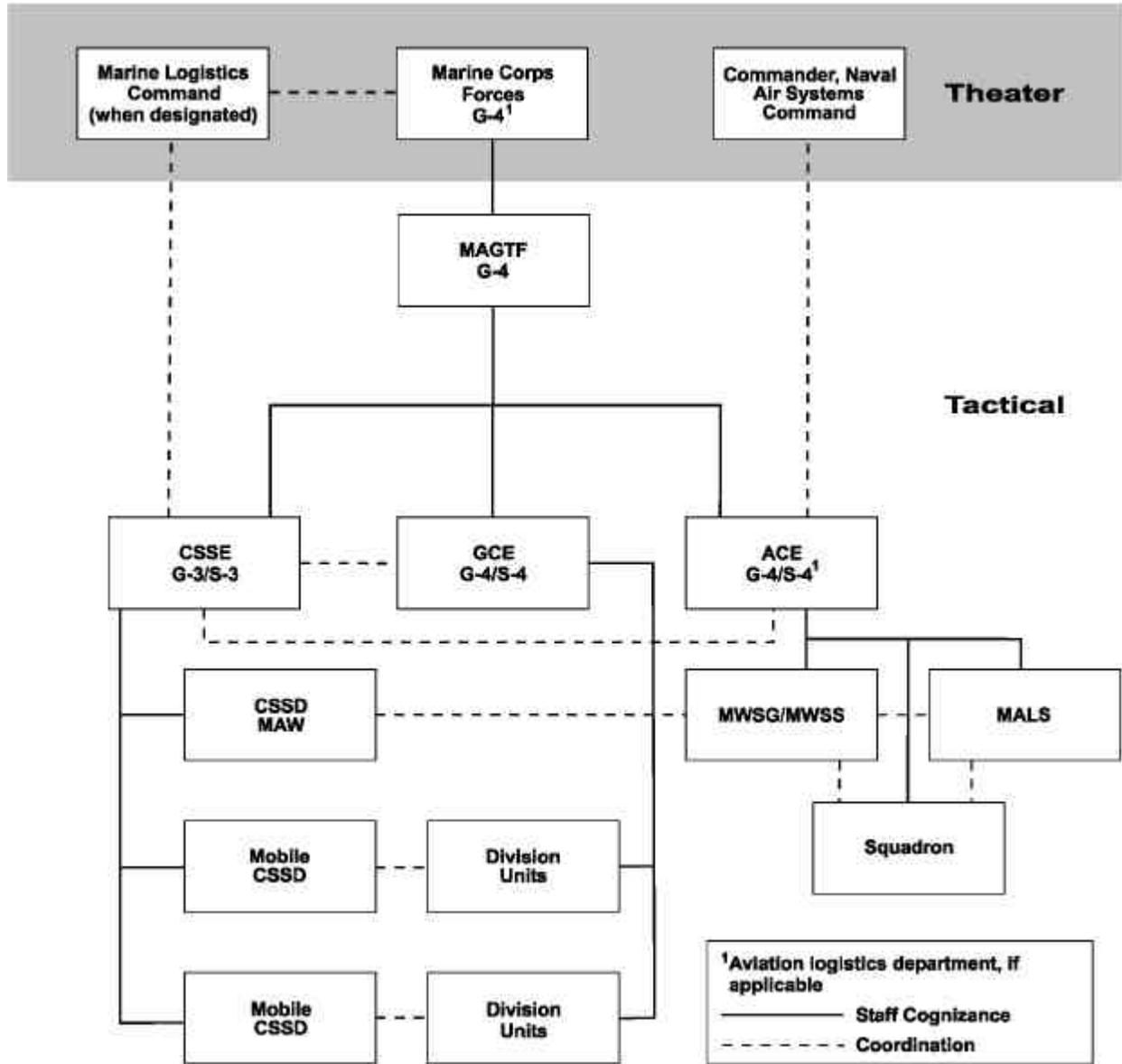


Figure 3-1. Staff Cognizance of Tactical-Level Logistics.

a. Task Organization

By task-organizing, the commander retains centralized control and provides for decentralized execution, which promotes responsiveness. Existing T/Os and T/Es provide logistic capabilities within most organizations, but the majority of the MAGTF’s tactical-level logistic capability is contained within CSS units. The MAGTF commander organizes assets to optimize support for the main effort and to continue support of the whole force. Task-organization considerations can be found in appendix A.

b. Command Relationships

CSS units provide support to the other elements of the MAGTF via either a general or direct support relationship. In a support relationship, the CSS unit, while responsive to the needs of the supported unit, remains under the command of its parent organization. The CSS commander retains control over subordinate units, which enhances centralized command and control and decentralized execution. While this is the normal method, it is not the only method. Both permanent and task-organized CSS units can be attached to other

organizations. The MAGTF commander may direct the CSSE commander to attach CSS units to GCE or ACE units. The CSSE commander retains responsibility for supporting CSS units attached to other units but cannot assign or change their mission.

c. Mission Assignments

A primary means of maintaining command and control over logistic units is the assignment of formal missions, particularly when CSS units function in a support relationship. The formalized mission structure helps by standardizing the responsibilities associated with each mission and allows the commander to tailor logistics to the tactical situation.

3002. Logistic and Combat Service Support Missions

Formal missions may be either standard or nonstandard. Standard missions are direct support and general support. A nonstandard mission is any mission other than one of the standard missions. Formal missions dictate relationships, responsibilities, and C2 procedures. They facilitate planning for future operations by providing for on-order tasks. They also simplify the planning and execution of MAGTF operations.

a. Inherent Responsibilities

Formal missions dictate specific responsibilities for both the supporting unit and the supported unit. Mission assignments establish the CSS unit's relationship to the supported unit as well as to other CSS units. A CSS unit or organization with a direct support mission—

- 1 Responds to CSS requests in priority from—
 - n Supported unit.
 - n Higher CSS headquarters.
 - n Own units.
- 1 Provide liaison personnel to the supported unit.
- 1 Establishes communications with—
 - n Supported unit.

- n Higher CSS headquarters.
- 1 Is positioned by the supported unit.

A CSS unit or organization with a general support mission—

- 1 Responds to CSS requests in priority from—
 - n Higher CSS headquarters.
 - n Supported unit.
 - n Own units.
- 1 Establishes liaison with the supported unit(s).
- 1 Establishes communications with—
 - n Supported unit(s).
 - n Higher CSS headquarters.
- 1 Is positioned by higher CSS headquarters.

(1) Priority of Response. For each mission, the priority of response tells the supporting commander precisely who has priority of services. Support priorities are the primary distinction between standard missions.

(2) Liaison. The supporting commander decides what type(s) of liaison to use. See paragraph 3007.

(3) Communications. Communications between the supporting and supported units is essential. The supporting commander, with the concurrence of the parent headquarters, decides what type of communications to use.

(4) Positioning. Positioning is not simply locating facilities on the ground. It includes the authority to displace facilities to new locations. The CSSE commander has the responsibility and authority for determining the general location and the displacement time of ground-common CSS units and facilities to ensure continued support to the MAGTF. The subordinate CSS commander recommends the time for displacements and selects exact locations for new facilities when given their general locale. Because CSS units are often in areas that are under the control of other MAGTF elements, the CSSE commander must coordinate with those elements and the MAGTF

commander before establishing or moving units and facilities.

b. Mission Statement Elements

Every CSS mission statement has four essential elements. Three of these elements are mandatory and should always be included. The fourth element is optional and may be used to provide additional information and guidance.

(1) Mandatory Elements. Always include the following mission statement elements:

- 1 Identification of the supporting unit.
- 1 Designation of the standard mission assigned.
- 1 Identification of the supported unit.

An example of a simplified mission statement containing only the three mandatory elements is: *CSSD-28 provides direct support to 8th Marines.*

(2) Optional Elements. If the commander anticipates a change in mission, a fourth element may be added to the mission statement to facilitate future operations. This optional element may provide a warning order or additional information or guidance necessary for continuity of operations, for example: *Be prepared to provide general support to 2d Marine Division.* The complete identity of the supported unit must always be included. This added element alerts both the supporting and supported units to expect and prepare for a change of mission.

The commander may also use the optional element to provide additional guidance. For example: *7th Engineer Support Battalion (-) provides general support to the MEF. Attach one reinforced platoon to CSSD-41, and place one platoon in direct support of MWSS-44.* Notice the CSSE commander does not select the specific subordinate elements for alternative missions. Selecting specific platoons is the prerogative of the battalion and company commanders. It is, however, within the CSSE commander's authority to direct different missions or command relationships for subordinate elements of the CSSE and to task-organize subordinate elements. The CSSE com-

mander does so in coordination with the MAGTF commander, the supported unit commander, and the CSSE's subordinate commanders.

c. Standard Missions

(1) Direct Support. Direct support is "a mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance." (JP 1-02)

A CSS unit assigned a direct-support mission is immediately responsive to the needs of the supported unit. It furnishes continuous support to that unit and coordinates its operations to complement the concept of operations of the supported unit. The direct-support mission creates a one-to-one relationship between supporting and supported units. The higher headquarters of the supporting and supported units become involved only on an exception basis. The supported unit sends requests directly to the supporting unit.

A direct-support mission may be assigned to either a functional or task-organized CSS unit. A functional unit or a task-organized unit may be either a single-function unit or a multifunction unit (provides support in two or more CSS functional areas). The following are examples of direct-support missions assigned to functional and task-organized units:

- 1 **Functional Units.** The CSSE commander may assign the direct-support mission to any functional subordinate organization (e.g., engineer or motor transport organizations).
- 1 **Task-Organized Units.** The CSSE commander may assign the direct-support mission to a task-organized unit such as a CSSD. CSSDs are most often in direct-support. The commander must ensure that the task-organized unit has enough assets to accomplish the direct-support mission. Of particular concern is the ability to establish and maintain communications with the supported unit.

(2) General Support. A CSS unit assigned a general support mission supports the MAGTF or sev-

eral units within the MAGTF under the direction of the CSSE commander.

The general support mission is the most centralized mission. CSSE commanders retain full control over their subordinate units, including establishing the priority of the units' efforts. This does not prevent supported units from dealing directly with various CSS agencies. For example, they submit requisitions directly to the supply source. However, the CSSE commander may control how and when requisitions are filled. The CSSE commander follows the priorities and allocations of the MAGTF commander. In certain cases, the MAGTF commander may stop the issue of supplies or items of equipment without prior approval of the CSSE commander. In other cases, the MAGTF commander might specify a priority of issue for certain items or may assign a specific quantity to each unit.

The MAGTF CSSE always has a general-support mission. However, CSSE commanders may assign different missions to subordinate units consistent with the requirements of the tactical situation. The concept of logistics and CSS, found in Annex D of the MAGTF OPORD, specifically addresses this topic. It tells precisely how to satisfy the requirements of a particular tactical situation. The following are examples of general support missions assigned to functional and task-organized units:

- 1 **Functional Units.** The CSSE commander may assign the general support mission to any subordinate functional organizations. For example, the FSSG commander may give the engineer support battalion the mission of general support of the MAGTF. The battalion would provide support based on the priorities of the MAGTF commander. The CSSE commander would not assign this mission without prior coordination with and approval from the MAGTF commander.
- 1 **Task-Organized Units.** The CSSE commander may assign the general support mission to a task-organized unit such as a CSSD or LFSP. Task-organized CSS units must have sufficient assets to perform the functions associated with

this mission. Of particular concern is the ability to establish and maintain communications and liaison with the supported unit and parent organization.

d. Nonstandard Missions

The CSSE commander normally uses the direct support and/or general support standard missions to meet the needs of the supported force. However, unique situations may dictate the selection of a nonstandard mission. The nonstandard mission must satisfy the requirements of the specific situation and requires detailed planning and coordination.

The optional fourth element of the mission statement is the operative element in the nonstandard mission. The optional element amplifies the basic mission statement and addresses unique responsibilities and relationships.

The mission statement for a nonstandard mission must contain the three mandatory elements. For example: *CSSD-28 provides general support for assigned U.S. and multinational forces.* The optional fourth element, which gives advance information on subsequent missions may also be used, as appropriate.

The mission statement above is adequate for a standard mission. For the CSSD-28 commander, however, it does not provide enough information in this particular case. With standard missions, the CSSD commander immediately knows the associated responsibilities. When assigning a nonstandard mission, the CSSE commander must also give detailed coordinating instructions to amplify the mission statement. Paragraph 3 of the CSSE OPORD should include the following items:

- 1 Priority of response to support requests for—
 - n MAGTF units (or name of specific unit).
 - n Other U.S. forces.
 - n Allied forces (classes I, III, and V only).
- 1 Liaison requirements that—
 - n Maintain liaison with supported Marine Corps units on a full-time basis.

- n Maintain liaison with other supported units as required.
 - l Communications responsibilities that—
 - n Establish and maintain communications with MAGTF units on a full-time basis.
 - n Establish and maintain communications with other elements as required.

3003. Management Procedures in Tactical Logistic Functional Areas

The functional areas of tactical-level logistics are managed with procedures tailored to support particular functions.

a. Supply

MAGTF commanders, in particular CSSE commanders, manage the flow of support from source to consumer. Three management techniques and procedures are critical to supply support.

(1) Control. Supplies should flow by the most direct route from the source to the consumer. CSS units should handle supplies as infrequently as possible.

(a) **Records.** Records should include only information that is essential to control supply activities and to ensure sustainability.

(b) **Stockage Objective.** The stockage objective is the maximum quantity of materiel that the CSSE must have on hand to sustain current operations. It consists of the sum of stocks represented by the operating level and the safety level. The operating level is the level required to sustain operations between submission of requisitions or between the arrival of successive shipments. These quantities are based on the established replenishment period (daily, monthly, or quarterly). In combat, the replenishment period is usually shorter than during peacetime operations. The safety level is the quantity required to continue operations if there are minor delays in resupply or unpredictable

changes in demand. In combat, the safety level is more critical than during peacetime.

The MAGTF commander prescribes the stockage objective for CSS installations on the basis of the recommendations of the CSSE commander. Selection of the proper stockage objective is critical for proper management of transportation and continued support of combat operations. Too high a stockage objective can place an excessive burden on handling and management systems. Too low a stockage objective can delay or even prevent combat operations.

(c) **Reorder Point.** The reorder point is that point at which the CSS unit must submit a requisition to maintain the stockage objective. The supply representative requisitions the stockage objective when the sum of the requisition processing time, shipping time, and safety days of supply equals the remaining days of supply based on daily consumption rates. For example:

	<i>Days of Supply</i>
<i>Safety level</i>	= 5
<i>Reorder time</i>	= 2
<i>Shipping time</i>	= <u>15</u>
<i>Reorder point</i>	= 22

(2) Distribution Methods. The two normal methods of distribution are supply point distribution and unit distribution, but the commander typically uses a combination of the two methods.

(a) **Supply Point Distribution.** In point distribution, the supported unit picks up the supplies from a central point established by the supporting unit similar to getting fuel from a filling station or food from a store.

(b) **Unit Distribution.** In unit distribution, the supporting unit (e.g., CSSE) delivers supplies to the supported unit. The supported unit will in turn distribute the supplies to subordinate elements.

(c) **Combination.** Normally, the commander uses a combination of unit and supply point distribu-

tion. The commander assigns top priority for unit distribution to those units that are in contact with the enemy and have limited organic transportation. The commander gives a lower priority to engaged units with more organic transportation. The lowest priority is assigned to units that are not in contact with the enemy. When the available transport has been allocated to unit distribution, the remaining support requirements must be satisfied through supply point distribution.

(3) Replenishment Systems. Replenishment systems are either pull systems, push systems, or a combination of both systems. Selecting a replenishment system is generally based on the availability of supplies and distribution capabilities.

(a) **Pull Systems.** A pull system requires the consumer to submit a support request. This system provides only what the supported unit requests. Pull systems generally do not anticipate a unit's needs, which makes them less responsive and more efficient than push systems.

(b) **Push Systems.** Push systems use reports as the requesting document or anticipate demand based on consumption rates. For example, on-hand and usage reports submitted by the supported unit serve as the basis for resupply. The CSSE delivers sustainment based on consumption rates and the desired basic load of the unit without waiting for a requisition. Use of this method could burden the unit with more supplies than it can handle, which makes them more responsive and less efficient.

(c) **Combination.** The MAGTF commander should specify the most appropriate replenishment system, which is often a combination of the two methods. The decision should be based on the tactical situation, available resources, and the recommendations of the CSSE commander.

b. Maintenance

The goal of maintenance support operations is to keep equipment operational at the using unit. Sup-

porting commanders achieve this goal by balancing centralization of control with decentralization of execution.

Maintenance support procedures need to be flexible and adaptable to changing situations. For example, during the amphibious assault, both the LFSP and supported organizations have limited maintenance capabilities. Normally, the LFSP commander centralizes both control and execution of maintenance operations at the beach support area or landing zone support area. The supported organization commander centralizes control and execution of organic maintenance capabilities in the organizational train. When the CSSE and the remainder of assault organizations go ashore, maintenance capabilities increase. This permits a shift to decentralized execution of maintenance. To perform maintenance as far forward as possible, the commander must decentralize execution of essential tasks.

As a general rule, the goal in combat should be centralized control with decentralized execution to maximize responsiveness. Organizational contact teams from the owning organizations and intermediate maintenance support teams from the CSSE go forward and repair equipment whenever possible.

c. Transportation

The MAGTF commander generally centralizes control of movement at the highest level, typically assigning this responsibility to the CSSE commander. Movements should be regulated and coordinated to prevent congestion and conflicting movements over transportation routes. The transportation system must be highly adaptable to use the MAGTF's limited transportation capabilities effectively. This adaptability enables the commander to maintain continuous movement of personnel, supplies, and equipment. Commanders must maximize the efficient and effective use of transportation assets. The commander must keep equipment loaded and moving while allowing for adequate maintenance and personnel rest.

d. General Engineering

General engineering operations are not subject to unique control measures. The standard support missions and normal engineer support relationships establish the parameters within which general engineering operations are controlled.

e. Health Services

The medical regulating system is activated as necessary for monitoring and controlling the movement of patients through the casualty evacuation and health service support system. The medical regulating system is responsible for patient movement and tracking through successive levels of medical and dental care to provide the appropriate level of care. For information on medical regulating procedures, see MCWP 4-11.1; Naval Warfare Publication (NWP) 4-02.2, *Patient Movement, Part A, Naval Expeditionary Forces Medical Regulating*; and JP 4-02.2, *Joint Tactics, Techniques, and Procedures for Patient Movement in Joint Operations*.

f. Services

The services function provides for the effective administration, management, and employment of military organizations. The administrative sub-functions are categorized as either command or CSS services.

3004. Command Groups and Control Agencies

Each MAGTF element establishes sections to direct operations and control employment of their organic ground-common and aviation-peculiar logistic capabilities. Additionally, they will coordinate CSS requirements with the CSSE.

a. Aviation Ground Support Operations Center

The MWSG and/or MWSS will establish an aviation ground support operations center to control aviation ground support tasks at the ACE airfield(s). The center coordinates the activities of

the airfield operations, motor transport operations, engineer operations, medical, and other services sections.

b. Combat Service Support Operations Center

The CSSE establishes a CSSOC that controls and coordinates the day-to-day operations of the CSS organization. The CSSOC focuses on meeting the needs of supported units. The CSSE operations officer supervises the day-to-day functioning of the CSSOC.

The CSSE commander establishes the CSSOC in the CSSE command post. The CSSOC continually monitors and records the status of CSS operations. The CSSOC personnel coordinate and control CSS operations according to the established policies, standing operating procedures (SOPs), and operational decisions of the commander.

The CSSOC is not a separate organization. The CSS unit's operations and communications personnel staff the CSSOC. Local SOPs govern the size and composition of the CSSOC. Generally, the commander has the following CSSOC organization configuration options:

- 1. **Centralized CSSOC.** Figure 3-2 depicts a centralized CSSOC arrangement. An advantage to placing functional representatives for supply, maintenance, transportation, engineering, health services, and services within the CSSOC is that the watch officer has immediate access to technical advice. This option is appropriate when tactical considerations do not require dispersal. A disadvantage can be the high activity level generated by large numbers of personnel and communications in a confined facility. Higher level CSS organizations and those farther to the rear use a centralized CSSOC more frequently than do smaller units.
- 1. **Decentralized CSSOC.** Figure 3-3 depicts a decentralized CSSOC arrangement with functional representatives placed outside the CSSOC. Smaller CSS organizations and those farther forward most often select this option. In some

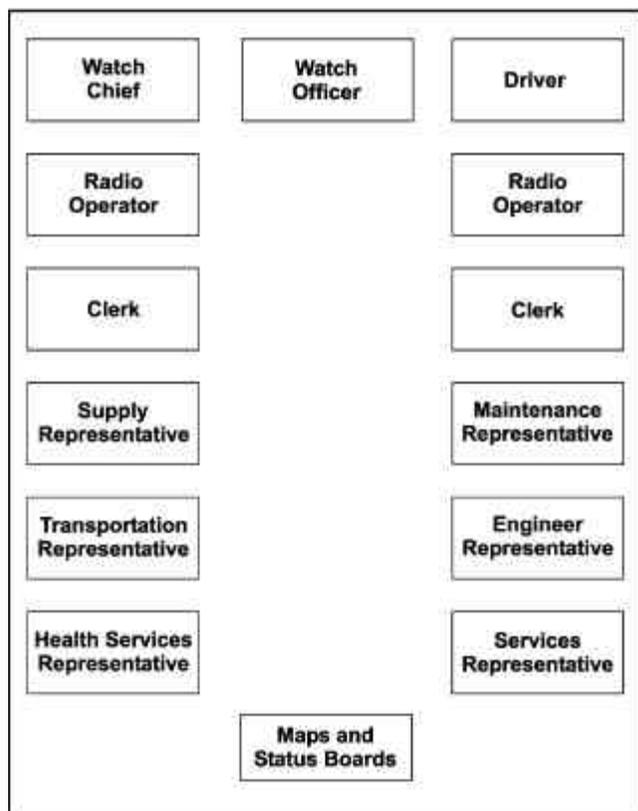


Figure 3-2. Centralized Combat Service Support Operations Center Configuration.

situations, the CSS unit will not have enough personnel or skills to operate a centralized CSSOC. In other cases, dispersion is a tactical necessity that weighs against centralization.

The CSSOC controls the CSS request net(s) and the CSSA local net(s). The CSSOC has hotlines to subordinates, supported units, and higher headquarters, and it may have teletype or data links. Normal CSSOC functions include the following:

- 1 Receiving and recording operational reports from subordinate units.
- 1 Maintaining current plots of the friendly and enemy situation and displaying the information in the CSSOC.
- 1 Preparing and submitting operational reports to higher headquarters.
- 1 Providing dedicated communications channels for control of CSS operations.
- 1 Transmitting orders and decisions.

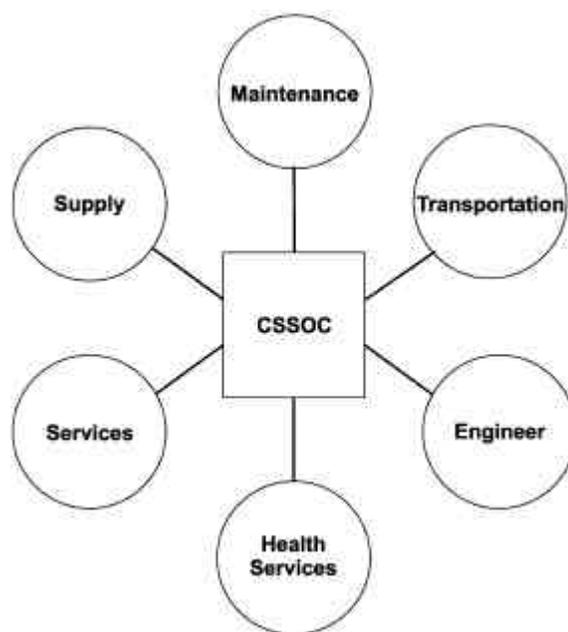


Figure 3-3. Decentralized Combat Service Support Operations Center Configuration.

- 1 Monitoring the progress of ground-common CSS operations and reporting significant events and incidents to the commander.
- 1 Advising interested staff sections of events or information of immediate concern to them.
- 1 Serving as the principal point of contact for liaison personnel from senior, supported, or adjacent units.
- 1 Maintaining a rear area security (RAS) overlay that depicts preplanned targets, active security measures for CSS installations, and main supply routes within the rear area.
- 1 Coordinating security of CSS installations and main supply routes within the rear area with higher and adjacent elements of the MAGTF.

3005. Communications

Commanders must establish communications with higher, adjacent, and subordinate commands to promote situational awareness and to direct and coordinate military operations. Following the MAGTF communications plan, commanders establish single-purpose and general-purpose nets and/or frequencies for the control of MAGTF

Chapter 5

Logistic Functional Area Support Operations

This chapter discusses the tactics, techniques, and procedures for each of the tactical-level logistic functional areas. To support tactical-level operations, logisticians commonly discuss support requirements in terms of functional areas and

develop systems and plans for each area. Although logisticians develop separate systems and plans for each functional area, all functions must be integrated into the overall logistic support effort.

Section I. Supply

The process of providing materials and items used to equip, support, and maintain a military force are part of the supply cycle. The supply cycle is divided into the production and the consumption phases. Production extends from determination of procurement schedules to acceptance of finished supplies by the military Services. Consumption extends from receipt of finished supplies by the military Services through issue for use. This section addresses the various supply classes and sub-functions available to support tactical-level operations. The CSS organizations identified as sources of supply during the various stages of amphibious operations and sustained operations ashore are the same for requesting other CSS.

5101. Combat Service Support Element Supply Support Operations

The CSSE commander's primary concern is providing the MAGTF commander with a supply capability and resupply when required.

a. Landing Force Supplies

Landing force supplies are the supplies and equipment in the assault echelon and the assault follow-on echelon (AFOE) of the ATF. They sustain the landing force until a distribution pipeline is established from the supporting establishment to the theater of operations. Predeployment planning determines the type and quantity of landing force

supplies. The categories of landing force supplies are the basic load, prepositioned emergency supplies, and remaining supplies.

(1) Basic Load. A basic load consists of the types and quantities of supplies that assault forces carry to a specific mission, including the supplies carried by individuals. Usually, basic loads are expressed either as days of supply or days of ammunition. The basic load may change as the tactical situation dictates. There may be a basic load for landing and a different basic load for operations ashore. The basic loads for surface and helicopter-borne forces may be different. The basic load should not exceed the capabilities of a unit's organic transportation or the commander's estimate of supply requirements for combat.

(2) Prepositioned Emergency Supplies. The commander uses prepositioned emergency supplies for replenishment early in the ship-to-shore movement. These supplies are available on call for immediate delivery to units ashore and are categorized as either floating dumps or prestaged helicopter-lifted supplies.

(a) **Floating Dumps.** Floating dumps consist of selected prepackaged class I, III, V, and VIII supplies. On-call floating dumps support surface assault elements and are staged aboard landing craft or assault amphibious vehicles for immediate delivery to units ashore. The primary control officer dispatches floating dumps to the beach in response to requests by the supported commander ashore, via the tactical-logistical group

(TACLOG). Ashore, landing craft and/or assault amphibious vehicles are unloaded to expand the size of supply dumps in the beach support area (BSA). The commander terminates the use of floating dumps when the level of supplies ashore is sufficient to meet critical needs.

(b) **Prestaged Helicopter-Lifted Supplies.** The commander prestages helicopter-lifted supplies to support helicopterborne units but, if required, can use the supplies to support surface assault units. Prestaged helicopter-lifted supplies are prepackaged, high-priority supplies positioned aboard helicopter transport ships. Like floating dumps, these supplies are available on call for units ashore. Requests for this category of supplies are made by the unit to the TACLOG. After the initial stages of the assault, remaining supplies are used to expand supply dumps ashore. Both prestaged helicopter-lifted supplies and floating dumps may be assigned landing serial numbers to help identify and deliver specific materiel.

(3) **Remaining Supplies.** Excepting supplies issued for basic loads and prepositioned emergency supplies, the remaining are MAGTF supplies. They constitute the major portion of the supplies transported to the operational area in the assault echelon and the AFOE. When transitioning from operational maneuver from the sea to sustained operations ashore, the commander uses these supplies to build dumps ashore. The CSSE unloads the bulk of remaining supplies during general unloading.

b. Sustainment

Sustainment involves those supplies provided to the landing force other than landing force supplies. Sustainment sources include—

- 1 Host nation and inter-Service support.
- 1 Supplies aboard other ships or aircraft not in the ATF.
- 1 CINC-directed cross-servicing or common servicing.

c. Ground Supply Operations During the Amphibious Assault

Figure 5-1 depicts the management and execution of ground supply operations during the amphibious assault.

(1) **Landing Force Support Party.** The LFSP is the forward echelon of the CSSE formed to facilitate the ship-to-shore movement. The LFSP provides CSS, to include supply support, to the assault elements of the GCE during the early stages of the amphibious assault. The LFSP coordinates the combined CSS efforts of the shore party teams on the beaches and helicopter support teams in helicopter landing zones. It establishes contact with the landing force TACLOG. See chapter 6 for further discussion of the LFSP.

(2) **Tactical-Logistical Group.** The TACLOG is a temporary landing force organization that is established at each level of the Navy ship-to-shore control organization. The TACLOG advises the Navy control groups of landing force requirements for the waterborne and helicopterborne ship-to-shore movements. The TACLOG monitors ship-to-shore movement and helps the Navy control the movements of scheduled waves, on-call waves, and nonscheduled serials. See chapter 6 for further discussion of the TACLOG.

(3) **Supply During the Assault.** Initial assault units will request supplies directly from the TACLOG until a shore party or HST is established ashore. At that point, assault units submit CSS requests for supplies to either the shore party or HSTs. The teams either fill or relay requests to the TACLOG. In an emergency or when communications fail, the assault element may pass requests directly to the TACLOG.

(4) **Shore Party Supply Operations.** After the shore party group lands, it establishes inland dump sites. It controls the receipt of selective unloading. Shore party group and HST supply personnel unload, sort, store, safeguard, and issue supplies. Shore party teams and HSTs distribute supplies directly to the consumer by using the fastest available means. The emphasis is on re-

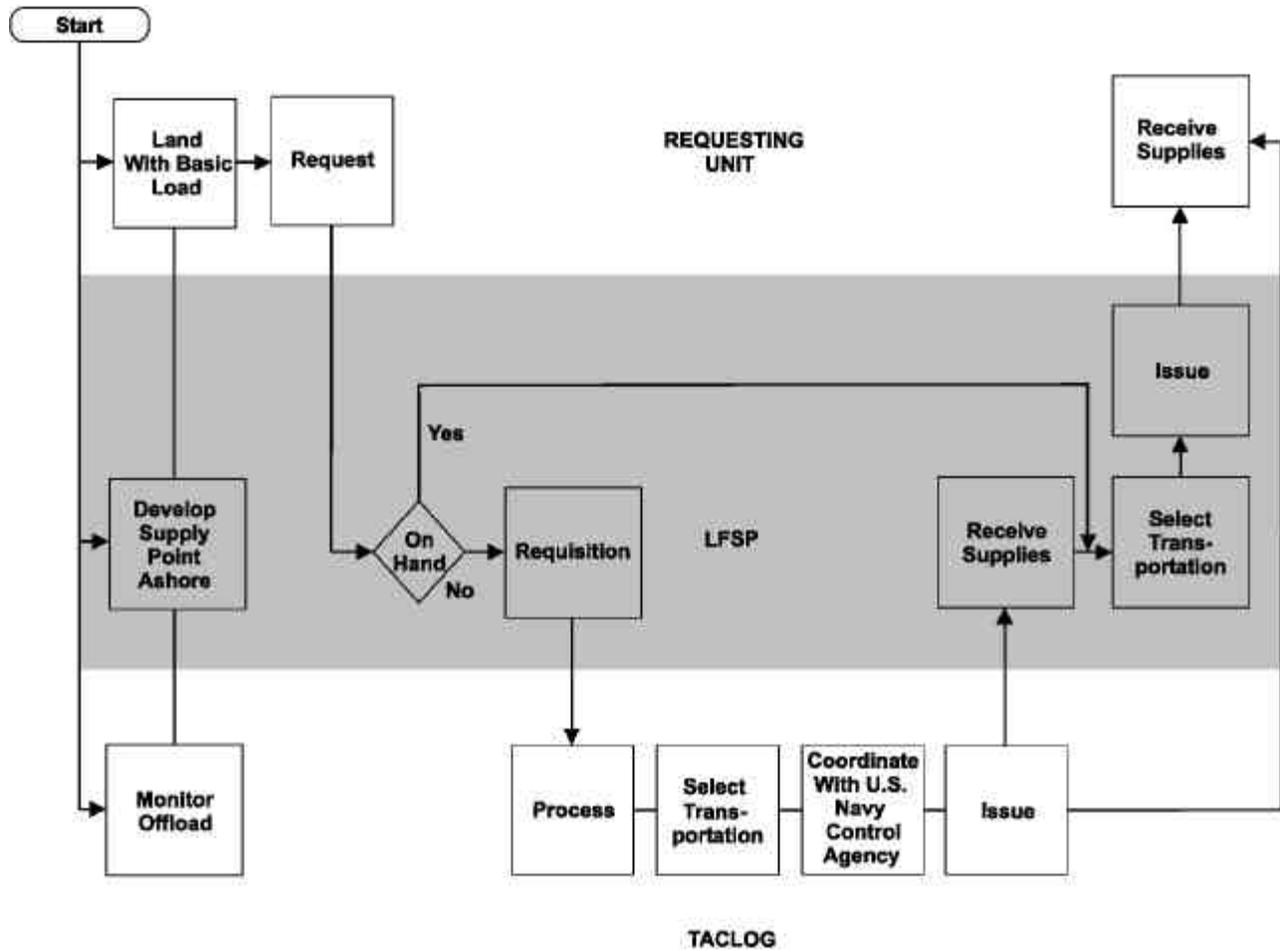


Figure 5-1. Ground Supply Operations During the Amphibious Assault.

sponsiveness, even at the expense of economy and accountability.

(5) Critical Items. If a critical item is not on hand, the shore party or HST notifies the TACLOG. The TACLOG locates the item and coordinates transportation from the Navy control organization.

(6) Prioritization. Before the Navy assigns transportation to move unscheduled supplies ashore, the TACLOG must determine the impact on the tactical situation. It must assess the priority against the priority for landing scheduled and on-call serials.

(7) Helicopter Delivery. The shore party team or HST receives supplies and distributes them to the user. Delivery can be directly from the ship by helicopter to the user.

d. Ground Supply Operations During Subsequent Operations

Battalions and air groups have organic supply capability. Marine Corps and/or Navy directives and local operating procedures dictate the procedures that units with organic supply capabilities use to request replenishment in combat. Figure 5-2, on page 5-4, depicts management and execution of ground supply operations after the CSSE is ashore and functioning.

(1) User Requests Support. Simple, locally established manual procedures are the norm for initial requests from users. On receipt of user requests, the supporting CSSE determines whether the item is on hand. If it is available, the CSSE transports it to users on unit distribution. Consumers on supply point distribution are notified where and when they can pick up the item. If the item is not on hand, the CSSE passes the requisition to the next higher level. The CSSE will keep the requesting unit informed about the status of the pending requisition until distribution is made.

(2) CSSE Support. The CSSE receives requisitions from a subordinate CSSD or directly from the user. The CSSE uses formal procedures for

both stock replenishment and passing unfilled user requests to other logistics support organizations. Where possible, CSSEs use automated systems to pass and track both requisitions and reports. During the early stages of an operation before automated systems are established, the CSSE use manual requisition procedures.

(3) Unfilled Requisitions Support. The CSSE in theater passes unfilled requisitions to an in-theater source, if available, or to the FSSG or Marine Corps supporting establishment in the continental United States (CONUS). Marine Corps user manuals and MAGTF OPORDs establish specific supply procedures for CSSEs during operations.

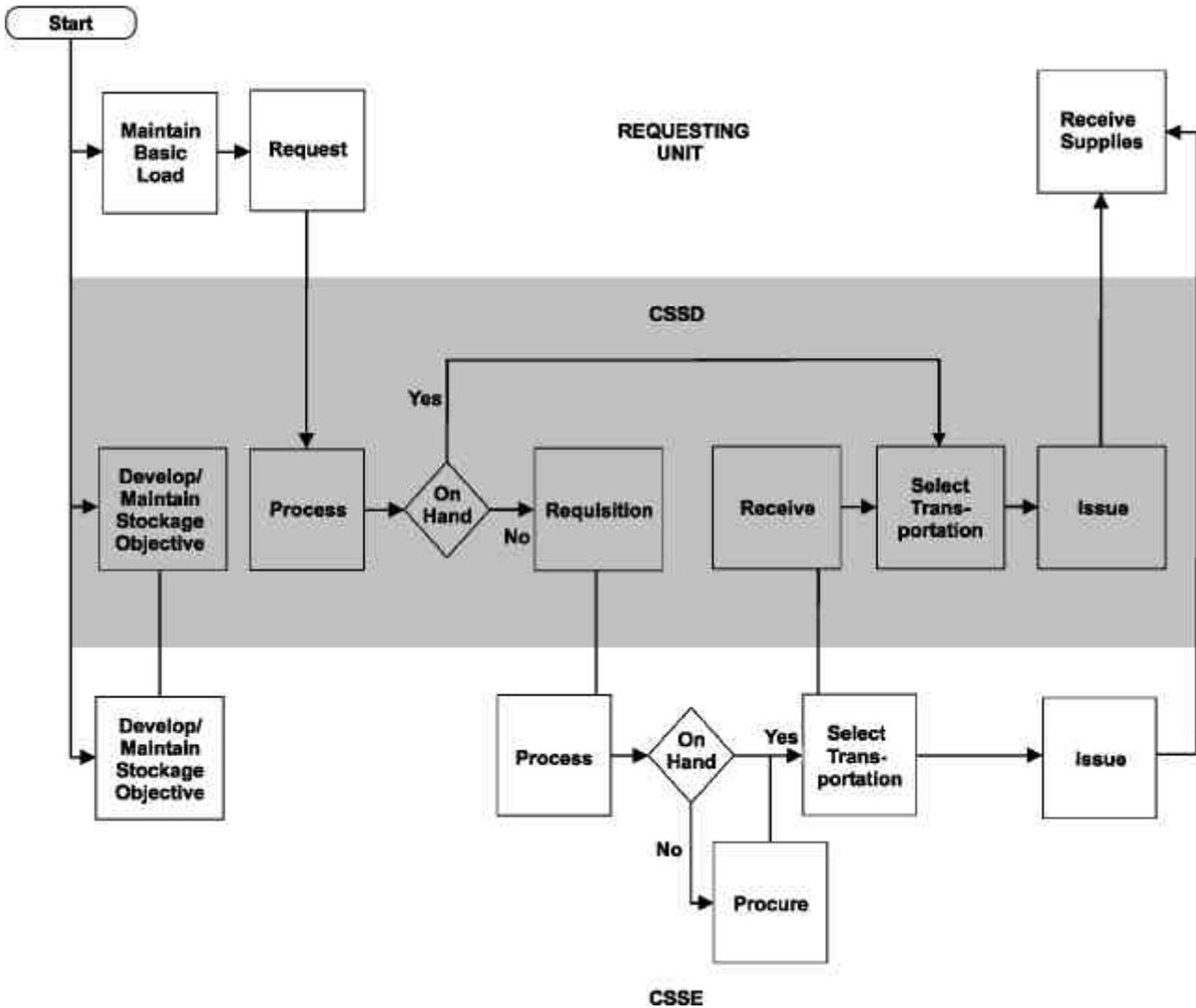


Figure 5-2. Ground Supply Operations During Subsequent Operations.

(4) Mode of Transportation. The CSSE normally provides and selects the mode of transportation to deliver supplies and equipment to subordinate CSSDs or directly to the user. Usually, surface transportation is used but water and air transportation are good alternatives. Although the CSSE selects the mode of transportation, the consumer influences the decision by providing information that might help the CSSE make the decision. For example, a request for a rapid ammunition resupply from a unit preparing to repel an imminent attack would probably justify the use of helicopters.

(5) Delivery Method. Direct shipment to the consumer is the best method of delivery. Bypassing intermediate installations reduces handling. Sometimes supplies must be delivered to the supporting CSSD. This method achieves transportation economies when moving large bulk quantities by taking advantage of lifts of opportunity. Rather than hauling a partial load, trucks can carry noncritical supplies to the CSSD for later forwarding to the consumer.

(6) Distribution Method. The MAGTF G-4/S-4 and CSS commander, in coordination with the supported units, select the method of distribution. Conflicts will be resolved by the MAGTF commander. Normally, CSSEs support committed infantry units by unit distribution and support other units by supply point distribution.

5102. Ground Combat Element Supply Support Operations

Figure 5-3, page 5-6 depicts a tactical situation in which a CSSE is in direct support of GCE units. In this example, infantry battalions are on unit distribution and artillery and armor units are on supply point distribution. The CSSD establishes liaison with the infantry regiment. Requests from the battalions go directly to the CSSD, which issues supplies based on the supported commander's priorities and allocations.

a. Commander's Flexibility

The supported commander organizes in a variety of ways to accomplish the mission. For example, the commander may divide CEs into A and B command groups and/or position the organic logistics differently than previously described. The commander should position organic logistics forward of the supporting CSS installation. The ground unit supply train is a means of internally task-organizing and employing the logistic assets of tactical units.

When employing combat trains, some of the GCE unit's organic logistic capabilities are forward. Maintenance contact team repairmen, ammunition technicians, and supply personnel are with the combat trains to provide front-line support. Routinely, the unit establishes a main echelon with essential elements that support tactical operations. The commander locates most of the unit's logistic capability with the unit or field train. Often the commander locates these trains with the supporting CSSE.

Finally, all units have administrative elements located behind the GCE rear boundary. In the administrative rear, supply and warehousing personnel distribute individual equipment and care for tentage, personal effects, and other equipment not required to sustain combat operations. Table 5-1, on page 5-6, shows breakdowns of a typical battalion in combat.

b. Supply Trains

Trains serve as the link between forward tactical elements and the supporting CSSE. The use of trains enables logistics to be performed as far forward as the tactical situations permit. Depending on the situation, trains may provide logistics to the battalion's organic and attached units. Trains may be fully mobile. However, trains are usually movable rather than mobile. In the Marine Corps, this concept applies to unit, battalion, and regimental trains.

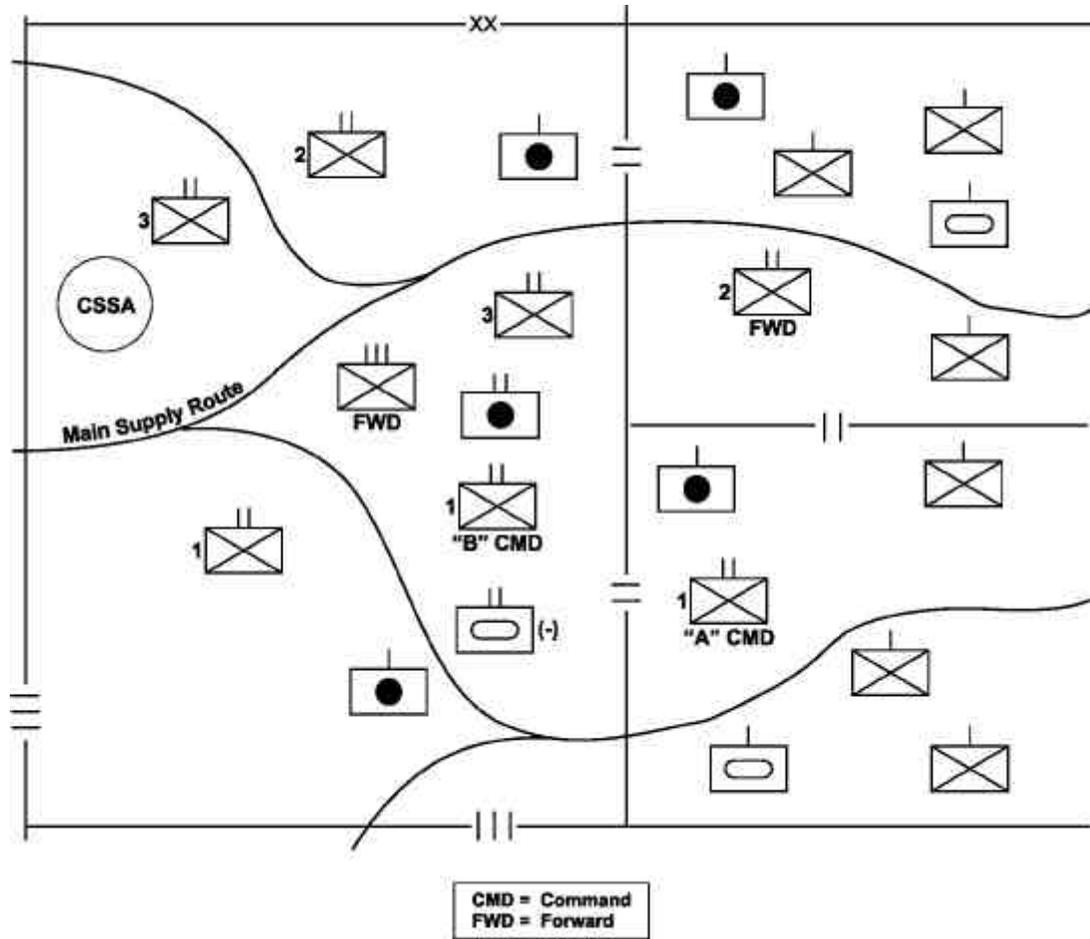


Figure 5-3. Supply Distribution for Ground Combat Element Units.

Table 5-1. Battalion Task Organization for Combat.

Rear	Main Command Post	Forward Command Post
S-1/adjutant	executive officer	commanding officer
supply chief	headquarters commandant	S-2
administrative	S-4A/S-4 chief	S-3
supply clerks	motor transport officer	fire support coordinator
replacements	ordnance officer	S-4
casuals	supply officer	communications officer
	organic logistics	organic logistics

(1) **Unit Trains.** Unit trains centralize the units' organic logistic assets. These trains are most appropriate in defensive, slow-moving, or static situations. The commander uses this option when a

tactical situation dictates self-contained train operations for centralization and control. For example, during the early phases of an amphibious operation the battalion must locate its logistics capability in the BSA or landing zone. The use of unit trains in this situation provides simplicity, economy, and survivability against ground attack.

(2) **Battalion Trains.** Normally, to improve responsiveness, flexibility, and survivability against air attack, trains supporting battalion-sized units are echeloned into combat trains and field trains.

(a) **Combat Trains.** Combat trains are organic elements that provide critical logistics in forward areas. Mobility is the key for combat trains, which are kept as small as possible to move with the supported forces. A combat train's survivability de-

depends on its small size and its own firepower. Usually, a combat train—

- 1 Transports some battalion corpsmen with limited medical supplies.
- 1 Carries maintenance contact teams.
- 1 Hauls rations, fuel, ammunition, and critical spare parts.

(b) **Field Trains.** Field trains consist of the battalion's remaining logistic assets and are located farther to the rear than the combat trains. Field trains may carry the battalion aid station, the mess section, and the supply section.

(3) Regimental Train. The regimental train consists of the logistics assets required to sustain the regimental headquarters and attached units under the direct control of the regiment. Logistics needed by combat units should be allocated to battalion trains, and logistics that are not time-critical can be consolidated in the regimental train.

(4) Positioning Considerations. Logistic principles of responsiveness and survivability should be the main considerations when selecting a train site. In general, trains should be located—

- 1 On defensible terrain to allow the best use of limited personnel assets.
- 1 In an area with enough space to permit dispersion.
- 1 In an area that provides concealment.
- 1 On firm ground to support heavy vehicle traffic.
- 1 Near a suitable helicopter landing site.
- 1 Close to main supply routes.
- 1 In an area that allows good communications.

(5) Positioning Responsibility. The S-4 coordinates with the executive officer, headquarters commandant, and S-3 in selecting train locations. When the train collocates with another element, such as the supporting CSSD, the S-4 must also coordinate with that element. This option improves coordination and security. Turnaround time, communications requirements, or other mis-

sion-related considerations may necessitate locating the trains elsewhere.

(6) Train Displacement. Proper positioning of trains minimizes displacements and increases the quantity and quality of support. When displacing trains, the S-4 selects the technique that best complements the battalion's tactical operations. Trains may be displaced concurrently with the displacement of the tactical elements or by echelon. Echelon displacement enhances continuity of logistic support.

(7) CSS Trains. Trains are employed in numerous ways by CSS units in the resupply process. Figure 5-4, on page 5-8, illustrates train techniques that are commonly used during resupply operations. The distances provided in figure 5-4 would be reduced for close terrain (e.g., urban or jungle) or expanded for high enemy threat. The CSSDs may move forward to resupply unit trains, which resupply the using units. The CSSDs are positioned where most responsive, yet survivable.

(8) Replenishment Methods. The service station and tailgate issue methods are the two most common methods used to replenish unit trains.

(a) **Service Station.** The service station method (figure 5-5 on page 5-9) involves vehicles leaving their tactical positions and entering an established resupply area. The number of vehicles being resupplied at one time depends on the enemy situation and resupply capabilities. The resupply area is designated as a series of resupply points for vehicles. Traffic flow through the resupply area is one way to enhance efficiency. After completing resupply, the vehicles move to the holding area for a precombat inspection, if time permits.

(b) **Tailgate Issue.** The tailgate issue method is normally conducted in an assembly area. This method involves resupply while combatants remain in their positions. Vehicles stocked with petroleum, oils, lubricants, and ammunition stop at each individual vehicle position to conduct resupply services. This method places the resupply vehicles at greater risk, but maintains tactical positioning and reduces traffic flow. If the tailgate

issue method is used in forward positions, then re-supply must be masked by the terrain. See figure 5-6, page 5-10.

5103. Aviation-Peculiar Supply Support Operations

The Navy provides supply support for aircraft and aviation support equipment (ASE) in the ACE. The Marine Corps supply system provides ground supply support to aviation elements. For aircraft ammunition, the source of supply is either the Navy or a theater activity. The CSSE distributes aircraft fuel to the MWSS operating the fuel dispensing system at an airfield. The CSSE distributes class V(A) to the MALS, which operates the aviation ammunition supply point.

a. Marine Aviation Logistics Squadron

When a MAG deploys, the MALS is the focal point for aviation supply and maintenance. Fig-

ure 5-7, on page 5-11, depicts these aviation-related supply relationships. The MALS supply and maintenance departments manage aircraft consumable and reparable parts and supplies. The MALS supply department receives requisitions from the intermediate and organizational maintenance activities. It also receives requisitions from elements of the MWSS (i.e., expeditionary airfield). If the item is not in stock, the MALS passes the requisition to the naval supply activity in the theater support area, which either fills the request or forwards it to the appropriate source in CONUS.

b. Replacement Aircraft

The squadron requests replacement aircraft and depot-level repair of aircraft. It passes the request for replacement aircraft to the aircraft group, which passes it to the ACE. The ACE passes the request to the type commanders (FMF Atlantic and/or Pacific and Naval Air Force Atlantic and/or Pacific). The MALS, MAG, ACE, and type commanders coordinate placement of aircraft into

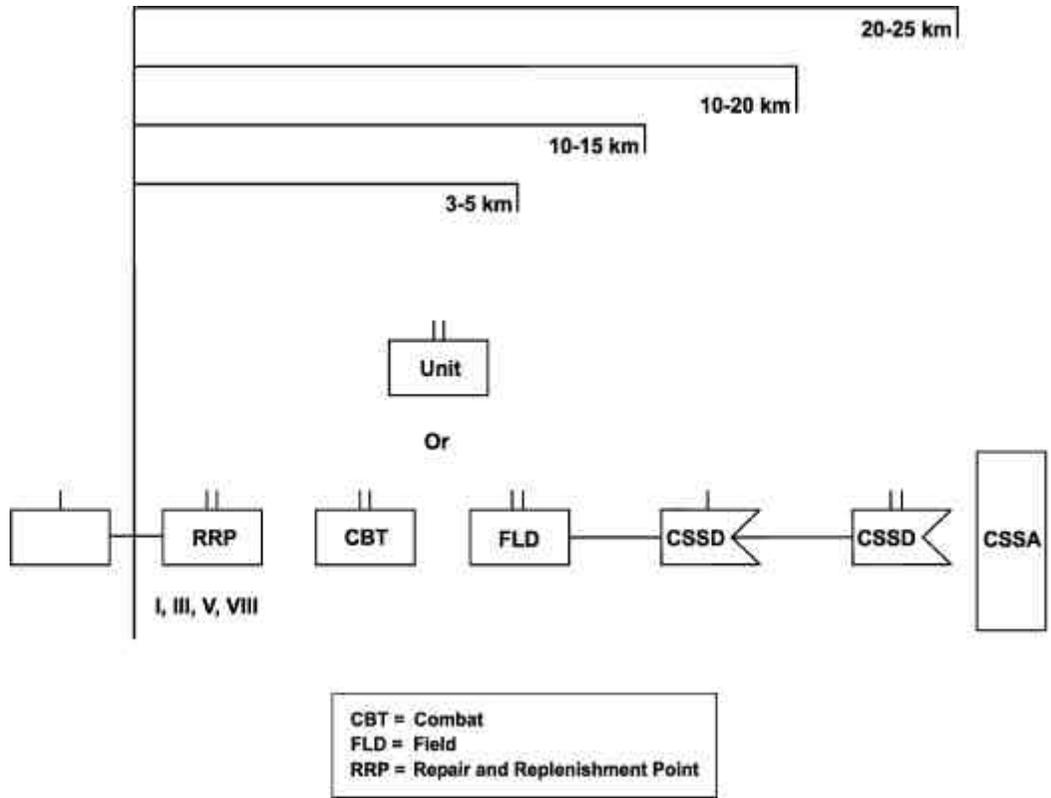


Figure 5-4. Train Techniques Commonly Used During Supply Operations.

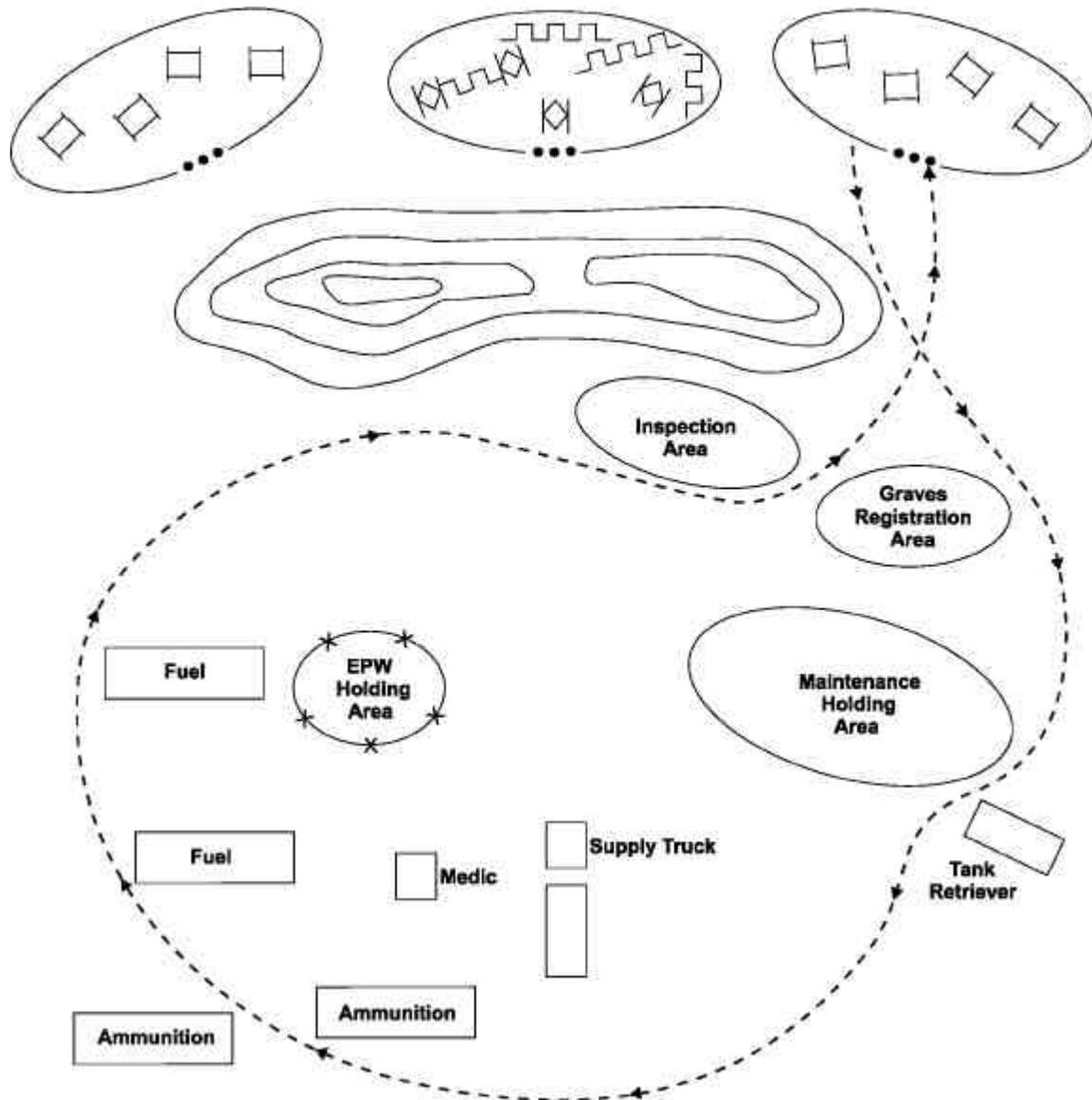


Figure 5-5. Service Station.

depot maintenance. The transferring activity is responsible for flying replacement aircraft directly to the receiving squadron or to an airfield near the receiving squadron. The receiving squadron accepts the aircraft and reports the aircraft’s status to the ACE.

c. Aircraft Fuel and Ammunition

The CSSE normally establishes a fuel depot ashore, from which it draws fuel to deliver to the

MWSS which, in turn, dispenses fuel to aircraft. Similarly, the CSSE normally establishes one or more centralized ammunition supply points (ASPs) for the purpose of receiving, accounting, storing, and issuing of class V material. Central ASPs are generally supported by ammunition technicians provided by the FSSG, along with a small cadre of aviation ordnance technicians who assist in the throughput of class V(A) to outlying satellite ACE ASPs. (Satellite ASPs are generally established for both air and ground units in an

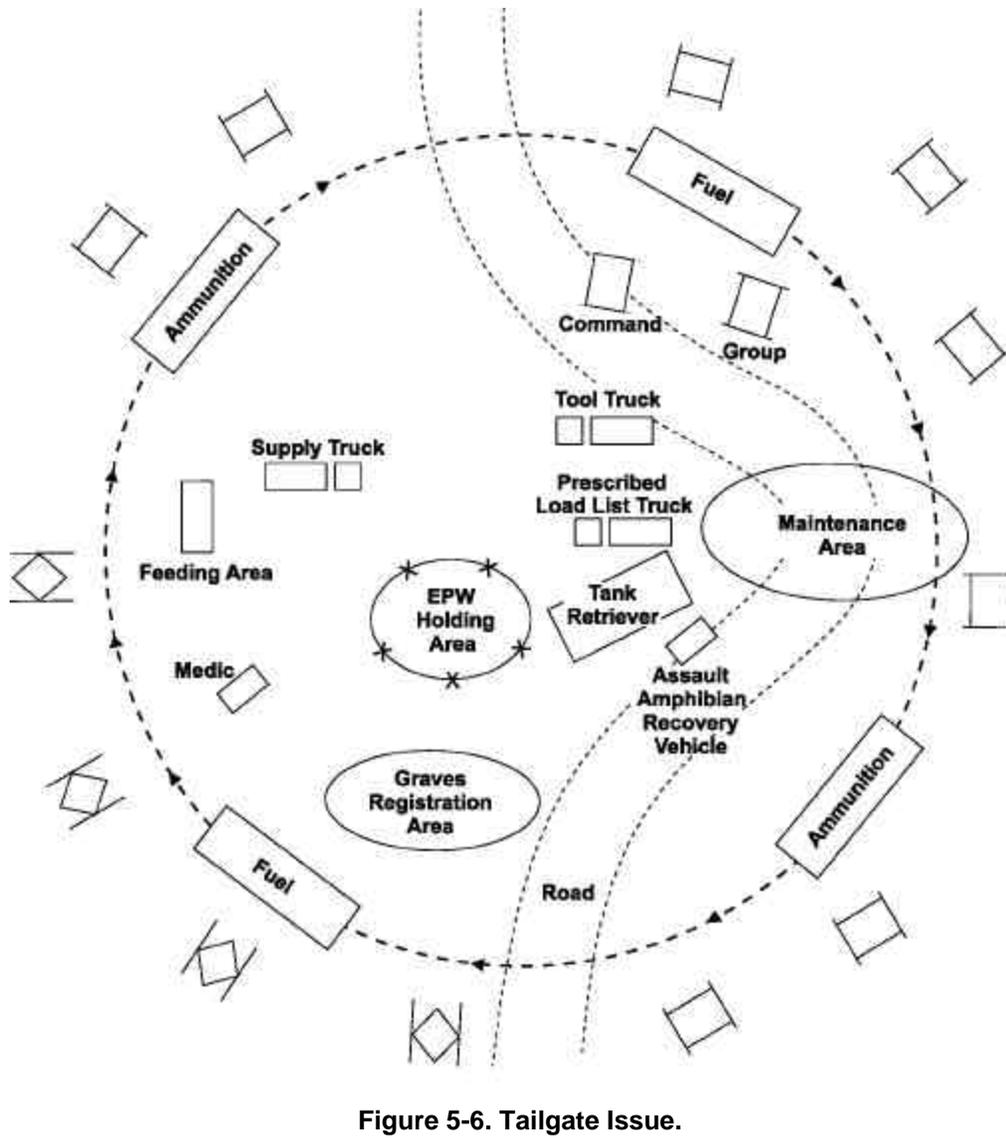


Figure 5-6. Tailgate Issue.

effort to minimize the effects of time and distance on the efficient delivery of munitions to the end user.)

Satellite ASPs used to support the ACE should be collocated with the airfield. The ACE (MALS) aviation ordnance department is staffed for and fully capable of all functions similar to those performed by a central ASP. The MALS aviation ordnance department is responsible for establishing, operating, and maintaining ACE satellite ASPs. Class V material arriving at the airfield is

received and stored under the direction of the ACE aviation ordnance department unless accompanying documentation specifies further transportation to either a centralized ASP or another satellite ASP.

Aviation ordnance personnel augment CSSE ammunition company on a contingency basis. The augmentees should be knowledgeable of aviation ordnance peculiarities and different inventory reporting requirements that exist for Navy-owned ammunition. These personnel are assigned to the

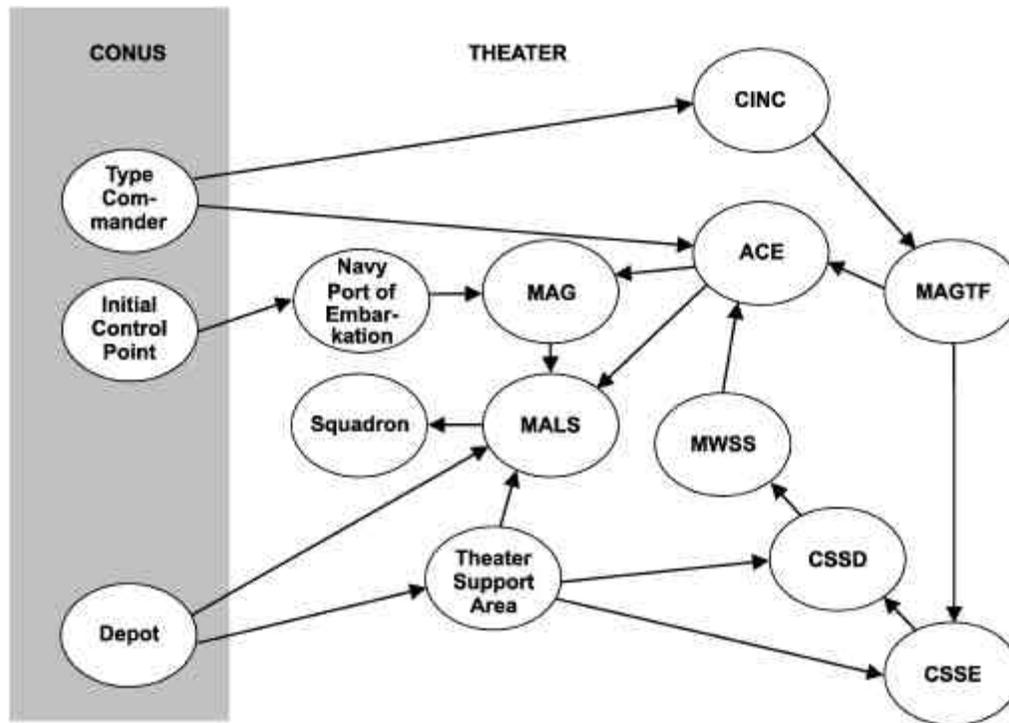


Figure 5-7. Aviation-Related Supply When Deployed.

ASP nearest the SPOE responsible for storing and distributing class V(A) and (W) ammunition arriving in-theater. They assist in the receipt, segregation, storage, and distribution of class V(A) within the theater of operations. Lessons learned reports from Desert Shield/Storm and Restore Hope highlighted the need for this augmentation.

d. Relationship Between Combat Service Support Element and Aviation Units

Figure 5-8 shows the relationship between aviation units and the CSSE for ground supply support and for aircraft fuel and ammunition support.

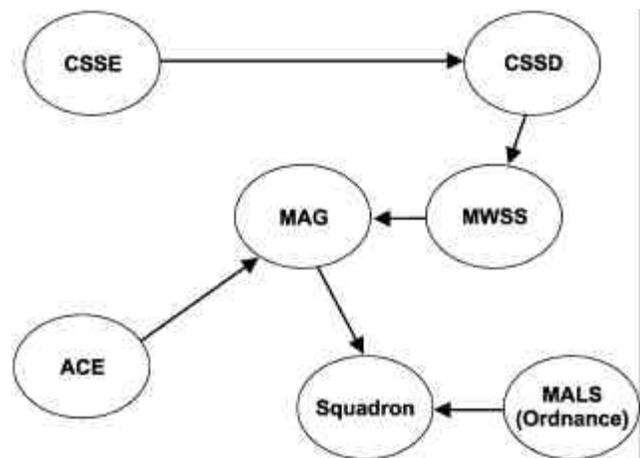


Figure 5-8. Ground Supply When Deployed.

Section II. Maintenance

Maintenance involves those actions taken to retain materiel or restore it to serviceable condition. While the purpose and functions of equipment maintenance are universally applicable, the Marine Corps has developed applications for the support of ground-common and aviation-unique equipment. This section describes maintenance support for the levels, echelons, and subfunctions described in chapter 1.

5201. Ground Maintenance Support Operations

This section discusses the maintenance tactics, techniques, and procedures; intermediate and organizational maintenance operations; and the recovery, evacuation, and repair cycle for ground maintenance support. The maintenance process is followed during the amphibious assault, transition period, and subsequent operations ashore. See figure 5-9, page 5-14.

a. Maintenance During Amphibious Assault

Assault force elements land with a few organizational maintenance personnel. The majority of the organizational maintenance capability lands in nonscheduled waves. Once the first assault waves are ashore, the LFSP provides the only significant maintenance capability.

Although the LFSP has limited recovery, evacuation, and repair capabilities, it has a small block of critical repair parts tailored to match the quantity and type of equipment in the assault waves. The LFSP replaces components and assemblies rather than repairing them. It uses selective interchange to offset the limited depth and breadth of repair parts. One of the first tasks of the LFSP maintenance detachment is to establish maintenance and salvage collection points.

The LFSP must develop an aggressive recovery and evacuation plan because extensively damaged

items may provide repair parts for other essential items. Damaged equipment should be placed on resupply vehicles returning to the LFSP. Assault elements should abandon equipment only when the tactical situation prevents recovery. When unable to recover equipment, units should report the location of the item to the LFSP for later recovery and evacuation.

b. Maintenance During Transition Periods

When the tactical situation ashore stabilizes, the MAGTF commander lands nonscheduled units such as unit trains with the organizational maintenance elements. As the assault units' organizational maintenance capability expands, the LFSP shifts its efforts to intermediate maintenance. Assault units normally position their trains near the LFSP to permit mutual support, to avoid duplication of facilities, and to reduce the transportation burden.

c. Maintenance During Subsequent Operations

When appropriate, the MAGTF commander lands the additional CSSE units. Once the CSSE is established ashore, the MAGTF commander disestablishes the LFSP. After the AFOE arrives, the CSSE commander reaches full maintenance capability. When the maintenance unit cannot repair an item, it evacuates the item to the next higher level.

d. Organizational Maintenance

Units owning equipment have organizational maintenance responsibilities. Proper maintenance is essential to sustain combat operations. The maintenance contact team is the centerpiece of organizational maintenance.

(1) Maintenance Contact Team Capabilities.

The maintenance contact team consists of organizational maintenance repairmen with tools, test equipment, and critical, high-usage repair parts. These repairmen inspect, diagnose, classify, and

repair equipment at forward sites. In addition, the maintenance contact team may include communications, engineer, motor transport, or ordnance repair personnel. The logistics officer determines the exact number of Marines and mix of skills in maintenance contact teams and positions them in the appropriate train. When using combat trains, maintenance contact teams are forward where they are more responsive to the tactical unit. If deployed with a unit train, maintenance contact teams are farther to the rear.

(2) Maintenance Contact Team Operations.

Maintenance contact teams (MCTs) conduct recovery, evacuation, and repair. They determine whether an item is repairable at the recovery site. The MCT either fixes the item, requests parts and an intermediate level maintenance support team (MST) from the CSSE, or supervises the item evacuation. Figure 5-9 shows relationships between various maintenance agencies. The GCE collection points represent the battalion and regimental trains.

e. Intermediate Maintenance

The three elements of an intermediate maintenance concept are the MST, the CSSE forward maintenance detachment, and the FSSG intermediate maintenance activity (IMA).

(1) Maintenance Support Team. The MST is an intermediate maintenance version of the MCT. The MST has intermediate maintenance repairmen with tools, test equipment, repair parts, and likely a wrecker or maintenance vehicle. These repairmen inspect, diagnose, classify, and repair equipment at forward sites. The CSSE operations officer determines the number of Marines and mix of skills per team. Normally, MSTs move forward to repair a specific item of equipment. This technique allows the MST to draw the needed parts and tools before moving based on input from the MCT.

(2) CSSE Forward Maintenance Detachment.

The CSSE forward maintenance detachment is the element of a CSSD that operates the mainte-

nance facilities and collection points far forward. The forward support maintenance detachment—

- ▮ Evacuates inoperable equipment from supported units' collection points.
- ▮ Performs intermediate maintenance within its capabilities.
- ▮ Provides repairmen, tools, and test equipment to maintenance support teams.

(3) FSSG IMA. The FSSG IMA provides robust principal end item repair and component rebuild support to the MEF. The FSSG commander establishes a centralized IMA in the force combat service support area (FCSSA) to perform complex, time-consuming maintenance activities during sustained operations ashore, such as Desert Shield/Desert Storm. The CSSE commander forms multiple on-call MSTs and, during surge periods, sends them forward either to assist MCTs or to augment the CSSE forward maintenance detachments.

f. Recovery, Evacuation, and Repair Cycle

These capabilities differ during the various phases of combat operations and increase as more of the MAGTF lands. See appendix D for a depiction of the maintenance recovery, evacuation, and repair cycle during combat.

(1) Recovery Responsibility. As much as capability and the tactical situation allows, the owning units are responsible for retrieving immobile, inoperative, or abandoned materiel. They move recovered equipment to a maintenance collection point or a main supply route.

(2) Evacuation. If neither the owning unit nor the CSSE can repair a recovered item, the CSSE evacuates it. If the MAGTF commander authorizes selective interchange, the CSSE may remove and use parts before evacuating an item. The CSSE evacuates recovered equipment directly to a designated repair or disposal agency.

(3) Nonreparable Equipment. If materiel is in danger of capture, the owning unit should recover

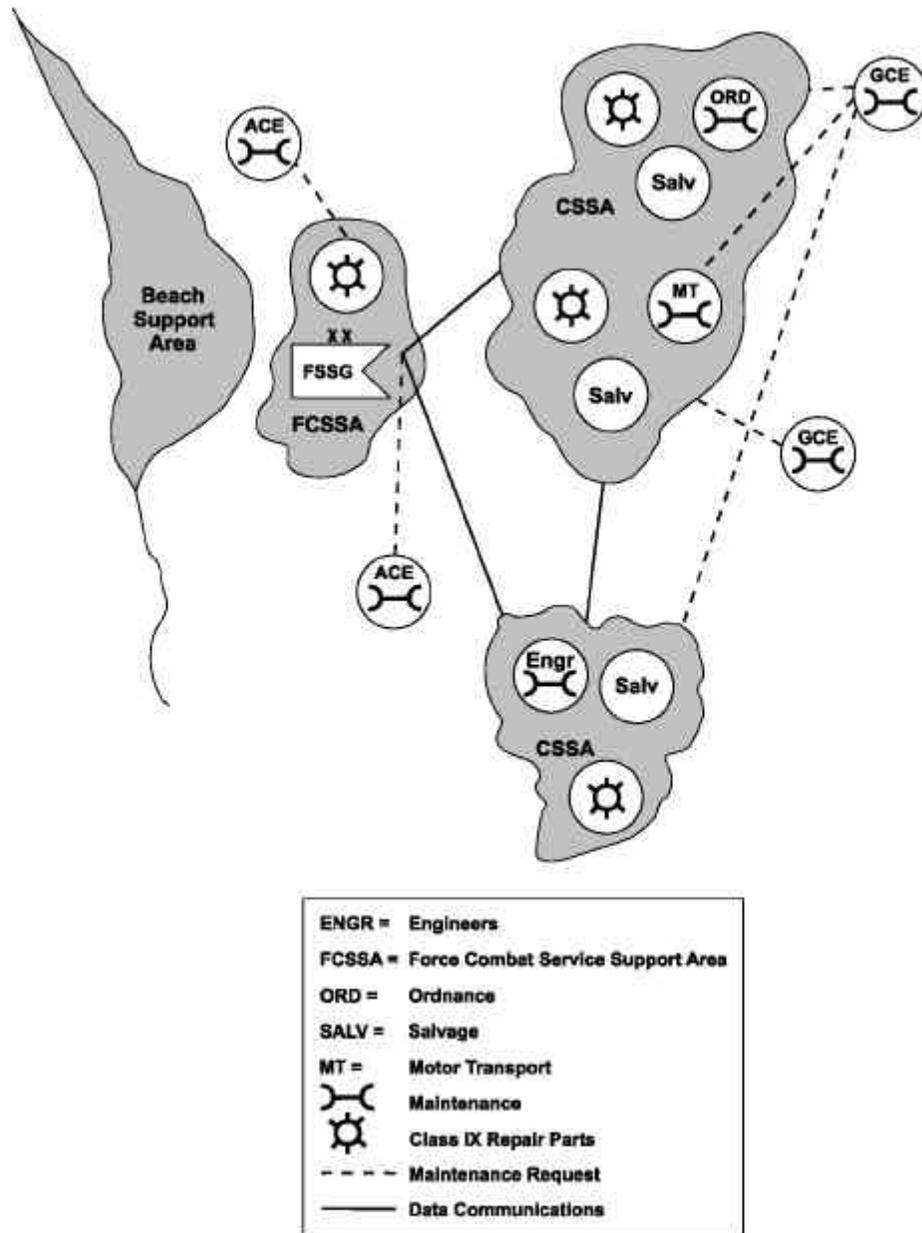


Figure 5-9. Ground Equipment Maintenance Process in Combat.

all salvageable parts and components and destroy the remaining equipment.

(4) Recovery Considerations. Commanders should closely monitor and control recovery and evacuation operations. Logistics officers must establish recovery and evacuation priorities and carefully allocate personnel and equipment to these operations. For example, combat vehicles, weapons, and weapons' platforms often have a

higher recovery priority than other items. Also, the extent of damage affects recovery priority. When the unit must recover two or more of the same item, the item requiring the least repairs should be recovered first. The following is a suggested recovery priorities list:

- 1 Items immobilized by terrain.
- 1 Items with failed or damaged components that require little repair.

- 1 Damaged items that require significant expenditure of recovery and repair effort to return them to operation.
- 1 Contaminated items that require significant recovery, repair, and decontamination effort.
- 1 Salvageable items.
- 1 Enemy materiel.

(5) Positioning. Combat and combat support unit commanders should position their recovery capability forward. As a rule, the recovery capability consists of personnel and equipment organized in maintenance contact teams. The CSSE commanders distribute maintenance assets to achieve a balance between economy and responsiveness.

5202. Aviation-Peculiar Maintenance Support Operations

The Marine aviation logistics support program (MALSP) and the MPF program (including aviation logistic support ships) provide aircraft support personnel with the ability to sustain all aircraft types that comprise a MAGTF ACE. Specifically, these programs enable aviation logisticians to identify and integrate the people, aircraft support equipment, mobile facilities and/or shelters, as well as spares and/or repair parts needed to support a MAGTF ACE.

a. Marine Aviation Logistics Support Program

Most Navy-funded logistic support for aviation units is provided under MALSP. The primary objective of MALSP is to expedite the delivery of required aviation-peculiar logistics to support any contingency. MALSP and MPF provide a building block method of quickly task-organizing, deploying, and sustaining ACE aviation peculiar assets by structuring aviation logistic support into contingency packages that can be phased into an operating area.

(1) Support Packages. MALSP provides comprehensive and replenishable sustainment packages while reducing lift requirements and force

closure time. These support packages are used as building blocks to keep aircraft operational during every phase of an operation.

(a) **Fly-In.** Fly-in support packages (FISPs) can be viewed as enabling packages. They provide the organizational-level spare parts support that allows Marine aircraft to commence flight operations immediately on arrival in theater. The FISPs are airlifted to the operating site as part of the fly-in echelon (FIE). They are combined with the organizational-level and/or limited intermediate-level aircraft support equipment transported aboard MPF ships. This combination of assets is capable of providing critical aviation support for 30 days of combat flying. If flight operations require more than 30 days of spare parts support, then contingency support packages (CSPs) are provided to augment the FISP.

(b) **Contingency.** The CSPs augment the FISPs by adding common maintenance support items which are used by more than one Marine aviation unit and peculiar maintenance support items used for a specific aircraft or support equipment application. These packages support both organizational- and intermediate-level maintenance. The CSPs integrate the maintenance equipment, mobile facilities, spare parts, and personnel to support and sustain each type of deployed tactical Marine aircraft. Rapidly deployable organizational-level individual material, mobile facilities allowances, and personnel allocations are identified in master allowance documents for each aviation element. The master allowance documents consist of T/Os, individual material readiness lists (IMRLs), tables of basic allowance (TBA), aviation consolidated allowance list (AVCAL), and coordinated ship-station allowance list (COSAL). The CSP allowances are computed at the combat flying-hour rate for a 90-day endurance period and are supplemental allowances to those identified in AVCAL, COSAL, IMRL, and TBA. The CSP allowances, which are derived from the master allowance documents, are separated into the following subcategories:

- 1 **Common Allowances.** Common CSP allowances consist of those Marine common assets that

the rotary- or fixed-wing MALS of an ACE provide to support the majority of assigned aircraft. A fixed-wing Marine common item is one that has application to at least the F/A-18 and AV-8B aircraft which are part of an ACE. A rotary-wing common item is one that has application to at least the CH-53E, CH-46E, and AH-1W aircraft which are a part of an ACE. Weight, cube, cost, reliability, and supportability are the primary considerations in determining what parts are included in the CSP. For planning purposes, it is assumed that the fixed- and rotary-wing MALS will be geographically separated.

1. **Peculiar Allowances.** Peculiar CSP allowances consist of those maintenance items required for intermediate-level support of a specific type/model/series (T/M/S) aircraft and of associated support equipment that a MAG provides to a MAGTF ACE.

(c) **Follow-On.** Follow-on support packages (FOSPs) represent the final MALSP building block. The introduction of the FOSP would, in essence, provide ACE aircraft with the same support received in garrison.

(2) Reconfiguration for Deployment Support. Marine aircraft squadrons of a particular T/M/S aircraft are generally consolidated and attached to only two or three MAGs. To form an ACE, one or more fixed- and rotary-wing MAGs reconfigure into a task-organized fighting unit by retaining or attaching only mission-essential aircraft, aircrew, and operations support personnel and equipment. Under MALSP, aviation logisticians identify people, IMRL items, TBA, and AVCAL and/or COSAL allowances that are needed to support the quantities of each T/M/S of aircraft being detached and attached to ensure that reconfigured MAGs include the necessary MALSP resources.

(3) Support Personnel Requirements. Staffing and organization are two personnel considerations in support of the MALSP.

(a) **Staffing.** Without adequate staffing of qualified maintenance, supply, and administrative personnel, this program would not succeed. The

MALS and supported squadrons' T/Os should provide the right quantity of skilled personnel to support a task-organized ACE.

(b) **Organization.** Each MALS is organized to provide a core intermediate-level capability of supervisory and common support personnel necessary to maintain fixed- or rotary-wing aircraft that join an ACE. The MALS T/O contains the personnel component of a common CSP, which forms the nucleus of an ACE allowance list (fixed- or rotary-wing). Each tactical aircraft squadron T/O has a separate listing of intermediate-level billets that consist of military occupational specialty (MOS) skills that are peculiar to that squadron's T/M/S aircraft. The MALS provides the MAGTF commander with the capability to support the peculiar requirements of the T/M/S aircraft assigned to that ACE. Whenever the MAG detaches aircraft and sends them to an ACE, a unit deployment, or an exercise, the MALS uses the intermediate maintenance portion of aircraft squadron T/Os and produces a complete CSP (i.e., IMRL, AVCAL, COSAL, TBA) for the receiving MALS.

b. Aviation Logistics Support Ship

The aviation logistics support ship (TAVB) concept was developed to transport critical intermediate-level maintenance and supply assets to a forward operating area in support of deployed Marine aircraft. The primary mission of the TAVB is to provide dedicated sealift for movement of intermediate-level logistic support for use in the rapid deployment of a MAGTF ACE. A secondary mission—to serve as a national asset dedicated to strategic sealift—can be exercised if the embarked MALS is phased ashore. To enhance responsiveness, one ship is berthed on the east coast and another on the west coast of the United States. Both ships can be configured to allow for tailored intermediate-level repair capability while underway, in stream, or pierside.

(1) Manning and Communications. When activated, the MSC operates the TAVBs with civilian manning. The TAVB carries a Navy communications van to support its tactical missions and to

provide interoperability with naval groups and task forces.

(2) Marine Aviation Logistics Squadron Operations. MALS operations aboard TAVBs are subdivided into the activation and operational modes.

(a) **Partial In-Transit Activation.** The MALS can be partially activated during ship transit. Before embarkation, the mission-essential weapon replacement assembly (WRA) and system replacement assembly (SRA) support required during transit must be determined. During partial MALS operations, some inoperable WRAs and/or SRAs can be repaired en route, thereby reducing the requirement for the procurement of spare repairable components; however, component repair capability is driven by the availability of support in the MAG at the time the TAVB is loaded. In the operational mode, mobile facilities are designated as either functional or nonfunctional. A functional mobile facility requires some degree of service from the ship (such as power, low-pressure air, or water). During the ship's transit, functional mobile facilities must be either accessible or manned. On the other hand, nonfunctional mobile facilities are not critical to mission support while aboard the TAVB and are therefore neither operated, manned, nor accessible.

(b) **Operational Mode.** The TAVB in the MALS operational mode can accommodate approximately 300 mobile facilities, of which 186 are functional and 114 (30 maintenance and 84 supply) are nonfunctional. Functional mobile facilities are stowed on the main and second decks in single or double tiers. Double-tiered units are in clusters of four or eight. Access to upper-tier mobile facilities on the main and second decks is provided by ladders and scaffolding systems called access modules. Access to nonfunctional mobile facilities stowed below the second deck is by end-connected access modules. Remaining nonfunctional mobile facilities stowed below the second deck or deep stowed are not accessible while the TAVB is underway.

(3) Operational Concepts. There are five conceptual TAVB operational considerations.

(a) **Primary Operational Concept.** The primary TAVB operational concept is to transport an intermediate-level capability, with spare parts and aircraft support equipment to support an ACE deployed in support of a MAGTF.

(b) **Deployment.** On notification of movement, the TAVB is expected to arrive in the objective area within 15 to 20 days to unite with aircraft, personnel, and maintenance support prepositioned by the fixed-wing flight ferry and the FIE units.

(c) **Entry.** If conditions permit, transfer of the MALS ashore begins when the TAVB docks.

(d) **Enabling Actions.** MALS operations can be sustained in the objective area if rapid movement ashore is not possible. Under these conditions, the TAVB prioritizes its workload in support of flight-line maintenance requirements to ensure that mission essential WRA and SRA support is provided.

(e) **Amphibious Landing.** Although the TAVB is designed primarily to support MPF and an air contingency MAGTF, it could be tasked to support an amphibious operation. In all cases, the TAVB requires an unopposed entry into an objective area before offloading.

c. Maritime Prepositioning Ships

The MPF program provides fleet commanders with deployment flexibility by including organizational-level and limited intermediate-level aviation support equipment and class V(A) in each MPF squadron.

Maritime prepositioning ships are roll-on and roll-off, civilian-crewed, Military Sealift Command-chartered ships that are organized into three MPS squadrons (MPSRONS). In peacetime operations, they are usually forward deployed in strategic locations worldwide. Currently, MPSRON-1 and MPSRON-3 are composed of four ships each and MPSRON-2 is composed of five ships.

(1) Capabilities. Each MPSRON has a fixed set of embarked equipment and supplies. Generally, this set contains sufficient quantities of supplies

(except classes VI and X) to sustain a MEB for 30 days of combat operations. To support ACE operations, each MPSRON contains a tailored set of organizational-level aircraft support equipment for each T/M/S aircraft assigned to the supported ACE. Additionally, each MPSRON includes limited intermediate-level facilities equipment. This equipment is designed to provide common intermediate-level functions normally associated with the MALS (i.e., tire and wheel buildup, battery maintenance). On arrival at the port of debarkation, aircraft equipment will be off-loaded, and when combined with the equipment embarked aboard the FIE, T/M/S aircraft FISP allowances, and support personnel, the ACE will be capable of

sustained combat flight operations for up to 30 days or, if augmented, until the arrival of the host MALS via the TAVB.

(2) Unique Features. The association of specific forces with their prepositioned materiel is a unique feature that sets apart the MPF program from other afloat prepositioned programs. This critical association facilitates the rapid employment of materiel in support of expeditionary operations. The strategic stationing of MPSRONs contributes to worldwide responsiveness and provides the ability to mass a large force at one point by using several squadrons and associated forces.

Section III. Transportation

Transportation is movement from one location to another by using highways, railroads, waterways, pipelines, oceans, and air. Transportation is needed to put combat power (personnel and materiel) in the correct locations at the proper times to start and maintain operations. Any major disruption of transportation support can adversely affect a MAGTF's capability to support and execute the assigned mission.

5301. Motor Transport Operations

Motor transport operations may be either combat support or CSS. The commander may attach motor transport units to supported units. The commander may also control allocated motor transport resources by assigning an appropriate mission. Successful motor transport operations require careful management.

Economical transportation operations dictate matching the number and type of vehicles to the task and reducing the turnaround time. Factors that affect turnaround time are distance, rate of march, and the time it takes to load and unload. The turnaround time can be delayed if shippers and receivers responsible for loading and unloading vehicles are slow or fail to release the vehicles after unloading.

a. Operational Techniques

The commander may increase the tonnage moved with a fixed number of trucks by adopting some or all of the following techniques:

- 1 Loading each vehicle to its maximum allowable capacity.
- 1 Increasing the authorized speed of the vehicles (existing traffic and weather conditions dictate a safe operating speed).
- 1 Synchronize delivery and pickup schedules to various units.
- 1 Reducing turnaround time.

b. Types of Haul

(1) Local (Short) Hauls. The ratio of running time to loading and unloading time is small for local hauls. Trucks running local hauls make several trips per day. The measure of effectiveness for evaluating local haul operations is the amount of tonnage moved during the operational period.

(2) Line (Long) Hauls. The ratio of running time to loading and unloading time is large for line hauls. Trucks running line hauls make only one trip or portion of a trip per operating shift. The measures of effectiveness for evaluating line haul operations are the time consumed, distance traveled, and tonnage hauled during the operational period. The transportation agency expresses this measure in either ton-miles or ton-kilometers.

(3) Zonal Hauls. Truck operations confined within the territorial boundaries of one command are intrazonal. Trucks crossing boundaries and operating under the area control of more than one command are interzonal. The MAGTF commander makes policies and maintains control over interzonal operations.

c. Hauling Methods

(1) Direct Haul. A direct haul completes a single transport mission in one trip. No transfer of supplies or exchange of equipment occurs. The commander uses direct haul to speed forward movements before establishing transfer or exchange points. This method is most common for local hauls because long distance direct hauls are hard on both the driver and equipment.

(2) Shuttle. A shuttle involves the same vehicles making repeated trips between two points. This method is most common for local hauls.

(3) Relay. Relay hauling is the continuous movement of supplies or troops over successive segments of a route without transferring the load. The motor transport unit does a relay by changing drivers, tractors, or both for each segment. This

method is most common for line hauls. The relay system, using tractor- or semi-trailer combinations, is the most efficient method of line-haul operations. This technique is best used when there is a well-developed road network that is not subject to interdiction. Relay is also the best method to use when the unit cannot complete a one-way haul in one day. Containerization increases the effectiveness of this system by making better use of the truck's tonnage capability. This system provides rapid throughput of cargo and guarantees adequate supervision and support along each segment of the route.

d. Cargo Clearance

Clearing cargo from a beach, port, railhead, or airfield permits continuous discharge of ships, trains, or aircraft. Terminal operation units are responsible for cargo clearance. The availability and proper use of motor transport and MHE are essential. The transportation support unit plans and sets up the circulation network and regulates the flow of vehicles throughout the terminal area. Beach clearance operations are especially difficult as a result of the generally poor road conditions and the temporary nature of the available support facilities. Air terminal clearance is easier because roads and facilities are often better. However, to unload the aircraft and clear the terminal rapidly, vehicles may not be loaded to maximum capacity.

e. Convoy Operations

Convoys are task-organized to meet the requirements of the assigned mission. A convoy may include a transport element, an escort or security element, a C2 element, and various support elements. Because units plan and execute their own convoy operations, the convoy commander is the direct representative of the commander initiating the operation and is responsible for the conduct, safety, security, and accomplishment of the convoy's mission. However, higher headquarters often establish control measures and regulations governing convoy operations on main supply routes. Commanders publish control measures and regulations in local SOPs and in their OPORDs. These control measures include start points, checkpoints, halts, and release points.

Commanders also classify routes in their area of operations.

f. Types of Routes

(1) Open Route. An open route has minimal control and does not require prior approval to use the route from the commander whose area the route crosses. The only supervision along the route is at critical intersections which are traffic controlled by military police who also enforce standard traffic laws.

(2) Supervised Route. The commander whose area the route crosses exercises limited control over a supervised route. Any column of 10 or more vehicles and any oversized or overweight vehicles require prior clearance. The commander may also limit access to the route. The military police establish traffic control posts and patrols.

(3) Dispatch Route. The commander whose area the route crosses exercises full control over a dispatch route and establishes priorities for its use. Any vehicle or group of vehicles requires prior approval to use the route.

(4) Reserve Route. The commander sets aside this type of route for the sole use of a specific unit, a special operation, or a certain traffic type. If the route is reserved for a specific unit, the commander of that unit determines the necessary control.

(5) Prohibited Route. Traffic is banned from this route.

5302. Port and Terminal Operations

a. Ship-to-Shore Movement

This type of movement is that portion of the amphibious operation assault phase that includes the deployment of the landing force from the ships to designated landing areas.

b. Shore-to-Shore Operation

This assault operation moves personnel and materiel directly from a shore staging area to the objective. It does not involve further transfers between types of craft or ships incident to the assault movement. Usually a single-Service operation, a shore-to-shore operation involves water crossings in assault craft or in assault craft and aircraft. The purpose of this operation is to establish a force on or withdraw it from the far shore.

c. Logistics Over-The-Shore Operations

Logistics over-the-shore (LOTS) operations are “the loading and unloading of ships without the benefit of fixed port facilities, in friendly or non-defended territory, and, in time of war, during phases of theater development in which there is no opposition by the enemy.” (JP 1-02)

LOTS operations may be over unimproved shorelines, through partially destroyed ports, through shallow-draft ports, and through ports that are inadequate without LOTS capabilities. See JP 4-01.6, *Joint Tactics, Techniques, and Procedures for Joint Logistics Over the Shore (JLOTS)*, for a detailed discussion of LOTS operations. LOTS operations are used to load and unload—

- ┆ Break bulk ships.
- ┆ Roll-on and roll-off ships.
- ┆ Container ships.
- ┆ Bulk petroleum, oils, and lubricants ships.
- ┆ Water ships.
- ┆ Barges.

d. Joint Logistics Over-the-Shore

JLOTS operations may involve units and equipment from the Army, Navy, and Marine Corps and may follow amphibious assault operations. The transition from amphibious to JLOTS operations entails passing command of shore facilities to the Army once the amphibious operation ends. The JTF or unified commander directs such transitions. Amphibious operations and MPF operations use some of the same equipment and procedures as JLOTS operations.

e. Inland Waterway Operations

An inland waterway normally operates as a complete system. It involves—singly or in combination—rivers, lakes, canals, intracoastal waterways, and two or more water terminals. Inland waterways can relieve pressure on other modes of transportation. They are especially useful for moving a large volume of bulk supplies and heavy-outsize items that are not easily transported by other means. Although economical, inland waterways are relatively slow compared to other means of transportation. They are especially vulnerable to enemy action and climatic changes.

f. Inland Terminal Operations

Inland terminals serve air, rail, and motor transport operations. They provide cargo transfer facilities at interchange points. They form connecting links when terrain and operational requirements cause a change in carrier.

g. Staging Area Operations

MAGTF forces conduct staging area operations during amphibious and other types of movements. JP 1-02 gives two definitions for staging area. “1. Amphibious or Airborne—A general locality between the mounting area and the objective of an amphibious or airborne expedition, through which the expedition or parts thereof pass after mounting, for refueling, regrouping of ships, and/or exercise, inspection, and redistribution of troops. 2. Other Movements—A general locality established for the concentration of troop units and transient personnel between movements over the lines of communications.”

5303. Air Delivery Operations

Air delivery offers the CSSE options for supply operations that present potential economies in terms of responsiveness, assets, and security. Air delivery lends itself to supply support operations in helicopterborne and subsequent operations ashore, especially for bulk items (e.g., classes I, III, and V). As the initial resupply effort in support of helicopterborne operations, coordinated

air delivery operations can reduce ground transportation requirements while enhancing the sustainability and combat power of the supported force. As a means of sustainment in subsequent operations ashore, air delivery can reduce both the vulnerability of resupply convoys to enemy interdiction. In each case, economy of effort is achieved through the compensatory reduction of security requirements associated with air delivery.

5304. Deployment

MAGTFs deploy from permanent installations for forward deployments and combat operations. Regardless of the type of deploying force, designated transportation operating agencies control and coordinate the marshaling, embarkation, and movement of the forces.

a. Marine Corps Commands

The following Marine Corps commands may be involved with MAGTF deployments:

- ┆ HQMC.
- ┆ COMMARFORs.
- ┆ Deploying MEFs.
- ┆ Deploying MAGTF CE (if other than a MEF deployment).
- ┆ Divisions, MAWs, and FSSGs.
- ┆ Bases and air stations from which the forces deploy.
- ┆ Marine Corps logistics bases (Albany and Barstow).

b. External Transportation Agencies

The following commands external to the Marine Corps may be involved with MAGTF deployments:

- ┆ Supporting CINC.
- ┆ Supported CINC.
- ┆ Fleet commander.
- ┆ DLA (including remote storage activities).
- ┆ USTRANSCOM and its subordinate commands:

- ┆ MSC.
- ┆ AMC.
- ┆ MTMC.

c. Modes of Transportation

Transportation modes vary depending on the type of MAGTF, the purpose and duration of the deployment, and the anticipated employment. Deployments of larger MAGTFs require use of several transportation modes.

(1) Amphibious. Amphibious deployments require the following modes of transportation:

- ┆ Military or commercial trucks, buses, and rail from origins to POEs for all personnel, supplies, and equipment.
- ┆ Amphibious ships from SPOEs to the operating area.
- ┆ AMC or commercial charter airlift for AFOE and replacement personnel who cannot deploy by ship.
- ┆ Flight ferry of ACE aircraft that cannot deploy by amphibious ships.
- ┆ Commercial ships from SPOEs for the AFOE.

(2) Maritime Positioning Force. MPF deployments require the following modes of transportation:

- ┆ Military or commercial trucks and buses from origins to aerial SPOEs for personnel, supplies, and equipment in the FIE.
- ┆ Flight ferry of self-deploying ACE aircraft.
- ┆ MPF ships for deployment of maritime prepositioned supplies and equipment.
- ┆ AMC or commercial charter airlift for the FIE.

(3) Marine Expeditionary Force. The MEF deployments are the most complex deployments from a transportation perspective. The MEF elements deploy from different bases and stations that may be in widely separated geographic areas. A forward-deployed MAGTF may be on station and may serve as the MEF enabling force as additional MEF forces deploy.

(4) Forward-Deployed Marine Air-Ground Task Forces. Forward-deployed MAGTFs routinely deploy aboard amphibious ships or a combination of air and MPS ships for MPF operations. Transportation support planning frequently requires coordination with military detachments at foreign ports and airfields to arrange augmentation by foreign civilian transport and U.S. common-user land transportation agencies during scheduled port visits.

5305. Employment

Transportation available for employment in theater includes the organic assets of the MAGTF. It may also include transportation belonging to the joint force commander or to the host nation. Specific capabilities depend on the situation. Transportation assets may include airlift, rail, trucks, ships, boats, barges, and pipelines.

The MAGTF commander is responsible for movement control in the MAGTF operating area. Normally, the commander delegates this responsibility to subordinate commanders within whose zones of action or areas the movement takes place. Behind the GCE rear boundary, this normally is the CSSE commander.

When operating as part of a joint, allied, or coalition force, the MAGTF commander follows the traffic management and movement control regulations of that command. Normally, the higher commander establishes a movement control agency to provide movement management services and highway traffic regulation. This agency coordinates with allied and host nation movement control agencies. See FM 55-10, *Movement Control*, for a discussion of movement control in a theater of operations.

5306. Movement Control

Movement control combines the planning, routing, scheduling, and control of personnel and cargo movements over lines of communications to

support the deployment of forces. This section discusses movement control techniques, management agencies, operating procedures, and host nation support.

a. Control Techniques

(1) Centralized Control. The MAGTF commander should centralize control of movements at the highest level. This function is normally controlled by the MEF's FMCC. The FMCC plan is executed by the LMCC under the control of the CSSE commander.

(2) Regulation. The MAGTF commander, through the FMCC, regulates and coordinates movements to prevent congestion and conflicting movements over lines of communications.

(3) Flexibility. The FMCC must be able to divert or reroute traffic to maintain continuous movement of personnel, supplies, and equipment. The transportation system must provide an uninterrupted flow of traffic and be able to adjust to changing situations. The MAGTF FMCC must use its limited transportation capabilities effectively.

(4) Maximum Use of Carrying Capacity. The LMCC must keep equipment loaded and moving. Transportation commanders should also allow for adequate vehicle maintenance and personnel rest while meeting the mission. This principle involves more than just loading each vehicle to its maximum carrying capacity. The MAGTF cannot store transportation capability that it does not use one day to increase capability on subsequent days. Idle, empty equipment is a waste of capacity. Similarly, fully loaded equipment sitting idle is as much a loss of capacity as partially loaded vehicles moving through the system. However, the tactical situation may not permit optimal use of transportation assets.

b. Control Agencies

Movement control agencies function the same during peacetime as they do during periods of conflict. Movement control agencies are either permanent or temporary. Every MAGTF should

have a permanent transportation agency, though for smaller MAGTFs this may be no more than one or two individuals. Battalions and squadrons establish temporary unit movement control centers to manage a unit deployment.

c. Control During Deployments

(1) Movement Control Center. The movement control center is an agency that plans, routes, schedules, and controls personnel and supply movements over lines of communications. Every organization establishes and operates a movement control center for deployments.

(2) Local Standing Operating Procedures. Local SOPs establish the composition and procedures for movement control centers. Figure 5-10 depicts relationships between various commands, movement control agencies, and supporting organizations during deployment of a MAGTF.

(3) Marine Force Headquarters Movement Control Center. This center is primarily an information processing and advisory agency to keep COMMARFOR abreast of the status of subordinate unit deployments. This movement control center can coordinate with USTRANSCOM on transportation requirements, priorities, and allocations, as required.

(4) Force Movement Control Center. This is the MEF commander's agency to control and coordinate all deployment support activities. It also coordinates with the AMC, MSC, and MTMC.

(5) Logistic Movement Control Center. The CSSE or the supporting establishment organizes the LMCC to execute the FMCC transportation plan. Each marshaling base and/or station has an LMCC. The FMCC tasks the LMCCs to provide organic or commercial transportation, transportation scheduling, MHE, and other support as required.

(6) MAGTF/Division/Wing/FSSG Unit Movement Control Centers. The division, wing, and FSSG commanders provide forces to deploying MAGTFs. They control transportation and com-

munications assets needed to execute deployments. On order, each command activates a UMCC to support the deployment. The FSSG establishes two subordinate agencies—departure airfield control group (DACG) at the aerial port of embarkation (APOE) and the POG at SPOEs. The DACG coordinates equipment turnover and aircraft loading with the airlift control element (ALCE) at the APOE.

(7) Organizational Unit Movement Control Centers. Every deploying unit down to battalion, squadron, and company level activates a UMCC to control and manage its marshaling and movement.

(8) Base Operations Support Group. Bases from which Marine forces deploy establish base operations support groups to coordinate supporting efforts with the deploying units.

(9) Station Operations Support Group. Air stations from which Marine forces deploy establish station operations support groups to coordinate their efforts with those of the deploying units.

(10) Flight Ferry Control Center. In addition to its movement control center, the aircraft wing establishes a flight ferry control center to control deploying aircraft. The flight ferry control center operates under the cognizance of the MAW G-3.

d. Control in Theater

(1) Movement Control Center. The movement control center is the primary agency in theater, as it is in CONUS. As during deployments, lower-level commands activate movement control centers only while they are conducting movements. The MAGTF and its major subordinate commands maintain active movement control centers at all times. These may be no more than the motor transport and embarkation staff officers. In joint and combined operations, the MAGTF movement control center establishes liaison and communications with the theater movement control center and other commands or host nations in whose areas it is operating.

(2) Local Standing Operating Procedures. Local SOPs establish the composition and procedures for movement control centers in theater. Figure 5-10 depicts relationships between various commands, movement control agencies, and supporting organizations after arrival in theater. Unit SOPs should be applicable during both deployment and employment. Modifications to meet specific theater requirements are in the transportation appendix to Annex D of the OPOD.

(3) Marine Air-Ground Task Force Control Agencies. Movement control agencies in theater are the same as in CONUS before deployment.

During amphibious operations, the MAGTF movement control center is the senior movement control agency. The MAGTF commander often delegates responsibility for routine day-to-day movement control to the CSSE. During joint and combined operations, the MAGTF movement control center is not the senior movement control agency.

e. Host Nation Support

The MAGTF should use host nation transportation support to augment its organic transportation capabilities. Upon arrival in theater, MAGTF civil affairs units should investigate the availability

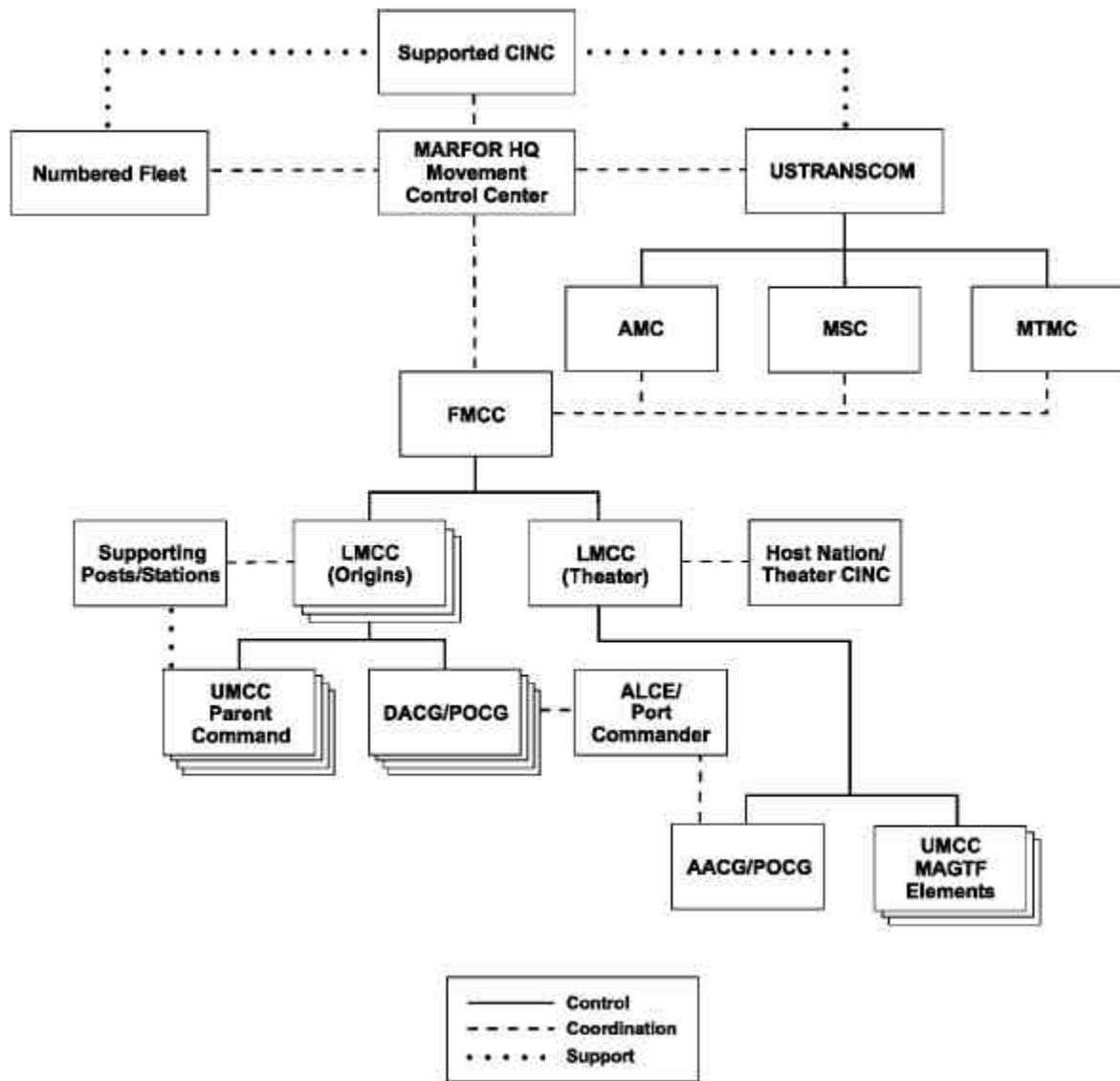


Figure 5-10. Movement Control Relationships during Deployment.

of such support. When operating in NATO or American, British, Canadian, Australian (ABCA) countries, the MAGTF is obligated to abide by certain agreements among the participating na-

tions. These agreements are called standardization agreements (STANAGs) in the NATO arena and quadripartite standardization agreements (QSTAGs) in the ABCA arena.

Section IV. General Engineering

General engineering supports the entire MAGTF and involves a wide range of tasks that sustain combat operations. Most general engineering support is provided by the engineer support battalion, while combat support engineering is provided by the combat engineer battalion. The MWSG and MWSS provide general engineering capabilities in support of aviation units. The MWSS has the engineering capabilities needed to construct expeditionary airfields and to conduct rapid runway repairs. For large-scale projects, the MWSS may be augmented by engineer support battalion and naval construction force (NCF) if construction needs exceed MAGTF capabilities.

5401. Naval Construction Force

The NCF is a Navy engineer organization. It can construct, maintain, and/or operate shore, in-shore, and/or deep ocean facilities that support Navy and Marine Corps units. NCF support can range from relatively short-lived support of amphibious operations to extended support of a land campaign.

Command relationships in amphibious operations are the joint responsibility of the senior Navy and Marine commanders. In supporting MAGTF and landing force operations, the NCF can be a separate component of a MAGTF or an ATF. Normally, elements of the NCF are placed under the command of the MAGTF. In such a case, the MAGTF commander may keep the NCF as a separate element, place it under either the CSSE or the ACE, or task-organize MAGTF engineer assets for coordination of effort. NCF units are not capable of providing most combat support functions associated with GCE operations and, therefore, would not normally be placed under the GCE.

The ultimate decisions on command relationships, missions, and tasks rest with the Navy and Marine

commanders for the specific operation. The command relationships that they select determine who plans their transportation and provides other NCF support. When the NCF is under command of the MAGTF, the MAGTF is responsible for support of the NCF as established in appropriate doctrinal publications and/or other applicable agreements. If not under command of the MAGTF, the Navy commander is responsible for common-item support of the NCF. For additional details, see NWP 4-04.1, MCWP 4-11.5, *Seabee Operations in the MAGTF*, and NWP 3-02.14, *The Naval Beach Group*.

5402. Engineering Tasks

Engineering tasks range from support provided by Marine engineer organizations to external support provided by assigned forces such as the NCFs and civilian or host nation resources. The subfunctions of general engineering encompass several tasks, many of which might also be described as combat support tasks. Table 5-2, on page 5-28, shows a wide range of engineering tasks assigned to engineer organizations.

5403. Engineer Group Concept

Specific projects or conditions may arise that require the formation of an engineer group to support the MAGTF commander's concept of operations. This group will be composed of either two or more battalions or squadrons. Under the group concept, which specifically applies to combat support and CSS, the MAGTF commander task-organizes engineer assets as an engineer group. If external units are OPCON to the MAGTF, an engineer group can be task-organized from available NCF units, engineer attachments from other U.S. military forces, and/or host nation assets.

Table 5-2. Engineering Task Matrix.

Tasks	Organizations				
	Combat Engineer Battalion	Engineer Support Battalion	Marine Wing Support Squadron	Naval Construction Force	Civilian/ Host Nation Support
Beach improvements		X		X	
Camp construction, repair, and/or maintenance		X	X	X	X
Construction design		X		X	X
Demolition	X	X	X	X	
Engineer reconnaissance	X	X	X	X	X
Explosive ordnance disposal		X	X		
Field fortifications	X	X	X	X	X
Obstacle removal	X	X	X	X	X
Pioneer roads	X	X	X	X	
Planning and installation of obstacles and/or barriers	X	X	X	X	X
Pre-engineered structures		X	X	X	X
Rapid runway repair		X	X	X	
Tactical water and/ or hygiene service		X	X	X	
Tactical bulk fuel storage		X	X		
Tactical electrical supply		X	X	X	
Unpaved roads, airstrips, and/or marshaling areas		X	X	X	X
Vertical takeoff and landing and/or helicopter landing zone		X	X	X	X
War damage repair		X	X	X	X

Section V. Health Service Support

The focus of HSS emphasizes the provision of far-forward, mobile, medical and surgical support that is capable of stabilization and rapid evacuation of casualties who are unable to quickly return to duty. HSS is a process that delivers a healthy, fit, and medically ready force; counters the health threat to the deployed force; and provides critical care and management for combat casualties. See MCWP 4-11.1 for further guidance.

5501. Marine Air-Ground Task Force Capabilities

a. Command Element

The MEF CE is capable of providing routine and emergency treatment and preparation for evacuation by using its organic medical section.

b. Ground Combat Element

Injured and sick persons requiring hospitalization are readied and evacuated to the rear. Normally, a regimental or battalion aid station serves as the hub for medical support. Headquarters battalion, Marine division, medical section—

- ┆ Provides for emergency treatment and preparation for evacuation of all casualties.
- ┆ Treats minor illness and injuries.
- ┆ Supervises disease prevention and control measures.

Regimental and battalion infantry unit medical platoon or section provides—

- ┆ Preventive medicine.
- ┆ Treatment for minor illnesses and injuries.
- ┆ Emergency lifesaving for battle and non-battle casualties.

c. Aviation Combat Element

Health services personnel are assigned to the primary subordinate organizations in the MAW. The

MWSG and MWSS provide aid station capability for expeditionary airfield operations. MWSG and MWSS medical personnel—

- ┆ Provide for emergency treatment and preparation for evacuation of all casualties.
- ┆ Treat minor illness and injuries.
- ┆ Supervise disease prevention and control measures.

d. Combat Service Support Element

The medical battalion's primary mission is to perform those emergency medical and surgical procedures that, if not performed, could lead to death or loss of limb or body function. The battalion structure has 260 holding beds and 9 operating rooms. The medical battalion is made up of an H&S company and three surgical companies. The H&S company contains 8 shock-trauma platoons that have 10 patient-holding beds each. Each surgical company contains 60 beds and 3 operating rooms. The battalion's surgical companies provide the following support:

- ┆ Initial resuscitative surgical intervention.
- ┆ Temporary casualty holding.
- ┆ Ground evacuation support to forward medical elements.
- ┆ Preventive medical support.

The dental battalion task-organizes dental sections and detachments to HSS elements of the MAGTF. In an operational environment, the dental battalion's primary mission is to provide dental health maintenance with a focus on emergency care. In addition to medical support determined appropriate by medical battalion and surgical company commanders, dental detachment personnel may provide the following support:

- ┆ Postoperative.
- ┆ Ward.

- l Central sterilization.
- l Supply room.

5502. Capabilities External to the Marine Air-Ground Task Force

a. Casualty Receiving and Treatment Ships

The CRTSs have the largest medical capability of any amphibious ships in the ATF. For medical support capabilities of these vessels and their potential roles as CRTSs, see Fleet Marine Force Reference Publication (FMFRP) 1-18, *Amphibious Ships and Landing Craft Data*.

b. Fleet Hospitals

Fleet hospitals are transportable, medically and surgically intensive, and deployable in a variety of operational scenarios. See NWP 4-02.4, Part A, *Deployable Health Service Support Platforms—Fleet Hospitals*, for more information.

c. Hospital Ship

The hospital ship (T-AH) is a floating surgical hospital. Its mission is to provide acute medical care in support of combat operations at sea and ashore.

5503. Patient Movement

Prompt movement of casualties through the evacuation system to treatment facilities is essential to decrease morbidity and mortality of battlefield casualties. A sound patient movement process ensures that patients move only as far rearward in the continuum of care as their needs dictate. This process also ensures the efficient and effective use of limited HSS assets. The NWP 4-02.2, Part A, provides a general summary of the HSS systems and specific tactics, techniques, and procedures for patient movement. For patient movement in joint operations, refer to JP 4-02.2. Patient movement is divided into two phases.

a. Evacuation

In the evacuation phase, patients are moved between point of injury or onset of disease to a facility that can provide the necessary treatment capability.

b. Medical Regulating

Medical regulating involves the actions and coordination necessary to arrange for the movement and tracking of patients through the levels of care. This process matches patients with a medical treatment facility which has the necessary HSS capabilities. It also ensures that bed space is available. In the medical regulating phase, destination MTFs are selected. These MTFs are equipped with the necessary HSS capabilities for patients being medically evacuated in, between, into, and out of different theaters of geographic combatant commands and CONUS.

Section VI. Services

The various nonmateriel and administrative support activities of the services functions are described in JP 4-0, *Doctrine for Logistic Support of Joint Operations*, Naval Doctrine Publication (NDP) 4, *Naval Logistics*, and MCDP 4, *Logistics*. As previously discussed in chapter 1, the Marine Corps categorizes services functions as being either combat service support services or command services.

5601. Combat Service Support Services

The CSSE is organized to provide CSS services for other MAGTF elements in operational chains of command.

a. Disbursing

Manpower restrictions and lack of mobility mandate that the committed MAGTF's disbursing support be located in the CSSE rear area. Geographical separation of the ACE, GCE, and CSS units necessitates collocating disbursing offices that are capable of providing the required disbursing services to both the ACE and the GCE. These offices respond to the taskings of their respective commanders but receive procedural direction from the MAGTF disbursing officer, who is solely responsible for all disbursing operations.

(1) Deployment Capability. Disbursing assets of the CSSE can be deployed to provide full-service disbursing support for all MAGTF organizations. Services for a MEF in theater are provided by the FSSG disbursing sections and platoons. This flexibility allows for the task-organizing of disbursing assets to meet the needs of the MAGTF commander.

(2) Phases of Support. Disbursing support meets two primary missions in theater—the payment of MAGTF obligations and pay-related support for deployed Marines and Sailors. Disbursing support is divided into three phases.

(a) Phase One. During the initial assault phase, when the force is establishing itself ashore, required disbursing services are minimal. Normally, the capability for payment of MAGTF obligations and/or individual emergency payments to Marines is available. During this phase, mission accomplishment and survival divert attention to the battlespace, and disbursing personnel may be committed to augmenting other CSS efforts. Therefore, a minimum of personal finance records maintenance and accounting requirements are met. When command attention turns to financial concerns, disbursing personnel ensure services are responsive and accurate.

(b) Phase Two. This phase begins when the need to establish an office to provide increased service is identified. In addition to phase one support, on-call, company-level check cashing is coordinated. The contact team approach is used to deliver support to MAGTF elements.

(c) Phase Three. The third phase is usually conducted during sustained operations ashore. In addition to disbursing tasks accomplished in phase two, phase three services include—

- | Monthly on-call paydays to noncommitted forces.
- | Guidance to the MAGTF commander on disbursing matters.
- | Public voucher payment for assets purchased and services rendered.
- | Civilian payroll support.
- | Individual personal finance records maintenance.
- | Data systems input for updating the central file, generating required reports, and submitting financial returns.
- | Temporary additional duty and permanent change of station travel advances and settlements.
- | Cash depository for the Marine Corps exchange, postal service, and clubs.
- | Personal and U.S. Treasury check cashing.

- | Currency conversion.
- | Cross-Service support as required.

b. Postal

Postal assets are task-organized to provide postal support for the MAGTF and attachments. These assets include a mobile main post office and 12 mobile unit post offices. The main post office coordinates all postal functions and locations. Each unit post office is capable of providing full postal support to a reinforced regiment. Smaller detachments can be task-organized to support various sized MAGTFs.

(1) Support. The bulk of postal support is located throughout the MAGTF rear area. Unit post offices provide postal support to various CSSAs. On request from the GCE, mobile unit post offices may be located in the GCE rear area. The ACE may also request mobile unit post offices. These mobile units can provide full or partial postal services. In the event that postal services are not requested by the GCE or ACE, the mail delivery for GCE rear and ACE personnel is accomplished through resupply channels. All postal units respond to the taskings of their respective CSSE commanders but receive procedural direction from the MAGTF postal officer, who is solely responsible for all postal operations.

(2) Phases of Support. During amphibious operations, postal support is divided into three phases.

(a) Phase One. During the assault phase, postal services generally are not available.

(b) Phase Two. This phase begins when the need to establish a postal unit is identified. In addition to processing incoming and outgoing personal and official mail, unit post offices provide all postal services that are normally available in garrison. Mail delivery to units is accomplished by unit mail clerks and orderlies.

(c) Phase Three. The third phase begins when sufficient forces are ashore to establish a rear ar-

ea. In this phase, postal assets are committed in support of the MAGTF mission and perform the following functions:

- | Advise the MAGTF commander on postal matters.
- | Route mail to and from the battle area.
- | Sell stamps and money orders.
- | Accept letters and packages for mailing.
- | Deliver and dispatch official and personal mail.
- | Establish a casualty mail section.
- | Coordinate the resupply of unit postal offices operating throughout the area. (Unit post offices are stocked with the supplies and equipment to support regimental-sized organizations for a period of 60 days without resupply.)
- | Coordinate cross-Service support as required.

c. Exchange Services

A tactical field exchange is established when no other source of class VI support is available. The MAGTF commander determines when to establish a tactical field exchange, but the CSSE commander designates the site for the exchange. When needed, mobile exchanges are sent to MAGTF maneuver elements. Following the MAGTF commander's established guidance, the CSSE commander is directly responsible for the establishment of tactical field exchange location and mobile exchange operations.

(1) Tactical Field Exchange Operations. A deployed tactical field exchange activity is operated as a branch of the parent Marine Corps exchange from which the unit is deployed. All internal supplies, resale goods, and any resupply items are provided from that parent exchange. In the event of an extended deployment and/or employment or an extensive mobilization, exchange services will be provided by using morale, welfare, and recreation nonappropriated funds. Funding for equipment, supplies, and resale goods will be provided from mobilization contingency funds. Requirements for this type of support must be referred to Morale, Welfare, and Recreation Division, Headquarters, Marine Corps, (MW).

(2) Concept of Organization. Support is provided in the form of a branch store with a mobile operation of the parent Marine Corps exchange. The field exchange is provided by the CSSE. (Only class VI supplies required to stock the field exchange are provided by the parent Marine Corps exchange.)

(3) Resupply. The CSSE field exchange officer initiates resupply of class VI supplies for short-term support. Resupply class VI supply items are coordinated and shipped in the same manner as other supply blocks for deploying units. Under normal circumstances, resupply should not be necessary during operations that last 30 days or less. If resupply is needed, planning factors to be considered include troop strength, mission completion date, and the time it takes to resupply.

(4) Guidance. Marine Corps Order P1700.27, *Marine Corps Morale, Welfare and Recreation Policy Manual*, is the basic instructional document for Marine Corps exchange services.

(5) CSSE Functions. The CSSE provides exchange support for the MAGTF by—

- 1 Providing CSSE Marines holding military occupational specialty (MOS) 4130 or 4131 to make up the exchange platoon.
- 1 Ensuring exchange platoon personnel bring with them all supplies and equipment necessary to support the MAGTF for a period of 30 days without resupply. (The stock assortment is reviewed by the MAGTF commander before deployment.)
- 1 Resupplying when necessary using the parent exchange or Marine Corps supply system. (Resupply is dependent on availability of air and sea transportation.) Acquisition cross-Service agreements can be used to arrange resupply from other military exchange organizations in theater, if available.
- 1 Determining the number and exact location of tactical field exchange facilities (dependent on the tactical situation).

d. Security Support

Successful enemy action against command and control facilities and CSS installations can make it impossible for the MAGTF commander to accomplish the assigned mission. Enemy threat, however indirect, may be posed by conventional and/or unconventional forces. Consequently, combat support and CSS installations to the rear of the GCE should be considered high-priority, lucrative targets. The CSSE commanders are responsible for the security and survivability of their own units.

(1) Security Measures. All commanders must take both passive and active measures to provide security and to ensure the continuation of their units' missions despite the threat or the initiation of enemy action. These measures are listed in chapter 6 of this publication.

(2) Role of the Military Police. Security support is provided by the military police units in the FSSG and MWSG. These units, however, are insufficient to provide all security support functions simultaneously. A military police unit is an economy-of-force unit that must be used wisely. Support is based on the concept of operations and a clear understanding of priorities as established by higher headquarters. In support of the MAGTF, the military police functions include—

- 1 Antiterrorism and force protection.
- 1 Maneuver and mobility support operations.
- 1 Area security operations.
- 1 Law and order operations.
- 1 Internment operations.

e. Legal Services

The FSSG, H&S battalion, legal services support section is the command entity that provides legal services support for the MAGTF. In support of a MAGTF, legal services support tasks are normally performed by the CSSE through one or more legal services support teams.

(1) Legal Services Support Section and Legal Services Support Teams. These teams are

employed at appropriate times and places in support of major MAGTF personnel concentrations in the area of operations. Legal services support teams vary in number, size, and composition depending on the—

- 1 Mission, size, and composition of the MAGTF.
- 1 Expected duration of the operation.
- 1 Scheme of maneuver and topography involved in the operation.

(2) MAGTF Support. Most legal services work in support of MAGTF operations involves—

- 1 Injury, death, claims, and supply investigations.
- 1 Legal review of OPLANs.
- 1 Law of war training.
- 1 Legal assistance.
- 1 Nonjudicial punishment.
- 1 Summary and special courts-martial.

(3) Marine Expeditionary Force Support. The MEF operations may involve the deployment of all available legal services personnel. Each major subordinate command has an organic staff judge advocate section to ensure the coordination of legal services support for the command and its subordinate organizations. The staff judge advocate provides legal advice to the commander.

f. Civil Affairs Support

Civil affairs is a command responsibility involving those activities between MAGTF elements, civil authorities, and local civilians in the area of operations. Whether assigned or task-organized, civil affairs units are normally assigned to the MAGTF CE and function under the staff cognizance of the MAGTF G-3/S-3. They assist in planning and conducting MAGTF civil affairs operations to implement MAGTF civil affairs missions and goals within the MAGTF area of responsibility. For MAGTF operations, civil affairs responsibilities are normally confined to periods of limited duration between the arrival of the first tactical units and the termination of operations or the transfer of responsibility to Army

civil affairs units. MAGTF civil affairs activities are normally limited to those minimum essential civil-military functions that are necessary for the accomplishment of the primary mission. Refer to JP 3-57, *Doctrine for Joint Civil Affairs*, for detailed guidance on civil affairs.

Civil affairs support is provided by all individuals and elements of the MAGTF to achieve the established civil affairs goals of the command. As a subfunction of services, civil affairs support is included in the six functional areas of CSS. Civil affairs support tasks are largely logistical in nature and generally involve population and resource control assistance in support of MAGTF operations; however, the capability to perform those tasks is not unique to the CSSE. Supported units also possess civil affairs support capabilities, and the CSSE provides support beyond the supported units' organic capabilities. Marine Corps civil affairs assets are MAGTF assets. Current Marine Corps civil affairs units reside in the Reserve establishment.

In the operating forces, designated personnel from the legal services support section provide a limited civil affairs capability to the MAGTF commander when civil affairs assets resident in the Reserve establishment are not available. When tasked, legal services support section personnel augment Reserve civil affairs units or, in the absence of Reserve units, form the MAGTF civil affairs unit. When so tasked and employed, legal services support section personnel are normally assigned to the MAGTF CE.

The civil affairs function is conducted in all phases and in every geographic zone of the operation.

g. Graves Registration

Graves registration and mortuary services are necessary functions in support of military operations. The G-1/S-1 is the cognizant staff officer. Mortuary services require specialized capabilities beyond those of the CSSE and the MAGTF. These services are provided by the Army for the Department of Defense.

Graves registration operations consist of search, recovery, and identification of deceased personnel and the final disposition of their personal property. Responsibility for the full and proper execution of graves registration operations is a leadership responsibility from the smallest unit to the largest. Individual actions in the recovery and accountability of fallen Marines and Sailors are the basis of the Marine Corps graves registration effort. Within the Marine Corps and for MAGTF operations, graves registration operations are separate from health services operations.

Inherently, every small-unit leader and commander bears responsibility for providing graves registration services. Graves registration procedures begin at the point where a Marine or Sailor dies. Formal chains of evacuation and accountability begin at the unit level. Each battalion should establish casualty collection teams and collection points, which are normally collocated with aid stations, to ensure that this function is addressed. JP 4-06, *Joint Tactics, Techniques, and Procedures for Mortuary Affairs in Joint Operations*, provides detailed information on this function.

5602. Command Services

Each MAGTF element is responsible for conducting the following command services.

a. Personnel Administration

Personnel administration is an important command service conducted at all major levels of the MAGTF. While providing personnel administration is a responsibility of the commander, this function is typically executed under the cognizance of the unit adjutant (G-1/S-1). The G-1/S-1 takes the lead in coordinating action between other staff functions (e.g., G-2/S-2, G-3/S-3, G-4/S-4). It is also responsible for all unit personnel matters to include the following personnel-related functions:

- ┆ Graves registration.
- ┆ EPWs handling procedures.

- ┆ Civilian personnel matters (e.g., contractors, civilian employees, refugees).
- ┆ Interior management.
- ┆ Discipline, law, and order.

The G-1/S-1 is responsible for preparing annex E to the MAGTF OPORD which sets forth the personnel requirements for the MAGTF. This document provides higher and subordinate headquarters with a general understanding of how personnel support will be provided for the MAGTF. Normally, annex E is prepared only at the MAGTF and higher headquarters level.

Annex E should address coordination and support with agencies external to the MAGTF. It should also address any inter-Service support or host country agreements. The following areas should be addressed in annex E:

- ┆ Relationships with the International Red Cross.
- ┆ Arrangements for transfer of prisoners of war between Services or acceptance of prisoners of war from Allied forces.
- ┆ Reports of law of war violations.
- ┆ Currency and credit controls.
- ┆ Use of U.S. citizen civilian personnel.
- ┆ Procurement and administration of non-U.S. citizen labor.
- ┆ Joint replacement depots.
- ┆ Joint, centralized graves registration procedures.
- ┆ Provision of common-user morale, welfare, and recreation services and facilities.
- ┆ Provision of postal and courier services.

b. Religious Ministries Support

Religious ministries support performs ecclesiastic functions and provides both faith-based and non-denominational counseling and guidance for all personnel. It is a significant factor in building and maintaining morale. Chaplains (ordained or accredited priests, ministers, and rabbis) are assigned throughout the MAGTF at the organizational level and higher. Chaplains normally report directly to the commander. Fleet Marine Force

Manual (FMFM) 3-61, *Ministry in Combat*, addresses religious ministries support in detail.

c. Financial Management

The Marine Corps founded its philosophy of financial management on the principle that financial management is inseparable from command.

(1) Responsibilities. The commander must make vital fiscal decisions and keep financial management in proper perspective as a part of balanced staff action. In this regard, the commander should recognize that financial management has no bearing on the determination of mission, but rather is a primary consideration in determining both the means and the time-phasing of mission accomplishment. The commander has two types of financial responsibility—command and legal.

(a) **Command.** Command financial responsibility parallels the commander's other responsibilities. The commander is tasked with controlling and administering of funds granted to perform the mission.

(b) **Legal.** When in receipt of an allotment or operating budget, the commander is legally responsible for the proper receipt and obligation of those appropriated funds.

(2) Management Operations. Financial management operations within the operating forces are divided into four fundamental areas—budgeting, accounting, disbursing, and auditing. To assist the commander in the accomplishment of these functions a general staff-level financial organization, the comptroller, is established at each major command. Commanders at lower echelons normally assign the additional duty of fiscal officer to a special staff officer (e.g., the supply officer) or an organizational staff officer (e.g., the S-4). The comptroller (or fiscal officer) acts as the principal financial advisor to the commander.

d. Communications and Information Systems

Communications and information systems collect, process, or exchange information. Under the cognizance of each element or subordinate organization G-6/S-6, these systems play an essential role in supporting command and control of the MAGTF.

In the past, communications and data processing were separate functional activities. The MAGTF CSSE played a significant role in MAGTF communications and data processing by providing garrison and forward-deployed centralized mainframe support of MAGTF automated information systems. However, network-based, functional area data processing applications on individual desktop computers throughout the MAGTF are becoming the norm. As a consequence, the communications and data processing support functions have been merged. In addition, MAGTF staff and functional area managers—including the logisticians—are becoming responsible for effectively using their computers and coordinating with their organizational G-6/S-6 for computer equipment maintenance and connectivity. See MCWP 6-22, *Communications and Information Systems*, for a comprehensive discussion of this topic.

e. Billeting

Billeting provides safe and sanitary living quarters for assigned personnel and billet assignments are based on the operational circumstances. Commanders exercise their billeting responsibility through subordinate unit leaders. The commander's logistics officer (G-4/S-4) normally has staff cognizance of billeting facilities support. Billeting options include—

- | Family housing in garrison.
- | Bachelor quarters in garrison.
- | Berthing compartments on ships.
- | Tents in the field.
- | Rough bunkers in combat.
- | Fighting holes in combat.

f. Messing

Food service is a function of command. Commanders with a food service T/O and T/E provide food service support designated by the unit mission statement. The CSSE is responsible for supplying class I (subsistence). Organizational food service responsibilities include—

- 1 Accounting for all subsistence received from the CSSE.
- 1 Storing properly all semiperishable and perishable supplies.
- 1 Ensuring sanitation of the messhall.
- 1 Preparing quality meals.
- 1 Accounting of personnel fed.
- 1 Filing reports.

(1) Messhalls. In combat operations, field messhalls are normally established at the battalion level. A large messhall (seating in excess of 2,000 personnel) is not recommended because it can be targeted easily by the enemy. There is a higher risk of food poisoning when operating under field conditions. GCE, CSSE, and ACE food service officers—

- 1 Provide recommended sites.
- 1 Determine sizes of the facilities.
- 1 Designate which units to support.

(2) Field Feeding. The following rations are used to feed Marines in the field:

- 1 Packaged operational rations (POR) include—
 - Meal, ready-to-eat (MRE).
 - Ration, cold weather (RCW).
 - Bread, shelf-stable (BSS).
- 1 Unitized B-rations (UBRs) are semiperishable items packaged in 100-man modules that are individually palletized. UBRs require food service personnel and equipment to prepare the meals.
- 1 Meal module tray pack (MMTP) is a complete meal for 18 persons. MMTPs are served by unit food service personnel using the tray ration heating system. This feeding method is em-

ployed for mobile unit personnel who cannot access hot UBR meals from the messhall. Without MMTPs, maneuver element personnel would be required to subsist on MRE's for extended periods of time.

(3) Coordination of Resources. The selection of food service resources depends on the operational situation. The family of rations (POR, UBR, and MMTP) were developed for any situation. Detailed food service resources planning is conducted at the G-4/S-4 level in close coordination with food service officers, commanders, messhall managers, and the CSSE.

(4) Personnel Requirements. Food service personnel requirements are based on the type of ration being used and the number of persons being served (see table 5-3)..

Table 5-3. Food Service Personnel Requirements.

Ration Type	Ratio of Cooks	Ratio of Messmen
UBR	1 cook per 75	1 per 50
MMTP	2 cooks per 250*	as needed
MRE/POR	not required	not required

*Using the tray ration heating system.

g. Band

Traditionally, band members are trained in combat arms and may be used in a variety of roles, such as augmenting the headquarters defense in a combat environment. Designated major commands employ a military band to—

- 1 Render honors.
- 1 Provide military pomp at ceremonies.
- 1 Perform on other occasions to raise or sustain morale.

h. Morale, Welfare, and Recreation

Activities, such as movies, special live-entertainment shows, and unit-level parties, are morale, welfare, and recreation (MWR) opportunities used to relieve the stress and tedium of military operations. MWR is managed through command

channels, with access to funds and support starting at the unit level. Although MWR activities are

desirable, they should not interfere with mission accomplishment.