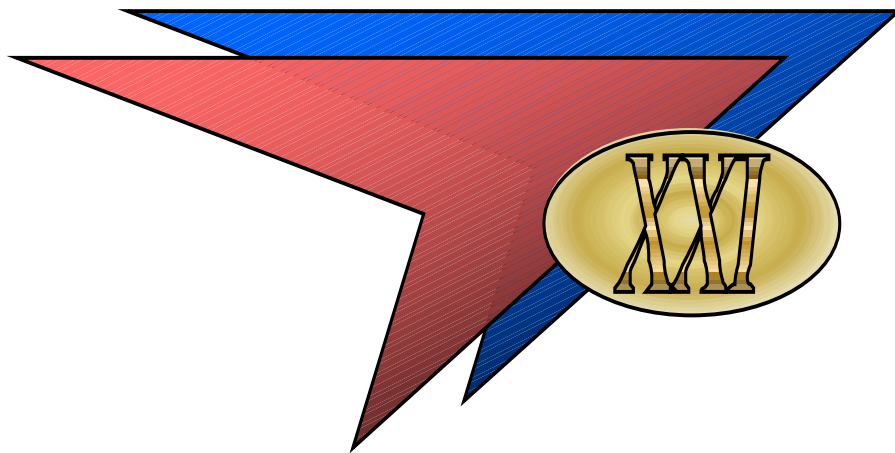


DEPARTMENT OF THE ARMY

FM 4-93.51

***FORCE***



**TACTICS, TECHNIQUES, AND  
PROCEDURES FOR THE  
DIVISION SUPPORT BATTALION  
(DIGITIZED)**

**MAY 2002**

**DISTRIBUTION RESTRICTION: Approved for public  
release; distribution is unlimited.**

## **PREFACE**

This field manual (FM) provides information on the structure and operations of the division support battalion (DSB) digitized. It is directed toward the commander and staff of the DSB organized under the division redesign and the Force XXI division concept for combat service support (CSS) operations.

This FM outlines the functions and operations of each unit within the DSB. It also tells how the DSB commander, company commanders, battle staff, supported and supporting units integrate their activities through the use of digitization on the battlefield. This includes both the logistics mission and the tactical responsibilities.

This FM is based on doctrine in FMs 3-10 (100-5) (Operations), FM 4-0 (100-10), 101-5, 101-5-1, FM 71-100, FM 71-3, FM 4-02 (8-10), FM 4-02.55 (8-55), and tactics techniques, and procedures developed in ST 63-21. FM 3-10 (100-5) is the Army's capstone doctrinal manual. It outlines how the Army will conduct operations. FM 4-0 (100-10) is the Army's main CSS doctrinal manual. It provides an overview of the CSS system for supporting the Army in the field.

This publication implements north Atlantic treaty organization (NATO) standardization agreement (STANAG) 2931, orders for the camouflage of the Geneva emblem and red crescent on land in tactical operations.

The proponent of this publication is Headquarters, U.S. Army Combined Arms Support Command (CASCOM). Submit changes for improving this publication on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward it to Commander, U.S. Army Combined Arms Support Command, ATTN: ATCL-AL, 801 Lee Avenue, Fort Lee, VA 23801-1713.

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

# Division Support Battalion (Digitized)

## Contents

		Page
	<b>Preface .....</b>	<b>iii</b>
<b>Chapter 1</b>	<b>DSB ORGANIZATION AND FUNCTIONS .....</b>	<b>1-1</b>
	DSB Organization and Functions.....	1-3
	Force XXI CSS Imperatives and Principles.....	1-4
	Principles of Combat Health Support .....	1-16
	CSS Characteristics.....	1-17
<b>Chapter 2</b>	<b>DIGITIZED DIVISION TECHNOLOGIES.....</b>	<b>2-1</b>
	Combat Service Support Redesign Enablers.....	2-2
	Standard Army Management Information Systems (STAMIS) ....	2-12
	Combat Service Support Functions on FBCB2 .....	2-18
	Army Tactical Command and Control System (ATCCS) .....	2-23
<b>Chapter 3</b>	<b>HEADQUARTERS AND HEADQUARTERS DETACHMENT.....</b>	<b>3-1</b>
	Organization and Mission.....	3-1
	Personnel and Sections .....	3-3
<b>Chapter 4</b>	<b>QUARTERMASTER COMPANY.....</b>	<b>4-1</b>
	Organization and Mission.....	4-1
	Platoon/Section Functions.....	4-2
<b>Chapter 5</b>	<b>AREA SUPPORT MAINTENANCE COMPANY.....</b>	<b>5-1</b>
	Organization and Mission.....	5-1
	Platoon/Section Functions.....	5-2
<b>Chapter 6</b>	<b>TRANSPORTATION MOTOR TRANSPORT COMPANY.....</b>	<b>6-1</b>
	Organization and Missions .....	6-1
	Platoon/Section Functions.....	6-2
<b>Chapter 7</b>	<b>DIVISION SUPPORT MEDICAL COMPANY .....</b>	<b>7-1</b>
	Organization and Mission .....	7-1
	Platoon/Section Functions .....	7-2

<b>Chapter 8</b>	<b>COMBAT SERVICE SUPPORT PLANNING</b> .....	<b>8-1</b>
	C4ISR .....	8-1
	Supply Operations .....	8-8
	Offensive Operations .....	8-16
	Defensive Operations .....	8-16
	Urban Warfare CSS Operations .....	8-17
<b>Chapter 9</b>	<b>CSS OPERATIONS</b> .....	<b>9-1</b>
	CSS Support Structure .....	9-1
	Arming the Force .....	9-3
	Fueling the Force .....	9-6
	Fixing the Force .....	9-9
	Moving the Force ... ..	9-12
	Sustaining the Force.....	9-22
	Manning the Force.....	9-38
<b>Chapter 10</b>	<b>DEFENSE OF THE DSA</b> .....	<b>10-1</b>
	Overview and Purpose .....	10-1
	Planning and Executing Defense of the DSA (Base Cluster) .....	10-2
	Quick Reaction Force .....	10-18
	Base Operations .....	10-21
	Intelligence .....	10-27
	Reconnaissance and Surveillance (R&S) Plan .....	10-32
	Internal Security .....	10-36
	Other Defensive Measures .....	10-40
<b>Glossary</b>	.....	<b>Glossary-1</b>
<b>Bibliography</b> .....		<b>Bibliography-1</b>
<b>Index</b>	.....	<b>Index-1</b>

Distribution Restriction: Approved for public release; distribution is unlimited.

## Chapter 1

# DSB Organization And Functions

The Army's Force XXI Division represents a leap forward into the realm of 21<sup>st</sup> Century technology. The smaller Force XXI Division possesses greater lethality, quicker mobility as well as the combat service support (CSS) imperative of situational understanding (SU). Real time "situational understanding" means a complete, common relevant picture (CRP) of the battlefield for every commander. This information enables Force XXI commanders to quickly mass forces, allowing this division to defeat a larger, but less technologically advanced enemy.

The CSS structure's capability to project, receive, and support this force will directly impact the effectiveness of future military operations. The Force XXI battlefield imposes new challenges on support functions and leaders, as it calls for independent logistical systems and procedures. Using the Force XXI's enhanced digital logistical awareness and forecasting capabilities, CSS leaders at all levels must provide the foresight and responsiveness necessary to anticipate and maintain the division's operations tempo (OPTEMPO). Force XXI logistics will require new organization, new doctrine, as well as advanced distribution equipment and information technology.

The concept and organizational structures found in this document reflect a paradigm shift from a supply-based CSS system in Army of excellence (AOE) to an advanced distribution-based CSS system for Force XXI. Technology enhances this capability.

A distribution-based logistics system combines situational understanding capabilities with efficient delivery systems to form a seamless distribution pipeline. This pipeline represents "inventory in motion" and the CSS imperative of increased velocity. In contrast, static inventories comprise the current AOE supply-based system. Storing this static inventory, in large stockpiles at each echelon does not provide the mobility or flexibility required by the Force XXI maneuver commander. The Force XXI distribution-based system eliminates most stockpiles; substituting speed for mass. Logisticians control the destination, speed, and volume of the distribution system. With intransit visibility (ITV), total asset visibility (TAV), advanced materiel management, and advanced decision support system

technology, Force XXI logisticians will have access and visibility over all of the items within the distribution pipeline. This visibility allows logisticians to redirect, cross-level, and mass CSS assets more effectively in support of the maneuver commander's intent. The distribution-based systems gain speed through greater efficiency. Direct throughput from theater and corps to the brigade battlespace is the rule rather than the exception with distribution-based logistics. Throughput distribution bypasses one or more echelons in the supply system to minimize handling and to speed delivery to forward units. Supplies are tailored and packaged for specific supported units based on a specific time and location point of need, synchronized through support operation channels based on the combat commander's OPTEMPO. Advanced delivery platforms such as the palletized load system (PLS) and the container roll in/roll out platform (CROP), will use ITV/TAV to deliver directly from echelons above division (EAD) to points as far forward as possible. Extensive use of "hub and spoke" transfer nodes will reduce transportation and material handling requirements.

Multi-functional, modular units in direct support of the combat, combat support, and combat service support units form the cornerstone of this concept and represent the CSS imperative of an agile CSS force structure. Force XXI battlefield CSS operations will provide support as close to the point of need as possible. A common relevant picture coupled with information from the global combat support system-Army (GCSS-Army) will allow the Force XXI CSS commander to anticipate requirements and project support further forward than ever before. Division CSS organizations will be modular, mobile, and multi-functional. They will be adaptable to support force projection and velocity of combat operations in both linear and non-linear environments.

The creation of multi-functional logistics companies within the Force XXI FSB consolidates CSS organizational elements currently embedded within the AOE maneuver battalion with the direct support (DS) capability currently in the AOE FSB. Personnel and other soldier-related support functions including manning, sustaining soldiers through religious, legal, command information support, and funding through finance and resource management support are generally unaffected.

The consolidation of all classes of supply and maintenance within the forward support and base support companies serves as an example of enhanced efficiency and effectiveness. Modular, multi-functional

logistics companies and logistics command and control (C2) in direct habitual support allow the maneuver commander to focus on his core missions.

One of the nine principles of war described in FM 3-10 (100-5) as "directing and coordinating the action of all forces toward a common goal or objective" is unity of command. Although "...coordination may be achieved by cooperation; it is best achieved... by vesting a single commander with the requisite authority to direct and to coordinate all forces employed in the pursuit of a common goal", such as combat service support.

Combat service support imperatives, principles, and characteristics will be discussed after the following description of the FSB's organization and functions.

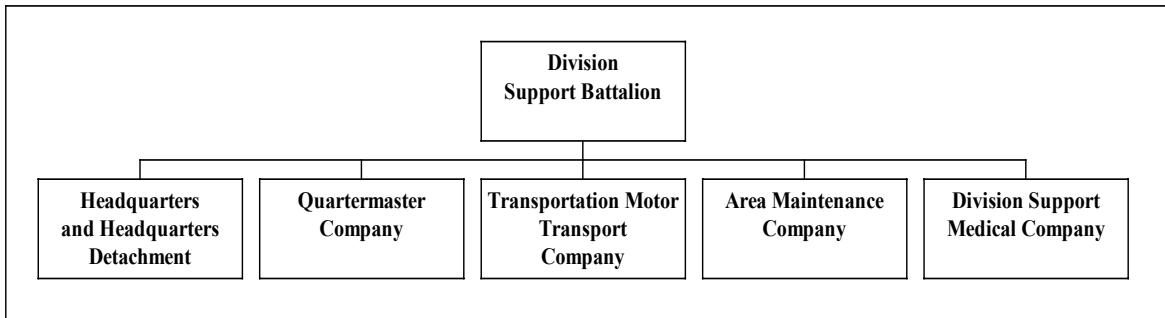
## **DSB ORGANIZATION AND FUNCTIONS**

1-1. The division support battalion (DSB) is the main CSS unit in the division rear. The DSB provides CHS on an area basis to division rear area troops, transportation support to the entire division, as well as direct support (DS) supply and maintenance support to the division headquarters, DSB, division support command (DISCOM) headquarters, division artillery (DIVARTY) headquarters, multiple launch rocket system (MLRS) battalion, air defense artillery (ADA) battalion, military intelligence (MI) battalion, signal battalion, military police (MP) company and designated units in the division rear area. When augmented, it provides field services. The DSB directs and coordinates security of its organic units or units attached to the DSB. The DSB provides limited reinforcing support (Class III bulk and transportation only) to the forward support battalions (FSBs) and division aviation support battalion (DASB).

1-2. One DSB is organic to the DISCOM. The DSB is normally commanded by a lieutenant colonel. The command element is responsible for the supervision, direction, and coordination of assigned and attached units that run the support operations in and around the DSA. It also directs and coordinates security of the units. Figure 1-1 shows the DSB organization. As shown, it has a:

- Headquarters and headquarters detachment.
- Quartermaster company.

- Area maintenance company.
- Transportation motor transport company.
- Division support medical company.



**Figure 1-1. Division Support Battalion**

1-3. Commanding, controlling, and coordinating the many DSB elements with their diverse missions presents a challenge for the DSB commander and battle staff. They must integrate these tasks into a comprehensive concept of support plan. They, as well as CSS planners and operators at the corps and brigade level and within the division units, must incorporate the planning principles into every action taken.

## **FORCE XXI CSS IMPERATIVES AND PRINCIPLES**

1-4. Force XXI CSS imperatives and principles meet Force XXI challenges by incorporating advanced information and transportation technology, streamlined CSS organizations, and a shift from the AOE supply-based CSS system to a distribution-based system. Force XXI CSS principles hinge on four integrated imperatives:

- Unity of command
- Increased velocity.
- An agile CSS force structure.
- Situational understanding.

1.5. Force XXI CSS principles incorporate the **unity of command** imperative by centralizing distribution management and establishing a single CSS operator as the focal point for CSS operations at each echelon. Unity of command for CSS facilitates the cross leveling, re-directing, and massing of CSS assets within and between echelons, and is an essential element of the distribution-based concept. The following key Force XXI principles relate directly to the unity of command imperative. Each Force XXI



principle is followed by a definition and then a brief description of the principle:

- Single CSS operator.
  - The single CSS element at each echelon serving as the focal point for CSS; providing unity of command and effort; and providing centralized distribution management for CSS operations.

The single CSS operator provides centralized distribution management and the CSS assets required supporting its designated maneuver unit. This single CSS operator is responsible for establishing unity of effort; providing and/or coordinating CSS surge capability where required to support the maneuver commander's intent. The single CSS operators designated for each echelon are:

<u>Echelon</u>	<u>Single CSS Operator</u>
Maneuver Battalion	Forward Support Company (FSC)
Maneuver Brigade	Forward Support Battalion (FSB)
Division	Division Support Command (DISCOM)
Corps	Corps Support Command (COSCOM)
Theater	Theater Support Command* (TSC)

\* Army Theater CDR's decision

- Surge capability.
  - The capability to mass CSS resources at a point and time on the battlefield to weight the battle logistically by maximizing combat power at the decisive point as determined by the supported commander. Surge capability is enabled by flexible, modular organizational capabilities and by fused logistics and operational information. Surge capability may often be employed to mass tailored CSS resources as various supported units pass through the different stages of the halt, move, and combat continuum.
  - Unity of command for CSS enhances CSS surge capability. CSS commanders may, for example, surge maintenance assets to meet priority readiness, surge fuel assets prior to a counter-attack, or surge other commodities to make up for disruption in the lines of communication from corps. In practice, at the tactical level, a forward support battalion commander may, because he has centralized command and control over the brigade's CSS assets, compensate for anticipated or

realized shortfalls by cross-leveling or redirecting idle or under-utilized assets from other forward support company's (FSCs). He may direct other units within the FSB to a different FSC if CSS requirements exceed an individual forward support FSC's capabilities. If additional required support is not available at the brigade level, the FSB commander may call upon higher echelons within the CSS command and control structure for support. Higher echelon CSS commanders enjoy the same surge capabilities with centralized command and control over CSS assets.

- Centralized distribution management.
- A single distribution manager at each echelon that leverages information technology to coordinate, prioritize, and synchronize material management and movement control operations to maximize the distribution pipeline's capability to throughput units and follow-on sustainment.
  - Centralized distribution management is essential to efficient and effective distribution system operations. It involves the integrated end-to-end visibility and control of the distribution system capacity and CSS pipeline flow by distribution managers at each echelon. Under a distribution-based CSS system, designated distribution managers at each CSS echelon manage distribution operations, and coordinate and synchronize CSS flow in accordance with the commander's priorities to maximize the throughput to units and follow-on sustainment. The distribution manager has functional oversight of the synchronization of materiel management, maintenance, and movements control center operations at each echelon. Distribution managers at each echelon have the asset and intransit visibility required to optimize the distribution system within their echelon. Advanced information systems such as the movement tracking system (MTS), the global combat support system-Army (GCSS-Army), the combat service support control system (CSSCS), and advanced planning and optimization (APO) decision support tools provide this capability. The visibility over the CSS pipeline, coupled with the APO decision support tools, allows distribution managers to direct or divert assets enroute, and shift assets quickly in order to meet changing distribution requirements. Centralized distribution management gives the commander the ability to quickly and effectively influence the distribution system. Centralized distribution management relies extensively on situational understanding for success.

1-6. **Increased velocity** refers to the time required to move supplies, equipment, and capability from the strategic base through the distribution system to the end user. Time is critical for a force

---

projection Army. Increased velocity has made reductions in the CSS battlefield footprint, in terms of personnel, equipment and supplies possible. The increased velocity concept relies on effective command and control provided by unity of command coupled with situational understanding. The following key Force XXI principles relate directly to increased velocity.

- Distribution-based CSS.
  - A distribution-based CSS system leverages advanced planning and optimization (APO) tools to forecast requirements, plan and control distribution operations, obtain visibility of intransit stocks, combined with limited stocks at storage locations, and velocity and speed of distribution to support and sustain Army operations.
  - Distribution-based CSS leverages information, force structure designs, technological enablers, and command and control relationships to move the Army away from its traditional dependence upon echeloned stockpiles to a system capable of delivering the “right stuff, at the right time, to the right location”. This ability, combined with increased speed of movement and responsiveness throughout the system, will allow the Army to eliminate the large “just-in-case” stockpiles we have relied on in the past. However, distribution-based CSS does not eliminate the need for or the use of stockpiled inventory. Distribution-based CSS uses anticipation and visibility of the inventory moving through the distribution pipeline, in effect making the distribution pipeline into another warehouse, to limit, but not eliminate, stockpiled inventories.
- Throughput to forward areas.
  - Leveraging configured loads, containerization, information, force structure design, technological enablers, and C2 relationships to deliver sustainment from the operational level directly to the customer or its direct support unit; bypassing intermediate, general or direct support units.
  - Whenever possible, national strategic-level CSS elements will use throughput to prepare resources for direct, time definite delivery to a supply support activity (SSA)/tactical assembly area (TAA) in an area of operations (AO). Throughput distribution bypasses one or more echelons in the supply system to minimize handling and speed delivery forward. A distribution-based CSS system emphasizes the use of containerization (within material handling equipment (MHE) constraints), to include palletization and packaging, to accommodate the AO and improve velocity. Velocity is achieved by the throughput of resources from the sustaining base to tactical-level

support organizations. Direct throughput relies on unity of command and situational understanding.

- Minimize load handling.
  - Leveraging configured loads, containerization, information, force structure design, technological enablers, and C2 relationships in order to reduce the number of times sustainment is handled by multiple echelons and support units between the strategic provider and the ultimate customer.
  - In Force XXI, our goal is to minimize material handling, trans-loading and storage requirements to improve velocity throughout in the distribution pipeline. New transportation technology such as the palletized loading system (PLS), load handling system (LHS), container roll-in, rollout platforms (CROP), and the "slip sheet" significantly reduce handling requirements over break-bulk methods. For example, with full off road capabilities, and no MHE requirements for loading or off loading flatracks of supplies, both the PLS and LHS are capable of delivering configured loads directly from echelons above division to the end user without any trans-loading or materiel handling requirements.
- Configured loads.
  - A configured load is a single or multi-commodity load of supplies built to the anticipated or actual needs of a consuming unit thereby facilitating throughput to the lowest echelon, METT-TC dependent. Whenever and wherever possible, configured loads will leverage the efficiencies of containerization and capabilities of CROP platforms. Configured loads are not, by definition, combat loads or basic loads though it is likely they may contain individual items that comprise all or part of either. There are three types of configured loads: Strategic configured loads (SCL), mission configured loads (MCL), and unit configured loads (UCL).
  - Configured loads of all types are an essential element of distribution-based logistics. Successful implementation of configured loads requires situational understanding and the ability to make appropriate forecasts at various points on the planning time continuum. The intent of configured loads is to a) increase throughput, b) minimize handling, c) reduce footprint and d) physically speed the flow of supplies to the consumer. The types of configured loads, their purpose and uses are described below:

⇒ SCL: A configured load built outside of the theater of operations in CONUS, or sanctuary, to anticipated requirements of a consuming unit. SCLs leverage the robust capabilities of the sustaining base to conduct resource intensive configuration missions thereby minimizing the logistics footprint in a theater of operations that would otherwise be required to perform those missions.

It is essential that these loads be configured to suit the needs of the consuming unit and not merely for the convenience of the source of supply or the distribution system. Typically, SCLs will not be built for a specific named unit or destination but rather for a “type unit” conducting a particular “type” mission (e.g. armor company attack or an engineer battalion supporting a brigade movement to contact) in the theater of operations. In addition, replenishments for consolidated SSAs should be SCLs in which case the loads are configured to meet the combined expected demands of that consolidated SSA’s customers. This replenishment philosophy is applicable to any commodity.

The distribution manager at the operational level uses information in the operational plan (task organizations, phases, postures, etc.) to anticipate the quantity and type of SCLs that are likely to be required throughout the planning process. These demands are communicated to the sustaining base with sufficient lead-time to maximize the use of strategic sealift. The requirements are continuously updated as the operations plan changes over time. As SCLs near the theater of operations, predominantly by sea, the distribution manager at the operational level leverages current situational understanding to assign destinations to the SCLs in order to facilitate rapid port clearance.

In most cases, because of their anticipatory nature, SCLs can not exactly meet a consuming unit’s requirement but rather satisfy the unit’s needs to a reasonable confidence level. Accordingly, SCLs cannot be the sole source of replenishment for most customers. Also, there will need to be some consideration for retrograde and reconfiguration of unused SCL components which will be addressed later. Consumption and equipment usage data must be collected over time to continuously obtain information with which to make more accurate forecasts of SCL configurations and requirements.

⇒ MCL: A configured load with all of the characteristics of a SCL except that it is built inside a theater of operations for a specific mission, unit or other purpose (e.g. an artillery raid, emergency resupply, etc.). A MCL will normally be configured using resources (personnel, equipment and supplies) found in a hub in the corps or theater area. Occasionally, a MCL may be configured from retrograded materiel not consumed from a previously distributed SCL (doing so may reduce the demand for SCLs in the strategic pipeline). It will not normally be configured from one or more SCLs.

⇒ UCL: A configured load built to the known requirements of a consuming unit. These loads are normally built in a corps forward hub for a specific FSC to deliver directly to the consuming unit. UCLs are built in response to actual requisitions or as determined by the FSC support operations officer as materiel needed to satisfy immediate requirements (e.g. Class IX for a CRT or Class I for the FSC to prepare meals). Typically a UCL will form the basis of a scheduled delivery LOGPAC that may consist of some combination of SCLs, UCLs and the UCL including bulk fuel and water.

- Scheduled delivery.

- A fundamental distribution planning parameter established as a component of each echelon's distribution plan. Scheduled delivery involves the movement of sustainment from the supporting organization to the supported unit at agreed upon time intervals.
- Distribution managers at each echelon, in concert with the supported unit, will establish scheduled delivery times for routine replenishment. The quantity delivered must be tailored as much as possible to only that which is needed by the supported unit and should not exceed it in order to ensure support to other units and optimize delivery resources. Typically, the quantities of each delivery will differ based upon the supported units' OPTEMPO and distribution system's ability to respond. Generally, this would include "push" items such as Class III (B) and Class V. Items that the maneuver unit requests may also be sent on scheduled delivery runs, provided time definite delivery standards (see time definite delivery below) are achieved. Scheduled deliveries may be established for individual commodities, such as for bulk POL and operational rations. For example, the scheduled delivery to a DSB from the corps support group (forward) might be 0600 and 1800 hrs daily. Scheduled deliveries facilitate scheduling main supply route (MSR) utilization, receiving

---

operations at the supported unit, and synchronization of effort throughout the distribution system.

- Time definite delivery (TDD).
  - A fundamental distribution planning parameter, established as a component of each echelon's distribution plan, TDD establishes order ship times (OST) within which specified commodities requested by the supported unit must be delivered. Additionally, it deals with the consistency the distribution system delivers given resources within established OST, and serves as the metric to measure the distribution system's performance.
  - Time definite delivery is a commitment between the CSS manager and the supported commander and specifies OST within which specified commodities requested by the supported unit must be delivered. The CSS manager recommends these OSTs, based on METT-TC, for the supported commander's concurrence. The commander responsible for both the supporting and supported organizations establishes the TDD as a part of the overall distribution plan. Different TDD parameters for a specific commodity may be established for different customer units as deemed appropriate by the commander. For example, the corps distribution plan establishes the TDD parameters within which corps will deliver each major commodity to its customers, the FSBs as an example. The division distribution plan would establish TDD parameters for deliveries from division support units such as the DSB to supported units such as the ADA battalion.
  - Time definite delivery parameters are normally expressed in terms of hours or days for each major commodity. Establishing these OST involves making trade offs between responsiveness, i.e., time and speed, stockage levels, and the length of lines of communication. If the commander wants to establish shorter TDD schedules, he will have to accept larger stockage levels forward on the battlefield and/or shorter lines of communication, with an inherent loss of flexibility and battlefield agility. However, if the commander is willing to accept longer TDD schedules, he will enjoy the greater flexibility and battlefield agility that comes with fewer stocks forward and/or longer lines of communication. Another example is the TDD for bulk Class III(B) resupply from corps to a FSBs logistics release point (LRP) which has been established as 18 hours. Corps established this specific TDD parameter based upon the corps commander's operational plans, METT-TC situation and constraints, the supported unit's requirements and desires, and overall corps concept of support. If the FSB requires a Class III(B) delivery other than its normal scheduled delivery, the

FSB's commander and planners know that they can expect delivery within 18 hours of their request and plan accordingly. Time definite delivery is directly linked to both situational understanding and an agile CSS force structure.

1-7. **An agile CSS force structure** is one that has a relatively small footprint, and does not encumber the maneuver commander with large stockpiles of supplies or large numbers of combat service support personnel on the ground. The key to agility is to place on the ground only those CSS assets that are truly needed; no more or no less. The following key Force XXI principles relate directly to an agile CSS force structure:

- Modular design.
  - A force structure design parameter used by TRADOC force designers to create company level force structure designs wherein each major company sub-element possesses a cross section of the total company's capabilities, thus enhancing the commander's ability to tailor CSS force structure to the mission and requirements.
  - When a sub-element of a company design is modular, it has the C2 and support structure organic to it, or readily available from the parent company, to deploy alone into a theater and stand alone, or plug into a headquarters already in theater. Modular functional or multi-functional companies with modular multi-functional platoons, teams or sections, when used to create tailored force packages (see tailorable force packages below) can reduce the CSS footprint in an area of operations.
- Tailorable force packages.
  - An operational planning consideration where CSS organizations and units are customized through the use of modular units and sub-units (platoon, team or section) to produce the required CSS capabilities without adding unnecessary, redundant, or non-value adding units, sub-units, or elements to the task organization.
  - The operational commander uses the modular force structure at his disposal to create CSS force structure tailored to meet the commander's requirements at each echelon without burdening the commander with unnecessary CSS force structure. For example, an early entry CSS company sized task force might be tailored using a platoon from a cargo transfer company, a platoon from a medium truck company, and a platoon from a quartermaster supply company. Each platoon would bring with it a slice of the appropriate support structure from its parent company in order to sustain itself.
  - Split-based operations.



- Leveraging force structure designs, advanced automation, information, and communications capabilities to enable a unit to perform its management and C2 mission in support of the warfighter with a small forward element deployed to the theater of operations, while the balance of the unit remains outside of the theater of operations in a sanctuary area.
  - Split-based operations occur when a function is performed through coordination between elements working in theater and elements working out of the theater. Split-based operations are ideal for management and command and control organizations that do not have to be in theater to perform their function. New information and communications technology makes split-based operations possible. For example, a corps level materiel manager does not have to be in theater to perform his function. Corps material managers could process requests sent back to CONUS from the theater. Communications and information technology would allow this material manager to cut a release order and send it to a SSA within theater. Split-based operations capabilities can significantly reduce CSS force structure within the theater of operations.
- Contractors on the battlefield.
    - Leveraging contractors to bridge the gap between required capabilities and actual force structure availability within the theater of operations. Contractors may be employed, subject to METT-TC, throughout the AO and in virtually all conditions. Contractors are categorized in FM 100-10-2 contracting support on the battlefield as:
      - ⇒ Theater Support Contractors: Theater support contractors support deployed operational forces under pre-arranged contracts or under contracts awarded within the mission area, by contracting officers serving under the direct contracting authority of the theater Principal assistant responsible for contracting (PARC). Theater support contractors provide goods, services, and minor construction, usually from the local vendor base, to meet the immediate needs of operational commanders.
      - ⇒ External Support Contractors: External support contractors provide support to deployed operational forces that is separate and distinct from either theater support or systems contractors. They may be pre-arranged contracts or contracts awarded during the contingency itself to support the mission. Contracting officers who award and administer external support contracts retain unique contracting authority deriving from organizations other than the theater PARC or

systems offices under program managers (PM) or Army materiel command (AMC).

⇒ System Contractors: Systems contractors support deployed operational forces under pre-arranged contracts awarded by PMs and AMC. They support specific materiel systems throughout the system's life cycle during both peacetime and contingency operations. The systems include, but are not limited to, weapons systems, aircraft, command and control infrastructure, and communications systems.

- Lessons learned from military operations throughout our history indicate that contracting and outsourcing can be effective force multipliers. Contracted capability can extend existing Army capabilities and provide alternative sources of supplies and services. Use of contractors may reduce the personnel, equipment, and supplies that must be deployed to support a specific operation. Contractors do not replace force structure. They augment Army capabilities and provide an additional option for meeting support requirements. To the extent they are used, they will be incorporated into the force structure as force multipliers, but they will not displace military assets within that force structure. Their use may reduce the size of the Army force required to support a specific operation, but they will not permanently replace force structure.
- Replace forward/fix rear.
  - Replacing line replaceable units (LRUs) or modules instead of attempting to repair the LRUs or modules by leveraging advanced prognostic and diagnostic tools, support equipment, and training. The LRUs or modules are then retrograded to higher levels of maintenance for repair and return to the distribution system.
  - Force XXI field maintenance operations are characterized by lean, modular, and enabled maintenance units focused on maximizing combat power. The velocity at which future field maintenance operations must be performed, Force XXI distributed operations, the capabilities of battlefield distribution, and expected gains in diagnostics and prognostics facilitate our ability to fix equipment forward through the replacement of LRU or component assemblies.

Replace forward means a soldier performs "On System" maintenance. "On System" refers to replacing components or sub-components at the point of repair, breakdown site or unit maintenance collection point (UMCP). Maintainers normally diagnose down to the major component failure. He then replaces that

component and returns the system to operational condition. Based on METT-TC, the soldier may diagnose and replace sub-component items depending on the availability of tools, parts, and time. An example of a replace function would be the replacement of a full-up power pack (FUPP). If a serviceable FUPP is available, the maintainer replaces the major assembly. If the FUPP is not available, the maintainer might swap out a serviceable engine from an unserviceable FUPP with a bad transmission.

Repair rear means that soldiers perform "Off System" maintenance. "Off System" refers to those actions taken to return components and sub-components of weapon systems to serviceable condition. These repair actions take place at designated places throughout the battlefield. Corps maintenance units may have the capability to repair certain LRUs and/or assemblies for major weapons systems they support. Corps component repair companies or special repair activities in the corps or theater area repair other components and assemblies as determined by sustainment maintenance managers. A repair function at the corps or theater level would be the rebuild of a tank engine or other major assembly.

- Multi-capable maintainer (MCM).
  - A mechanic trained to perform organizational and direct support level maintenance on the M1 Abrams tank and the M2/3 Bradley Fighting Vehicle System (BFVS). This mechanic has a broad, but shallow range of skills designed to enable him to replace LRUs or modules to rapidly return a vehicle to mission capable status.
  - This concept supports the concept combined organizational and direct support maintenance by providing maintainers capable of performing both the organizational level tasks as well as the on-board direct support level tasks on the M1 Abrams tanks and the M2/3 BFVS. It maximizes the FSC's ability to provide field maintenance to the maneuver battalion and reduces inefficiencies apparent with the separation of the organizational and direct support levels of maintenance. As a result of the implementation of Abrams and Bradley systems mechanics, maintenance on wheeled vehicles, M113, M981, M88, and MLRS performed by the 63E, 45E, 63T, and 45T have been realigned to MOS 63B/S, 63Y, or 45K as appropriate.

- Combination of organizational/DS maintenance.
  - Unifying organizational and direct support (DS) level maintenance responsibilities and capabilities into one organization, the Division XXI FSC, to focus maintenance leadership, management, technical expertise, and assets under a single CSS operator ensuring maintenance can be planned, allocated, and swiftly executed when and where needed to satisfy the commander's requirements.
  - Efficiency in maintenance management and effectiveness of maintenance operations are maximized when unit and direct support maintenance operations are collapsed into one level. This concept eliminates the loss of time and loss of job continuity associated with the transition of unit level job orders to DS job orders and vice versa. Consolidated maintenance enables a greater capability to dispatch more effective maintenance capabilities forward because of centralized control over and access to more capabilities. The concept pools maintenance assets under a single CSS operator for maintenance, the maintenance control officer (MCO). It also brings together maintenance leadership and management such that maintenance support is planned, resourced, executed when and where needed, with a unified focus, in support of a common mission and objective. Enablers such as the MCM, forward repair system (FRS), and advanced diagnostics and prognostics give the combat repair teams (CRTs) the ability to execute this concept. The CRTs have the right people, with the right tools and test equipment to provide field maintenance forward on the battlefield and rapidly return combat systems to the fight.

1-8. **Situational understanding** refers to the logistician's complete picture of the friendly situation, the enemy situation, and the CSS situation through the use of advanced, seamless information technology. The following key Force XXI principles relate directly to situational understanding:

- Common operating picture.
  - Ability to view the same logistics and operational data at all echelons in near real time to provide commanders and logistics managers the identical battlefield picture.
  - Leveraging force structure designs, advanced automation, information, and communications capabilities to fuse operational and logistics data to create a common operating picture of the battlefield, both tactically and logistically, for commanders and logisticians at all

---

echelons from the tactical to the strategic level, which in turn facilitates optimal logistical operations. Commanders and distribution managers at all levels must have access to the same information at the same time in order to have unity of command and unity of effort. The Force XXI seamless information network combined with intransit visibility and integrated standard army management information systems (STAMIS) provides a common operating picture.

- Intransit visibility.
  - Leveraging advanced automation, information, and communications capabilities to track cargo and personnel while enroute from origin to destination.
  - Visibility is the most essential component of distribution management. In fact, distribution managers dedicate most of their work to gaining and maintaining visibility of all the various assets, processes, and capabilities throughout the distribution pipeline. Why is visibility so important? As summarized from FM 100-10-1, "Visibility is a positive indicator that the distribution pipeline is responsive to customer needs." Experience has shown that Army leaders must be confident in the supporters ability sustain them. Timely and accurate visibility information provides logisticians necessary information to distribute assets on time thus maintaining high confidence levels. Visibility is based on a continuum of CSS data from the sustainment base into and through the distribution processes of the distribution system (factory to foxhole). Visibility must begin at the point where materiel starts its movement to the theater of operations, be that a depot or commercial vendor or a storage facility in another theater or war reserve stockpile. The information must be digitized and subsequently entered into the necessary CSS information systems. The next critical element to visibility is the capability to dynamically update that source data with updates from subsequent CSS systems as to the transport, storage, maintenance, or supply status of that particular item/shipment until it is received at the ultimate consumer location. The information must be accessible to all users regardless of the service or echelon of command requiring the data.
- Integrated STAMIS.
  - The consolidation of previously separate, such as stovepiped, functional information systems into a single common operating environment (COE) that allows common usage of information between functions.
  - An integrated STAMIS is defined as one that incorporates multiple types of functionality within a single system and can share database information between functionalities.

GCSS-Army is an example of an integrated STAMIS; designed to include the functions of manning, arming, fixing, fueling, moving, and sustaining. The system will establish interfaces with other CSS automated systems in order for users to have access to the maximum amount of information with the minimum amount of data entry. The GCSS-Army's management module will act as the data warehouse and will work to tie the integrated STAMIS together.

- Seamless information network.
  - The ability to autonomously exchange large volumes of information across data platforms such as GCSS-Army and CSSCS, and between multiple echelons of command from the tactical to the strategic level.
  - A seamless information network is defined as an autonomous data exchange between systems and levels of command. It provides the fusion of operational and CSS data. A seamless information network provides the common operating picture and intransit visibility (ITV) that makes distribution-based CSS operations and split-based operations possible. It also enhances the security of CSS assets by providing situational understanding of the enemy situation and friendly situation across levels of command as well as across battlefield operating systems.
- Near real time (NRT) information.
  - The ability to autonomously exchange large volumes of information within an information network as the data is created at the point of origination.
  - Near real time refers to the ability to capture events in the information network as they are happening; providing the logistician the capability to act almost immediately to the changing situation.

## **PRINCIPLES OF COMBAT HEALTH SUPPORT (CHS)**

1-9. Conformity. Conformity with the tactical plan is the most fundamental element for effectively providing CHS. Only by participating in the development of the operation plan (OPLAN) can the CHS planner ensure adequate support at the right time and the right place.

1-10. Continuity. Combat health support must be continuous since an interruption of treatment may cause an increase in morbidity and mortality. No patient is evacuated any farther to the rear than his physical condition or the military situation requires.

1-11. Control. Technical control and supervision of medical assets must remain with the appropriate force-level surgeon. Combat health support staff officers must be proactive and keep their commanders apprised of the impact of future operations on CHS

resources. The CHS system must be responsive to a rapidly changing battlefield and must support the tactical OPLAN in an effective manner. The medical commander must be able to tailor CHS organizations and direct them to focal points of demand throughout his AO. Treatment performed at each echelon of the CHS system must be commensurate with available CHS resources. Since these resources are limited, it is essential that their control be retained at the highest CHS level consistent with the tactical situation.

1-12. Proximity. The location of CHS assets in support of combat operations is dictated by the tactical situation and mission, enemy, terrain, troops, time available, and civilian considerations (METT-TC), time and distance factors, and availability of evacuation resources. The speed with which medical treatment is initiated is extremely important in reducing morbidity and mortality. Medical evacuation time must be minimized by the efficient allocation of resources and the judicious location of medical treatment facilities (MTFs). The MTFs cannot be located so far forward that they interfere with the conduct of combat operations or are subjected to enemy interference. Conversely, they must not be located so far to the rear that medical treatment is delayed due to the lengthened evacuation time. Further, the location of the MTFs may be affected by the level of conformance to the Geneva conventions protections by the combatants.

1-13. Flexibility. Since a change in tactical plans or operations may require redistribution or relocation of medical resources to meet the changing requirements, no more medical resources should be committed nor MTFs established than are required to support expected patient densities. When the patient load exceeds the means available for treatment (mass casualty situation), it may be necessary to give priority to those patients who can be returned to duty the soonest, rather than those who are more seriously injured. This ensures manning of the tactical commander's weapons systems.

1-14. Mobility. Since contact with supported units must be maintained, CHS elements must have mobility comparable to that of the units they support. Mobility is measured by the extent to which a unit can move its personnel and equipment with organic transportation. When totally committed to patient care, a CHS unit can regain its mobility only by immediate patient evacuation.

## **CSS CHARACTERISTICS**

1-15. A changing environment has diminished the probability of a prolonged, large-scale conventional war. However, the potential for numerous global actions on a smaller, regional scale has increased. At the same time, available resources are declining.

1-16. In response to these changes the Army has become a force projection rather than a forward-deployed Army. Stability

operations and support operations will consume much of the Army's resources and energy. Supporting the Army of today and in the future will require CSS personnel to work faster and smarter.

1-17. The tenets of Army operations - agility, initiative, depth, versatility, and synchronization are basic to successful operations. They also establish the framework for organizing CSS. An effective and efficient CSS system allows the Army to operate in accordance with (IAW) these tenets. Such a system has several fundamental characteristics as discussed in FM 100-5 and FM 100-10. These logistics characteristics are anticipation, integration, continuity, responsiveness, and improvisation.

1-18. For all the changes that technology and force redesigns have brought, one thing remains true, that success in battle is dependent upon the unity of effort between the tactical operation and logistics operations. Now, more than ever, the logistics community will succeed or fail by how well the CSS operators on the battlefield understand and adhere to the following logistics characteristics:

- Anticipation.
- Integration.
- Continuity.
- Responsiveness.
- Improvisation.

1-19. **Anticipation** of CSS requirements is made possible by the enhanced situational understanding provided by secure communications and knowledge-based information systems. The FSB carries limited supplies. To properly provide support, the FSB leadership must anticipate future requirements and missions by understanding the tactical commander's plan and by staying aware of current developments. By using situational understanding, the FSB ensures that the required support has been planned for and requested from EAD.

1-20. Combat service support requirements must be **integrated** into the scheme of maneuver. The decrease in on-hand stockage levels greatly increases the FSB's dependence on EAD for resupply. This requires that the CSS planners at all levels clearly identify all support requirements early in the planning cycle. This ensures that the required support is fully integrated into the division's scheme of maneuver.

1-21. Support must be **continuous**. The division requires continuous CSS to perform its mission. Any break in logistics operations can diminish its combat power. Combat service support elements continuously both sustain combat forces and replenish their own capabilities. Positive control of CSS assets should be enhanced through more accurate and timely reporting with the use of combat service support control system (CSSCS). The FSB must



---

provide continuous support to the maneuver and slice units and maintain positive control of all its CSS operations.

1-22. **Responsiveness** is the ability to meet changing requirements, often on short notice, as operations evolve in unexpected directions. It is also the ability to respond to changes in the maneuver commander's intent and changes on the battlefield without interrupting the flow of support. This must be done with little or no advance notice and as the combat operations are being carried out. The FSB must maintain maximum flexibility and be ready to respond quickly, often with a task-organized structure to meet force-projection requirements.

1-23. Combat service support personnel try to anticipate all support requirements and build a CSS structure. **Improvisation** is often necessary to provide continuous and responsive support, capable of responding to any eventuality. However, it is inevitable that situations will arise in which even tailored resources will not be available to meet requirements if leaders apply them as outlined in doctrine or support plans. Therefore, support personnel must be prepared to seek innovative solutions to problems. If established support procedures are not providing the support required by the force, CSS personnel must be willing and capable of modifying and devising new ones that meets the needs. If required assets are not available through the normal system, they must be creative in acquiring them. Extraordinary means may be necessary. This is especially true at the tactical level where short time frames often require greater use of improvisation.

1-24. Because of technological advancements, the anticipated OPTEMPO on the battlefield will increase. Through technology the CSS operators will have massive amounts of tactical and logistical information at their fingertips. They will have access to the same common relevant picture of the battlefield as the maneuver elements. Their challenge will be to sift rapidly through the information, assess its effect, and apply the CSS characteristics to provide the right sustainment to the right place at the right time to support the tactical effort. The challenge will be that much greater, for the DSB commander and battle staff, as the technology and force redesign have given subordinate units a level of autonomy not seen in CSS structures of the past.

## Chapter 2

### Digitized Division Technologies

The redesigned division support command (DISCOM) and its organic units will see an emergence of new technologies and CSS enablers that will greatly enhance the ability of logisticians at division and below to execute their work more efficiently and provide situational understanding. This coupled with the paradigm shifts in organizational structures and support concepts, allows the Force XXI DISCOM to provide the required resources to the maneuver commander to meet the OPTEMPO required to defeat the enemy. Figure 2-1 shows the locations of automated systems within the DISCOM. These systems are discussed in this chapter.

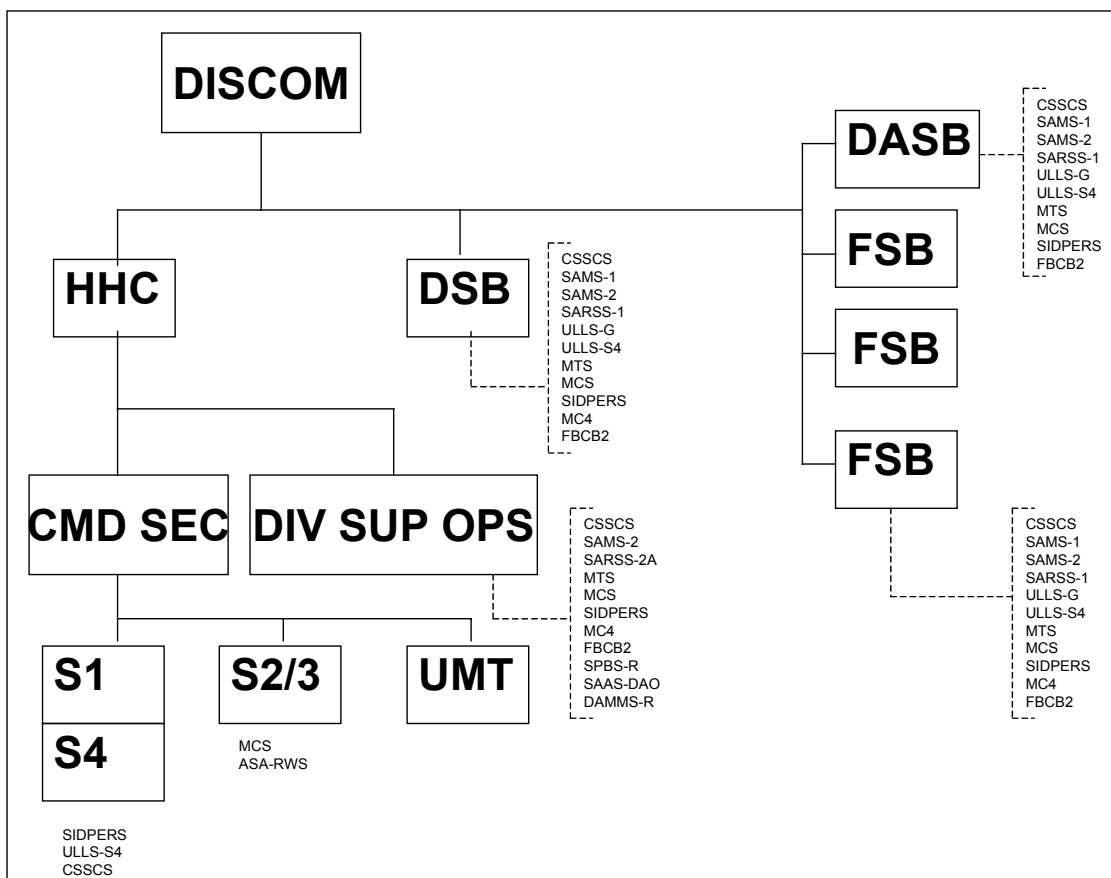


Figure 2-1. DISCOM Automation Architecture

Although the sections in what was previously known as the division materiel management center (DMMC) are now an integral part of the division support

operations, the automation used to link the DSB, DASB, and FSBs to the DISCOM, and the DISCOM to the corps, remain resident in the same sections that managed them under the AOE structure. This is particularly true in the case of the STAMIS.

## **COMBAT SERVICE SUPPORT REDESIGN ENABLERS**

2-1. The CSS enablers will assist logisticians by improving efficiency and effectiveness. Discussed below are those enablers that are currently designated to be used by the Force XXI Division.

### **CONTACT MAINTENANCE TRUCK (CMT)**



2-2. The CMT is a self-contained, multi-capable repair system which will perform on-site organizational and DS level repair for wheeled vehicles and equipment. It has high mobility to maintain continuous support of maneuvering forces. It has enhanced hand and power tools, test measurement and diagnostic equipment (TMDE), welding and cutting equipment, and an air compressor, mounted on a heavy high mobility multipurpose wheeled vehicle (HMMWV) (M1097) vehicle chassis. The CMT will replace older obsolete contact trucks utilizing M880 and commercial utility cargo vehicle (CUCV) chassis. It also meets requirements for both ordnance and engineer on-site repair missions. Specific components include:

- Secure enclosure with easy access to tool cabinets and equipment.
- Highly durable, good quality hand tools.
- Enhanced electric power tools.
- Electrical arc and metal inert gas (MIG) welding and gas (oxyacetylene) brazing and cutting.
- Test and diagnostic equipment (TDE).
- High mobility standard chassis.
- Increased payload for spares, special tools, and individual military gear.

### **CONTACT TEST SET (CTS)**

2-3. The CTS (AN/PSM-80 (V) 2 ) is a modular tester and electronic information delivery device that can be reconfigured to meet maintenance support requirements of different commodity and items at unit level and above. The CTS, a component of the integrated family of test equipment (IFTE), is a rugged man portable, knowledge based test set used at all levels of maintenance. It identifies LRU problems and augments weapon systems built-in test and built-in test equipment (BIT/BITE). It acts as a platform for electronic technical manuals (ETM), and is an Army standard software downloader. It is one-person portable and is capable of interfacing with standard printers to provide hard copy output. The AN/PSM-80 (V) 2 will contain a digital multi-meter board, a counter/timer board and an internal combustion engine board. It replaces the simplified test equipment/internal combustion engine (STE/ICE) in performing expert diagnostics. In addition, it will provide means to upload and download software and support the J1708 digital bus systems. This system would be located wherever needed; organization, DS, or higher levels of maintenance.

### **FORWARD REPAIR SYSTEM (FRS)**



2-4. The FRS is a PLS flatrack mounted maintenance shop. It is designed to provide field level (unit and direct support) maintenance to mechanized/armored forces and is transported by a standard PLS vehicle. The FRS capabilities include: 5.5 ton capacity crane for lifting engines/power packs and other major assemblies; oxyacetylene, electric ARC and MIG welding capabilities; pneumatic power and industrial quality hand tools; a 175 PSI air compressor; and a 15 KW tactically quiet generator (TQG) power source to provide power for the welding set, crane, electric power tools, and on-board ancillary equipment. The tool configuration is a standardized load unique to the FRS and is based on the heavy combat fleet. It provides storage locations for general mechanics tool kits (GMTK); battle damage assessment & repair (BDAR) kits for the mechanized fleet, and the soldiers' portable on-system repair tool (SPORT). The GMTK, BDAR Kits, and SPORT are not components of the FRS. The FRS provides space to carry basic issue items (BII), authorized list items (ALI), CTA items and crew member's individual clothing and equipment.

2-5. Specific maintenance features are as follows:

- Lift capability needed to replace/repair heavy combat system components, such as power packs.
- Secure enclosure with easy access to tools and on-board equipment.
- Industrial quality tools and equipment to optimize support of heavy systems.
- Full welding and cutting capability.
- Air compressor for tools and utility support.
- Carries the SPORT for diagnostics, ETM and IETM support.
- Workbench area with limited environmental protection.

### **HEAVY EQUIPMENT RECOVERY COMBAT UTILITY LIFT AND EVACUATION SYSTEM (HERCULES) (M88A2)**



2-6. The HERCULES provides the answer to the current recovery problems with the M1 series tank. It is an upgrade to the current M88A1 medium recovery vehicle that provides recovery support to systems up to 70 tons, which are Abrams, and future heavy combat systems, Wolverine, Grizzly, and Crusader. Improvements include an upgraded power train, better armor protection and improved towing, lifting, and winching capabilities. Key system performance improvements include: an upgraded power pack (engine, 750 HP to 1050 HP and an improved transmission), improved final drive, power brakes, and suspension; overlay armor-30mm protection, increase weight from 56 to 70 tons, and 6000 pounds lead auxiliary winch to aid in deployment of the main winch. The HERCULES will operate in the same environment and geographical areas as the systems it supports. This is normally one terrain feature behind supported units, maximizing cover and concealment techniques and will operate during hostile battlefield conditions compounded by darkness, smoke, dust, and adverse weather. The HERCULES will provide safe operation, braking, steering control, and adequate mobility while performing primarily recovery and maintenance operations such as towing an M1 series tank, removing turrets, recovering nosed-in or overturned tanks and tanks mired to various depth in varying soil conditions. Secondary recovery functions include removing/replacing powerpacks, a cutting capability for removal/repair of damaged components, auxiliary power unit for ancillary tools, refuel/defuel pump, and an impact wrench to support the various recovery task and repair actions.

### **TACTICAL INTERACTIVE GROUND EQUIPMENT REPAIR (TIGER)**

2-7. The TIGER provides mechanics expert diagnostic trouble shooting programs and access to ETM/IETMs, standard army maintenance system (SAMS) and databases for float management.

2-8. Tactical interactive ground equipment repair is principally a comprehensive related body of ideas and proposals intended to reform maintenance. Tactical interactive ground equipment repair is intended to furnish the means to diagnose materiel conditions correctly, communicate needs for services and supplies, and track them to the customer, thus reducing repair cycle time. Tactical integrated ground equipment repair includes the following concepts and projects: anticipatory logistics; turbine engine diagnostics (TED)-onboard; driver minder; interactive electronic technical manuals (IETM); pocket unit maintenance aid (PUMA); digital interactive training (DIT).

2-9. Tactical interactive ground equipment repair provides the basic ingredients to establish anticipatory logistics and accurate diagnostics/prognostics. To resolve maintenance deficiencies, TIGER concentrates on such core problems in our logistics systems: lack of communications in contemporary combat service

support (CSS) units; fault-diagnosis of weapon systems and other military materiel; identifying, requisitioning, distributing, and applying repair-parts; tactical maintenance processes; the proficiency and performance of mechanics; understanding customer wants; the burden of preventative maintenance checks and services (PMCS) on mechanics, technicians, and most of all users.

### **ELECTRONIC TECHNICAL MANUALS (ETM)/INTERACTIVE ELECTRONIC TECHNICAL MANUALS (IETM)**

2-10. Electronic technical manuals provide the mechanic compact disc-read only memory CD-ROM access to all maintenance technical manuals via laptop computer. Electronic technical manuals provide technical information and directions to maintainers and technicians. However, they do not automatically diagnose inoperable or malfunctioning systems.

2-11. Onboard IETMs have all the capabilities of IETMs, with the additional advantages of being integrated into the weapon system. This enables dynamic diagnosis, and the ability to communicate critical logistics information over the weapon system's digital radio.

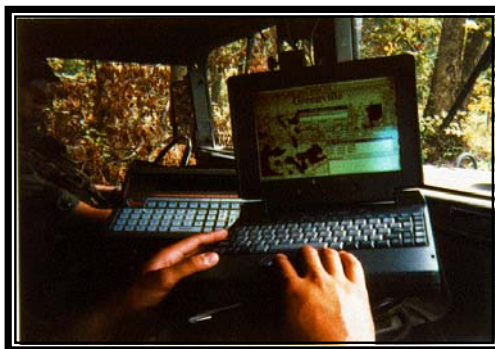
2-12. Interactive electronic technical manuals diagnose and direct how to fix complicated, malfunctioning, or inoperable equipment. Interactive electronic technical manuals troubleshoot specific problems that inhibit combat performance of critical weapon systems, or high-maintenance cost drivers. Interactive electronic technical manuals have the capabilities to isolate the fault, determine the required repair part, and provide maintainers the instructions on the repair of the system. Interactive electronic technical manuals have the ability to communicate and interact with weapon systems, and with the supporting management information system (GCSS-Army). The IETM initiates the repair process. Normally, this occurs at the location of the inoperable equipment. Interactive electronic technical manuals comprehensively diagnose those field (organization and direct support level) maintenance tasks, identifies the parts required to repair the equipment, and forwards those parts requirements to the maintenance STAMIS, ULLS-G and SAMS-2 currently, and GCSS-Army as it replaces existing STAMIS.

2-13. A comprehensive weapon systems IETM or onboard-IETM does not exist. The ETM, the IETM, and the onboard-IETM are integrated components, or software objects that perform diagnostic functions. A combination of the IETMs, onboard-IETMs, and ETMs comprise a weapon system's total technical documentation.

2-14. To employ IETMs effectively, the Army requires an interface device, the PUMA. This permits the maintainer to communicate seamlessly with the weapon system, yet connect with customers, and other CSS elements over FCB2, the global combat support system-army (GCSS-Army), or other available communications

systems. Onboard IETMs are accessed over the weapon system's existing computer and communications systems.

## MOVEMENT TRACKING SYSTEM (MTS)



2-15. The movement tracking system (MTS) is a stand-alone, satellite-based communication system that provides near real time in-transit visibility (ITV) of distribution assets. The MTS provides ITV through the use of vehicular mounted personal computer-based hardware packages with mapping software and commercial satellite assets. The MTS combines global positioning system (GPS) and satellite communication technologies that provide automatically updated position location and two-way digitized message capability between mobile units and control stations.

2-16. The MTS is employed at all levels of the distribution management system. In the corps and division, MTS control stations are located in distribution management center (DMC) support operations sections, movement control/mode operator headquarters elements, support battalion support operations sections within the division, and supply support activities (SSAs) at all echelons. The MTS control stations located at the maneuver brigade S4 and the FSB support operations section, transportation cell provide positive inbound clearance, outbound coordination of transportation assets and supplies, and maintain ITV.

2-17. The MTS provides CSS commanders with near real time transportation asset location, movement data, and situational understanding. These capabilities enable distribution managers to redirect (divert) supplies/assets to higher priority needs, avoid identified hazards, inform vehicle operators of changes in unit locations, and improves the overall effectiveness and efficiency of the distribution management system. The MTS mobile units, palm-sized laptop computers, are mounted on common user land transportation (CULT) vehicles, selected C2 and combat support (CS) vehicles, and CSS tactical wheeled vehicles. In addition, a mobile MTS unit will be available for use by host nation and other foreign nations contributing to a combined operation, or in leased,



contracted and other vehicles that may be used in the distribution role but would not normally be equipped with MTS.

### **FAMILY OF MEDIUM TACTICAL VEHICLES (FMTV)**



2-18. The family of medium tactical vehicles (FMTV) consists of two weight classes of vehicles and trailers; 2 ½-Ton light medium tactical vehicles (LMTV) and 5-ton medium tactical vehicles (MTV) each with trailers. Each family of vehicles shares common design and components to the maximum extent of commonality feasible. The family of vehicles currently features 80% commonality of parts, state-of-the-art systems, and easy to access controls.

2-19. The FMTV overcomes numerous deficiencies in tactical/strategic deployability, mobility, and ammunition/general resupply. It has the central tire inflation system (CTIS), on-board crane availability option, and is transportable on C-5, C-17, C-141, and C-130 aircraft. The FMTV replace existing 2 ½-ton and 5-ton trucks on a one-for-one basis. The FMTV are required to maintain the increased pace of logistical operations and to equal a dominant maneuver OPTEMPO. Theater distribution significantly alters the speed at which we execute service support and FMTVs are a key factor in reinforcing the existing infrastructure within Force XXI operations.

### **PALLETIZED LOAD SYSTEM (PLS)**



2-20. The palletized load system is a 16 ½-ton tactical truck, trailer, and interchangeable de-mountable cargo flatrack combination with

built-in self-loading/unloading capability that hauls all classes of supply (minus water and Class III bulk). The PLS has a total system hauling capacity of 33 tons, a 225-mile range, 50 MPH maximum speed, central tire inflation system (CTIS), and is C-5 and C-17 air transportable. When equipped with the container handling unit (CHU), the PLS can also provide increased container movement flexibility within the division rear area.

2-21. The PLS improves cargo handling by minimizing materiel handling requirements on an expanded battlefield and provides enhanced mobility to fielded units within the Force XXI division. These improvements are critical as they provide efficient and effective movement of supplies through a distribution-based logistics pipeline. The PLS is a key distribution platform employed by field artillery, ordnance, and transportation units. The PLS is the DISCOM's transportation operations workhorse under the Force XXI CSS redesign. The DISCOM commander can logistically weight the division's fight with the PLS employed by the transportation motor transport company (TMTC) of the DSB.

2-22. The role of the TMTC is to provide truck transportation for the distribution of supplies in the division's battlespace and assist division and corps elements requiring supplemental transportation. Specific PLS missions include, but are not limited to:

- Lateral redistribution of supplies in the brigade areas.
- Lateral redistribution of supplies between divisions.
- Relocation of ammunition supply/transfer points.
- Support tactical unit relocation and displacement of other divisional units.

### HEMTT-LOAD HANDLING SYSTEM (LHS)



2-23. The heavy expandable mobility tactical truck (HEMTT) - load handling system (LHS) is a standard M977 or M985 HEMTT chassis equipped with a PLS-variant load handling system. The LHS is designed for loading/unloading de-mountable cargo beds

(flatracks) and 8'x 8'x 20' international standardization organization (ISO) containers/shelters on flatracks. These flatracks are interchangeable with all fielded PLS flatracks. This system introduces the capability to handle flatracks at the maneuver brigade level.

2-24. The LHS is employed by the FSB's HDC and FSC in the supply & transportation (S&T) distribution sections. Employment of the LHS improves system performance, reduces load and unload times, and increases vehicle availability for CSS units operating in the Force XXI brigade area. The LHS has the capability of transporting an 11-ton payload on the truck-mounted flatrack while towing an additional 11-ton flatrack load with the M1076 PLS trailer (the trailer is issue with LHS only to the FSB HDC). The LHS maintains the capability to transport all classes of supply (minus water and Class III(B)) in a tactical environment.

2-25. The LHS improves cargo handling by reducing container/materiel handling equipment requirements forward on the battlefield. It also enhances the mobility of CSS units by allowing supplies and equipment to remain uploaded for immediate displacement if required. Additionally, the LHS extends distribution throughput capability and enhances velocity through flatrack exchange with PLS. The use of flatrack distribution and exchange forward in the brigade area increases the supported maneuver commander's tactical flexibility.

#### CONTAINER HANDLING UNIT (CHU)

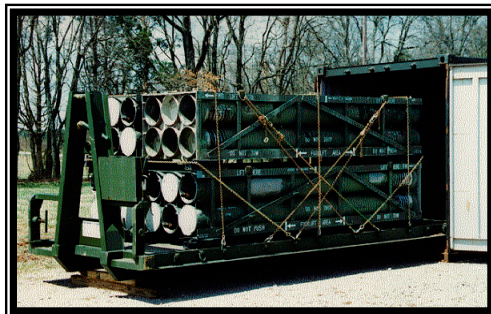


2-26. The container handling unit (CHU) is a configuration of lifting, sliding, stowing, and locking apparatus configured onto to the palletized load system (PLS) that enables it to self-load/unload 20 foot (or equivalent) containers. With this CHU configuration, the PLS interfaces with ISO-conforming containers without the use of a flatrack. The CHU has the ability to adjust to container height variants and retains full flatrack interoperability with minimal reconfiguration required.

2-27. The CHU is employed by the tactical truck platoon, TMTC of the DSB and at ammunition transfer points (ATPs) operated by the FSB, HDC. This employment increases the division's capability to rapidly transport containerized supplies forward on the battlefield. The PLS/CHU has the capability of transporting a 16 ½-ton payload on the truck while towing an additional 16 ½-ton flatrack load with the M1076 PLS trailer. The PLS/CHU configuration (with trailer) maintains the capability to transport 33-tons of supplies in a tactical environment.

2-28. The CHU provides a container handling ability not previously organic to the division and reduces container/material handling equipment requirements, such as rough terrain container handlers. This additional container handling ability enhances distribution throughput capability, velocity, and immediate ATP displacement. The CHU provides CSS commanders with container handling capability forward in the division and brigade areas and increases the supported maneuver commander's tactical flexibility.

### **CONTAINERIZED ROLL-IN / ROLL-OUT PLATFORM, M3 (CROP)**



2-29. The containerized roll-in/roll-out platform (CROP) is the flatrack of the future. It is a PLS/LHS flatrack that will eventually replace the M1077 flatracks currently fielded with the PLS and trailers. This flatrack is configured to fit snugly into a 20 foot ISO dry cargo container that has an internal door opening width of at least 92 inches and an internal length of 231 inches. It reduces transportation-shipping times and eliminates blocking and bracing efforts at origin and destination when shipped in a container. The CROP can be loaded with miscellaneous unit equipment and all classes of supply, to include ammunition. The CROP has an inward folding A-frame that allows these flatracks to be stacked 2-6 high for retrograding.

2-30. The CROP is a cargo carrying platform (or flatrack) suitable for repeated use throughout the PLS and LHS mission profiles. This improved-design flatrack is a critical enhancement to transportation operations, a key enabling system to battlefield

distribution, and the cornerstone to sustainment supply velocity in the distribution pipeline under Force XXI CSS doctrine.

2-31. The CROP offers strategic, operational, and tactical applications that serve an increased pace of logistics operations and significantly alters the speed at which we provide combat service support to the warfighters.

### **RADIO FREQUENCY - AUTOMATIC IDENTIFICATION TECHNOLOGY (RF-AIT)**

2-32. Radio frequency-automatic identification technology (RF-AIT) is an assemblage of commercial off the shelf equipment built around a nucleus of radio frequency tags that possess embedded data of container contents, shipment data, and vehicle identification. The tags are placed on containers or vehicles at the source (such as a shipping depot or supply point) and can then be read by fixed interrogators placed at various in transit points, such as ports of embarkation (POE), ports of debarkation (POD), installations and at the eventual destination. Data input for radio frequency (RF) tags will be generated at the data source supply activity. For sustainment shipments flowing from echelons above brigade (EAB), supply locations to the lowest level supply support activity (SSA), supply item data will be entered through a fixed burn station into the RF tag. For remote EAB supply locations, supply item data may be entered by the use of a hand held interrogator. There are three sections within the data fields of a single tag that provide specific information. The lead section, or section 1 of the RF tag holds the transportation control and movement document (TCMD) header data. This section contains the primary transportation control number (TCN), major characteristics of the cargo (cube/weight), the primary consignor, and consignee. Section 2 contains a detailed item description to include subordinate consignees and document number information. Section 3 is a free text area that allows the source to input any specific disposition and/or special handling instructions for any line item of the shipment.

2-33. Radio frequency tags are separated into three data sections that provide specific information. The lead section, or license plate data, provides specific information about the shipment, such as, port of entry, port of departure, required delivery date (RDD), consignee, consignor, hazardous material (HAZMAT), number of commodity records and the number of transportation control and movement document (TCMD, DD Form 1384) records. The second section, or the TCMD section holds the TCMD header data. This section contains the primary transportation control number (TCN), major characteristics of the cargo (cube/weight), the primary consignor, and consignee. Section 3, or the commodity section contains detailed 1348 type detail. This section includes a database with NSN, document number, unit of issue routing identifier code.

2-34. Radio frequency tags will be affixed to the cargo by means of nylon serrated electrical ties. This method ensures the tags remain with the cargo until it reaches the point of delivery or the lowest level SSA.

2-35. The receiving SSA, through the use of a hand held interrogator, gains quick information as to the contents of each shipment and aids in the rapid processing of supplies into SARSS and subsequent delivery to the requesting unit.

### **Retrograde**

2-36. Radio frequency tags recovered from previous shipments can be used to retrograde cargo from the user to EAB supporting supply activities. The SSA will take steps to ensure the original shipment data on the tag is deleted. This measure prevents confusion of the old original shipment data and new retrograde data.

2-37. Upon picking up the cargo the FSC or HDC, informs the battalion support operations section. The support operations office of the FSB will then associate that particular RF tag with the corresponding vehicle equipped with the MTS or FBCB2. The support operations section passes this information via digital non-secure voice terminal or telephone (DNVT) or tactical fax, which provides information to the EAB receiving supply activity.

### **Return of Unused RF Tags**

2-38. Should recovered RF tags exceed the number of retrograde shipments, arrangements should be made to return the tags to the next higher supporting SSA. Key points to remember when returning RF tags are to: delete the original shipment information and flip the battery within the tag. Units, through retrograde operations, or direct returns, should return tags to the system within 72 hours of receipt.

### **STANDARD ARMY MANAGEMENT INFORMATION SYSTEMS (STAMIS)**

2-39. The CSS community has developed functional information management systems that increase the productivity of the individual soldier and effectiveness of the unit. These CSS STAMIS will provide the logistics infrastructure required for any military ground operation. The technical goal is to establish a seamless and interoperable network. The network involves the integration and communication software used by all STAMIS systems. Components of the system primarily include unit level logistics system (ULLS)-ground (G), ULLS air (A), ULLS-S4, standard Army retail supply system (SARSS), and standard army maintenance system (SAMS). In addition to the above mentioned systems, the STAMIS interim transmission equipment consists of RF modems, mobile subscriber equipment (MSE), and tactical terminal adapters (TTA). The STAMIS communication software

utilizes the blocked asynchronous transmission (BLAST) package. A brief description of the various STAMIS listed in Figure 2-1, as part of the DISCOM automation architecture, is discussed in this section.

## **TRANSPORTATION STAMIS**

### **Department of the Army Movement Management System Redesigned (DAMMS-R)**

2-40. Department of the army movement management system redesigned (DAMMS-R) is an automated movement management system designed to provide convoy planning, highway regulation, and transportation asset information for the division. The DAMMS-R provides in-transit cargo movements data, convoy arrival information, mode asset status, hold/diversion status, transportation and container status reports, and transportation intelligence.

2-41. The DAMMS-R operates in the DISCOM support operation's movement control office (MCO) and in the division transportation officer (DTO). The DAMMS-R functionality will be combined with other installation transportation office (ITO) unit deployment planning/executing systems and result in a single, easily deployable transportation management system, the transportation coordinator's-automated information management system II (TC-AIMS II).

### **Transportation Coordinator's - Automated Command and Control Information System (TC-ACCIS)**

2-42. Transportation coordinator's - automated command and control information system (TC-ACCIS) is the Army's automated unit deployment planning and execution system that accomplishes transportation functions for ITO/traffic management offices. It generates unit movement data, air load plans, air cargo manifests, rail load plans, bills of lading, and bar-code labels for shipment.

2-43. The TC-ACCIS allows unit movement officers (UMOs) to create, update, or modify unit deployment data for peacetime, mobilization and deployment/redeployment operations. The TC-ACCIS functionality will be combined with DAMMS-R's movement management functionality and result in a single, easily deployable transportation management system, the transportation coordinator's-automated information management system II (TC-AIMS II).

### **Transportation Coordinator's—Automated Information for Movements System II (TC-AIMS II)**

2-44. Transportation coordinator's—automated information for movements system II (TC-AIMS II) is the generic term for the computer hardware, software, and radio frequency-automatic identification technology that consolidates unit movement, ITO, and

theater distribution functions (DAMMS-R and TC-ACCIS) into a joint automated information system.

2-45. The TC-AIMS II is a system designed for unit movement officers, planners, movement controllers, and transportation operators at all levels. It will be employed from installation transportation offices (ITOs) at the Army's power projection platforms, other TC-ACCIS locations, and from theater level commands to battalion and separate company levels.

2-46. The TC-AIMS II will provide transportation functions such as plan convoys, request convoy clearances, conduct load planning, and manage mode operations. It will also support daily transportation operations and provide enhancements to the deployment process by building automated unit equipment lists and deployment equipment lists. The TC-AIMS II supports planning, executing, managing, and reporting movement-related deployment, sustainment, and redeployment activities. It will facilitate the movement of personnel, equipment, and supplies and provide visibility data of those forces from factory to foxhole.

2-47. The TC-AIMS II will provide information to enable in-transit visibility (ITV) through a series of regional servers to the global transportation network and transportation information to Army command and control systems. It will ultimately provide the theater of operations with a joint transportation system capability supporting the Commander-in Chief with visibility of transportation assets in the distribution pipeline. The TC-AIMS II will be the enabler for force projection supporting Force XXI operations and battlefield distribution.

## **MAINTENANCE STAMIS**

### **Standard Army Maintenance System (SAMS)**

2-48. **SAMS-1.** Standard army maintenance system-1 (SAMS-1) is a maintenance management system which automates shop operations within the FSC MCS, BSC MCS, DASB GMC, and ASMC MCS. It provides shop management control of workload, manpower, and supply. It also has the capability to automatically produce work orders, requisition repair parts, manage shop and bench stock, and provide detailed labor costs related to a specific work order. The FSC MCS, BSC MCS, GMC MCS, and ASMC MCS pass the SAMS-1 information to the SAMS-2 located in the respective support operations section. The FSB and DSB support operations sections pass the information to the SAMS-2 located in the division support operations section.

2-49. **SAMS-2.** Provides mid-level maintenance management and readiness visibility at the support operations level through selected maintenance, equipment readiness, and equipment performance reports. It produces management reports related to work orders, shop capabilities, production, backlog, manpower and parts costs.



It also provides completed work order data and readiness data to the logistics support activity (LOGSA) for equipment performance and other analysis.

## **SUPPLY STAMIS**

### **Unit Level Logistics System (ULLS)**

2-50. **ULLS-Ground (G)**. The ULLS-G is located at any unit that has an organizational or tactical field maintenance facility, and is designed to be operated by unit level personnel. It automates the entire range of supply functions associated with the prescribed load list (PLL), vehicle dispatching, and the army maintenance management system (TAMMS) function at the motor pool. ULLS-G interfaces with SARSS-1, and SAMS-1.

2-51. **ULLS-Air (A)**. The ULLS-A is located in all aviation units. It performs those functions for aviation the ULLS-G performs for ground units. It will automate the production control, quality control, and tech supply (Class IX) functions at the aviation unit maintenance (AVUM). The ULLS-A interfaces with SARSS-1.

2-52. **ULLS-Battalion (S4)**. The ULLS-S4 is located at all companies, battalion S4s, and brigade S4s. It provides hand receipt accountability for property, requests supplies, and requests transportation. The ULLS-S4 interfaces with SARSS-1, standard property book system-revised (SPBS-R), SAAS-MOD, and CSSCS.

### **Standard Army Retail Supply System (SARSS)**

2-53. **SARSS-1**. The SARSS-1 is an interactive, menu-driven, automated supply accounting system providing asset visibility. It automates supply support functions of the DSB SSA, DASB SSA, FSB SSA and FSC supply platoons. It processes supply requests, issues, receipts, and tracks storage of items. It interfaces with the SARSS-2A located in the general supply section of the division support operations section. It also interfaces with ULLS-S4, SAMS-1, SPBS-R, and CSSCS.

2-54. **SARSS-2A**. The SARSS-2A provides intermediate management of the supply system at the DISCOM level. It provides reparables management and tracks excesses. It also provides referrals by conducting lateral searches among SARSS-1 locations within the division. It interfaces with the SARSS-2A(C/B) located at the corps material management center (CMMC), which tracks demand and document history, financial record keeping, and conducts lateral searches at the corps level.

### **Standard Property Book System- Revised (SPBS-R)**

2-55. The SPBS-R is an interactive, menu driven property accountability system. The system accomplishes the functions of property accountability required by Army regulation (AR) 710-2, department of the Army pamphlet (DA PAM) 710-2-1, and all other

pertinent and applicable regulations and guidelines. It operates in both centralized and decentralized mode, and provides asset visibility wherever the requirement exists. The SPBS-R interfaces with ULLS-S4, SARSS-1, and CSSCS.

### **Standard Army Ammunition System-Modified (SAAS-MOD)**

2-56. The SAAS-MOD is an automated ammunition system, which consolidates the following, three levels of operations into a single software baseline: theater support command material management center (TSCMMC)/CMMC, ammunition supply point, and the division ammunition office (DAO). The SAAS-MOD is designed to manage conventional ammunition, guided missiles and large rockets, and related crating and packing materials. SAAS-MOD provides formal stock record accountability, asset visibility, intransit visibility, management control, and automatic-reporting capabilities for ammunition stored at the retail level. It also supports basic load, war reserve, and operational stock management. It supports Class V conventional ammunition missions for units ranging in size from a brigade-size task force to theater. Any element, except an ammunition transfer point (ATP), when deployed independently, can perform the same functions as a TAMMC or a DS/general support (GS) ordnance group. Within the division, a SAAS computer is located at the Class V branch of the general supply office, division support operations section. The SAAS-MOD interfaces with the following systems by either disk-to-disk or modem-to-modem transfer:

- SAAS.
- Commodity command standard system (CCSS).
- LOGSA.
- Worldwide ammunition reporting system (WARS).
- SPBS-R.
- DAMMS.
- ULLS-S4.
- CSSCS.

## **MEDICAL STAMIS**

### **Medical Communications for Combat Casualty Care (MC4)**

2-57. The MC4 system will be a theater, automated combat health support (CHS) system, which links commanders, health care providers, and medical support providers, at all echelons, with integrated medical information. The system will provide digital enablers to connect, both vertically and horizontally, all ten CHS functional business systems. The MC4 system will receive, store, process, transmit, and report medical command and control, medical surveillance, casualty movement/tracking, medical treatment, medical situational understanding, and MEDLOG data

across all levels of care. This will be achieved through the integration of a suite of medical information systems linked through the Army data telecommunications architecture. The MC4 system will begin with the individual soldier and continue throughout the health care continuum. The best way to visualize the MC4 system capability is as a piece of the Army digital computer network where all ten CHS functional areas have been digitized and this CHS information is freely shared with everyone in the Army with a need to know. Not only will the MC4 system provide Army commanders with CHS information, but it will also provide them with a seamless transition to the joint CHS environment. The MC4 system will consist of three basic components: software, hardware, and telecommunications systems.

- Software capability.
  - The Joint TMIP will provide government off-the-shelf (GOTS)/commercial off-the-shelf (COTS) software and interoperability standards to support joint theater operations. The software provides an integrated medical information capability that will support all levels of care in a theater of operations with links to the sustaining base. Medical capabilities provided by the software to support commanders in the theater will address medical command and control (C2) (including medical capability assessment, sustainability analysis and medical intelligence); MEDLOG (including blood product management and medical maintenance management); casualty evacuation; and health care delivery.
  - The MC4 system will support Army-unique requirements and any software needed to interface with Army information systems such as CSSCS, GCSS-A, FBCB2, warrior programs, and the movement tracking system.
- Hardware systems. The hardware will consist of COTS automation equipment supporting the above software capabilities. Examples include, but are not limited to, computers, printers, networking devices, and the personal information carrier.
- Telecommunications systems. The MC4 system will rely on current and proposed Army solutions for tactical, operational, and strategic telecommunications systems to transmit and receive digitized medical information throughout the theater and back to the sustaining base. There will be no separate Army medical department (AMEDD) communication system. Telecommunications at brigade and below will be accomplished through the tactical internet (TI); above brigade level, telecommunications will be accomplished through the warfighter information network (WIN) architecture. The MC4 system will include hardware or software required to interface with current and emerging technologies supporting manual, wired, and wireless data transmission. At end-state, the MC4

system users will exchange data electronically via the WIN architecture. In the interim, commercial satellites and/or high-frequency radios will be fielded to selected medical units [for example, medical detachment-telemedicine] receiving the MC4 system to support high bandwidth requirements until the WIN architecture is fully fielded. Personnel operating satellite assets are resourced in the MDT TOE and will be located with the medical detachment-telemedicine.

The MC4 system will employ a three-block incremental development approach that incorporates the spiral systems engineering life-cycle methodology designed to reduce development risk, improve manageability, increase maintainability, and accelerate benefits to the warfighter. The MC4 system will be the Army's medical information system to modernize, digitize, and integrate medical information and make it available for the warfighting commander's use.

## **GLOBAL COMBAT SUPPORT SYSTEM-ARMY (GCSS-ARMY)**

2-58. In the future, GCSS-Army will be the Army's automation information system to modernize and integrate the capabilities of existing logistics STAMIS. Those capabilities to be integrated will include supply, property, ammunition, and maintenance functions (less medical) with significant enhancements. The principal logistics STAMIS to be functionally integrated include the ULLS, SARSS, SPBS-R, SAAS-MOD, and the SAMS. The GCSS-Army modules include:

- A modernized supply and property module that integrates supply operations and property accountability in all units.
- A modernized maintenance module that integrates maintenance operations (such as ground, aviation, and water equipment) at all levels of maintenance.
- A modernized ammunition module that integrates Class V management and operations.
- A modernized supply support activity module that integrates the supply management and operations at supply support activities and storage sites.
- A modernized and integrated materiel management module that integrates supply, property, ammunition, and maintenance management in all materiel management organizations.
- A management module that integrates information from multifunctional CSS data sources and allows for data exchange with other GCSS-Army modules and external automation information systems.
- The GCSS-Army will improve CSS information management by eliminating duplicative information systems, improving the

sharing of data, and leveraging advances in advanced information technology. It will provide the ability to support joint operations with sister services as well as provide support to our allies. The GCSS-Army will have a link into the command and control systems through CSSCS and GCSS-Army.

## **COMBAT SERVICE SUPPORT FUNCTIONS ON FFCB2**

2-59. The FFCB2 is a hardware/software suite that digitizes C2 at brigade level and below. The FFCB2 concept provides a seamless battle command capability for performance of missions throughout the operational continuum at the tactical level. The FFCB2 is the implementation of information age technology to provide increased battlefield operational capabilities.

2-60. The system, positioned on specified platforms, will perform combat, combat support (CS), and CSS functions for the planning and execution of operations. The FFCB2 represents a major paradigm shift for the CSS community. For the first time, the CSS organizations are digitally linked to the platforms and organizations that they support. The FFCB2 provides a common battlespace picture enabling CSS providers to maintain the OPTEMPO set by maneuver commanders.

## **CSS FUNCTIONS**

2-61. Combat service support functionality within FFCB2 gives the combatant a common relevant picture of the current CSS situation at his/her echelon of command and at subordinate levels. Additionally, it provides the personnel and logistics leaders CSS situational understanding (SA) throughout their battlespace. It also provides enhanced capability to synchronize support to customer units. The CSS functionality on FFCB2 includes the following: logistics situational reports (LOGSITREP), personnel situation report (PERSITREP), supply point and field services status report, command tracked item list update message (CTIL/BRIL), a task management suite which includes logistics call for support (CFS), logistics task orders (LTO), logistics task synchronization and logistics task management. Additional FFCB2 CSS reports include: medical unit situation report, mortuary affairs report, logistical and tactical situational understanding. Currently, FFCB2 permits information to be entered using free text, such as comments and other pertinent CSS information. Ideally automated systems should be designed to limit free text input. In these cases, the user of the system should understand that the information cannot be automatically manipulated or rolled-up by higher headquarters.

## **LOGISTICAL SITUATION REPORTS (LOGSITREP)**

2-62. The LOGSITREP provides input for logistical status for all classes of supply as determined by the CTIL, for example, Class I, II, III (P), III (B), IV,V,VII, and IX. CTIL items are selected from the

---

CSSCS BRIL and passed through each echelon of command using the CTIL/BRIL update message and posted to each FBCB2 platform. Platforms are only required to report CTIL items authorized and available on-hand. The LOGSITREP primarily flows through the noncommissioned officer (NCO) chain of command to the battalion S4 and the maneuver brigade S4, with information copies to the FSB support operations section. All reports will follow the chain of command as specified in the unit task organization (UTO). As each unit's report is submitted to the next higher echelon of command, information copies are sent to key personnel. For survivability of the reporting process, key personnel are identified to replace the primary roll-up point duties should the primary roll-up point become non-operational. At brigade level, the maneuver brigade S4 submits company level roll-ups to CSSCS. See Figure 2-2.

2-63. All recipients of the LOGSITREP (action or information message) have the ability to look one level of command down. This gives that user the ability to see the report submitted at that level for each class of supply and any comments that were made. Comments made with the LOGSITREP cannot be rolled-up. Any comments necessary for further processing up the reporting chain must be reentered in the next report.

2-64. The purpose of the LOGSITREP is to provide the unit commanders and key personnel visibility of the latest logistics status of their unit. A secondary purpose of this report is to provide the CSS unit visibility of a unit's logistics status to better anticipate their logistics requirements. Optimally, the user will not have to request resupply of commodities reported through this report. This is because the CSS unit is aware of their requirements and can begin the necessary CSS action prior to the company needing to ask for it.

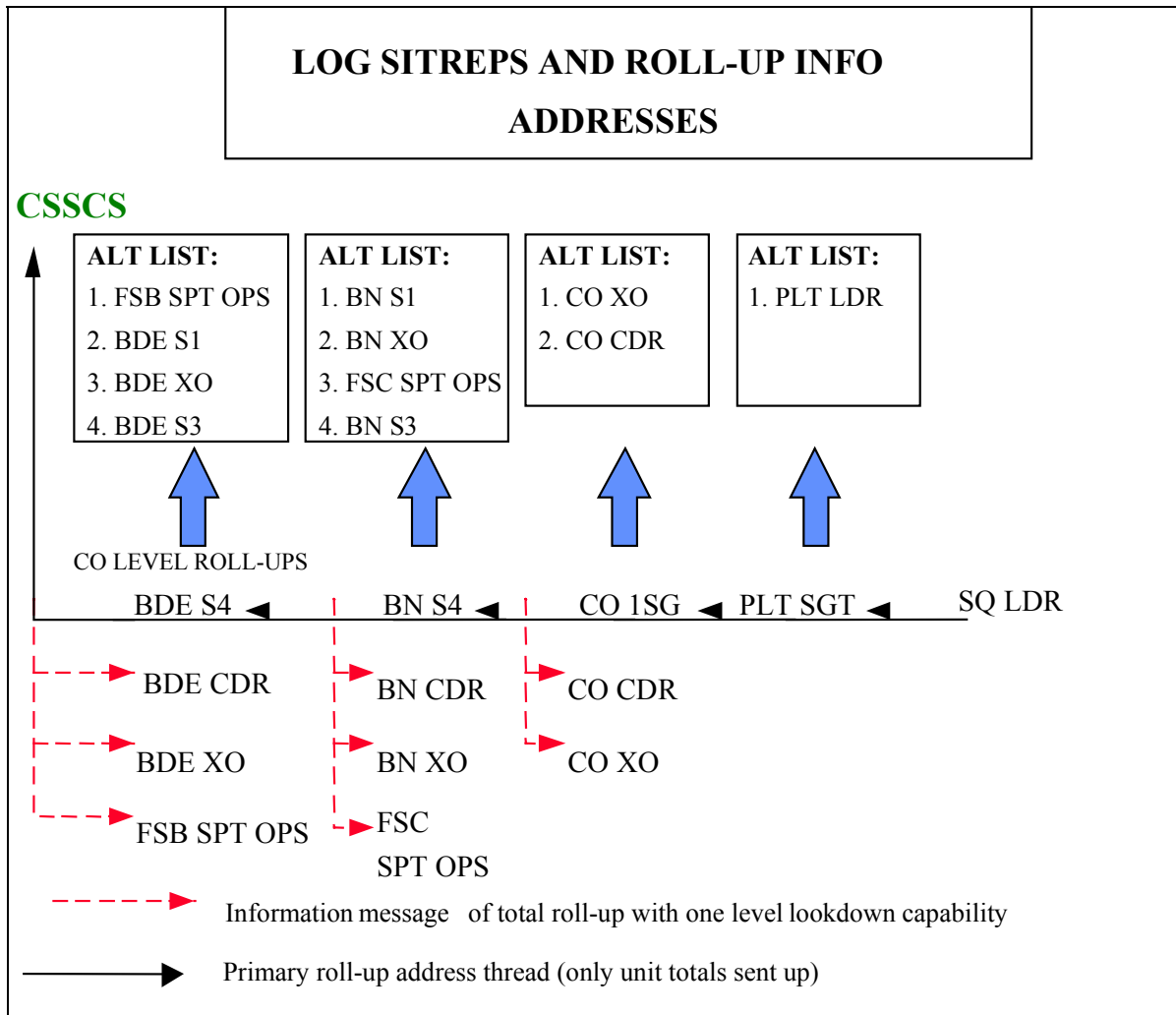


Figure 2-2. LOGSITREP Digital Report Flow

### LOGISTICS CALL FOR SUPPORT

2-65. The purpose of this message is to request immediate CSS support. Any platform with an FBCB2 can request CSS support through the CFS message function. The CFS is a templated message and may be sent directly to the supporting logistics activity, but should be sent to the company first sergeant (1SG). This enables immediate support action on the battlefield, a combat multiplier. Any FBCB2 can send or receive a CFS message. The LOGSITREP reports on hand quantities of classes of supply. However, in the event that the support requirement was not or could not be anticipated, the company may specifically request support through this function.

2-66. The CFS is entered as a templated message and is sent, per unit standard operating procedure (SOP), to the supporting logistics

organization that will provide the service or support. The FBCB2 system hosts six categories of CFS requests; maintenance, transportation, supply, medical, religious and others. Supply Actions include, Class I, III, IV, IX, laundry and bath, and mortuary affairs; Transportation Actions, pick up, deliver, and information; Maintenance Actions, repair, recover, services, and information; Medical Actions, evacuations, medic, Class VIII, and information; Religious Actions, worship, pastoral care, PW/refugee support, funeral services, memorial services, and information; Other, request not covered in the other 5 categories, sent in free text mode.

### **LOGISTICS TASK ORDER**

2-67. Once the appropriate CSS activity receives the CFS, the CSS manager identifies the most appropriate CSS resource to execute the mission. The CSS manager (tasking authority) sends a LTO to the resource. This message is the same template as the CFS message, therefore, the requesting unit and its location are specified in the order. Once the CSS resource receives the message, the FBCB2 will prompt him to return an acknowledgment message (ACK) stating whether he can, can't, or already has executed the mission (WILCO, CANTCO, HAVECO). If the resource replies with a WILCO, he will also be prompted to send an acknowledgment message of IDLE or ACTIVE. This action specifies whether the resource is actively executing the mission or is working on another mission. Once the acknowledgments have been sent, the resource will conduct synchronization with the requesting unit by sending him a free text message stating that he is on the way, will be there, or at a rendezvous point by a specified time, what he understands the mission to be, etc.

### **PERSONNEL SITUATIONAL REPORT**

2-68. The FBCB2 transmits personnel strength information through the PERSITREP. The PERSITREP is a CSS report submitted from platform level through the command hierarchy to brigade headquarters (HQ) level. FBCB2 users at platform level submit duty status changes through their 1SGs. The 1SG forwards these changes simultaneously to the battalion and brigade S1. The 1SG can also initiate a duty status change. The S1s update the duty status changes from FBCB2. The personnel functionality will be added into a future version of the CSSCS.

2-69. The PERSITREP provides commanders digitized updates to personnel status. The PERSITREP also provides changes to the deployed personnel database. When soldiers deploy, the brigade S1 manifests every deploying soldier. The S1 builds the deployed personnel database through the manifest process. This deployed database is the baseline of personnel deployed. The PERSITREP provides information to change the duty status of the deployed personnel. These changes update the deployed database. These



updates give the S1 the capability to retrieve data that they previously required subordinate units to send through recurring reports.

2-70. The PERSITREP follows the NCO support chain. The 1SG receives copies of all reports as they are distributed to the battalion S1 and the brigade S1. All reports will follow the chain of command specified in the UTO. Key leaders receive copies of the PERSITREP as it is transmitted to the next higher echelon of command. For survivability of the reporting process, key personnel are identified to replace the primary recipients in case of operational failure.

2-71. The battalion and brigade S1 use the information provided through FBCB2 to update the deployed personnel database. This database provides commanders the latest information on their soldiers. It also allows the commander to monitor his personnel resources, assess his needs and allocate his resources to maximize combat power. The brigade S1 is responsible for monitoring the status of all personnel within the brigade area and will assign replacements based upon the commander's priority of fill. When replacements arrive they report into the battalion S1 section and then immediately assigned to their unit. Each unit 1SG must assume responsibility or assign responsibility to specific platforms to report personnel not assigned to a specific vehicle with FBCB2. For example, headquarters section personnel not assigned to the 1SG vehicle (unit armored and unit supply sergeant). 1SG must ensure each member within the unit is accounted by an FBCB2 platform. FBCB2 users at platform level submit duty status changes through their 1SGs. The 1SG conducts a rollup of the PERSITREP and forwards to battalion and brigade S1. Subsequent PERSITREPs should only reflect changes in duty status from individual platforms or in accordance with standard operating procedures. The 1SG can also initiate a duty status change.

### **Supply Point and Field Services Status Report**

2-72. The supply and field services status report is designed to support the customer with specific information on supply or field service being provided. The supply point and field service report can be used to report on the following: ambulance exchange point (AXP), caches, logistics release points (LRPs), ammunition supply point (ASP), ammunition transfer point (ATP), forward arming and refuel point (FARP), Class I, II, III(P), III(B), IV, V, VII, VIII, IX supply points, aviation refuel point, ground refuel point, trailer transfer points (TTPs), water supply point, salvage point, maintenance collection point (MCP), shower, laundry, clothing repair point, and mortuary affairs collection point (MACP). The report can either be broadcast as SA depicting opening/closing times, location, type of supplies or services available, and available quantity of the type of logistics support being provided. Opening and closing times can be

established which will aid both the customer and support operations in management of the supply point types. All direct support stock status will be reported via this report. The LOGSITREP will report organic stocks and supply point and field services status report will be used to provide status on direct support stocks of Class I and water, II, III(P), III(B), IV, V, VII, VIII, and IX. Management of supply point and field services status report icons are a responsibility of the owning unit and their respective support operations section at both the FSC and FSB.

## **SITUATIONAL UNDERSTANDING**

### **Overlays**

2-73. The FBCB2 operator can gain situational understanding by activating the overlay feature of the FBCB2. The CSS overlay depicts the various CSS assets in the brigade sector. The overlay has icons depicting CSS assets (for example supply points, CSS CP, logistics release points (LRP)). The brigade S4 posts these points to the CSS overlay. Supply points send their locations to the brigade S4 with an information copy to the FSB support operations cell through free text message for posting or updating the CSS overlay. This feature significantly assists supported elements in locating key CSS supply activities during supply point distribution. It also assists the supporting CSS units in locating supported units when conducting unit distribution.

### **Icons**

2-74. The FBCB2 operator can pick up visibility of assets within the brigade. These assets will automatically transmit position reports that will update each FBCB2 screen within his autonomous system. The updates are frequent and will maintain near real-time position awareness. This feature allows significant asset visibility of key CSS assets with FBCB2. CSS synchronization with the supported element will depend heavily on this feature of FBCB2. For example, if an M2A3 Bradley needs recovery, the driver submits a CFS through the platoon sergeant (PSG) and the 1SG. The CFS messaging will task a recovery vehicle (M88) to recover the track. If the M88 is FBCB2 equipped, the LTO message received identifies the platform requesting recovery. During the synchronization process, the M88 will send a free text message to the supported 1SG stating that it will conduct the recovery mission and will coordinate the most appropriate time to conduct the recovery mission. The M88 then identifies and selects the M2A3's icon on the situational understanding map on the screen. The M2A3 can do likewise to observe the supporting M88 as it approaches the M2A3. This feature prevents any confusion in

locating the M2A3 and significantly increases the tempo of CSS support on the battlefield.

### **ARMY TACTICAL COMMAND AND CONTROL SYSTEM (ATCCS)**

2-75. The ATCCS integrates five of the seven battlefield operating systems (BOS), maneuver, fire support (FS), air defense (AD), combat service support (CSS), and intelligence that the DISCOM/DSB/FSB/DASB has the capability with which to interface. Each of these functional areas is supported by a control system designed to provide leaders and planners with information to effectively plan, coordinate, control, and direct the battle. These BOS control systems are oriented toward combat operations and provide the commanders and staffs at corps and below with situational information and decision support in executing operational/tactical battle. A brief description of the various ATCCS listed in Figure 2-1 as part of the DISCOM automation architecture is discussed in this section.

### **MANEUVER CONTROL SYSTEM (MCS)**

2-76. The MCS is the maneuver component of ATCCS. It is the primary information system supporting the BN/TF commander and staff. MCS provides the principal operational interface with necessary applications to access and manipulate the force level database to realize the force level commander concept. There are a wide array of capabilities available, which make planning and executing a battle plan more efficient. Capabilities range from modifying UTOs to creating overlays. Commanders and staffs update the MCS database by entering readiness data, battle plans, and battle plan changes as they occur at each echelon.

2-77. The MCS system consists of window and menu-based software allowing system operators to process, retrieve, store, and send information in textual or graphical form. Reports, operation orders (OPORD), overlays, UTO, and messages are available to the user.

### **ALL SOURCE ANALYSIS SYSTEM-REMOTE WORKSTATION (ASAS-RWS)**

2-78. The ASAS-RWS is a functionally integrated intelligence support system component of ATCCS. It manages sensors and other resources; collects, processes, and fuses intelligence data; stores, manipulates, and displays this data; and quickly disseminates information to the commander by providing situational understanding of enemy activity.

2-79. The ASAS-RWS supports the commander's decision-making process 24 hours a day whether on the battlefield or in rear support areas. It prioritizes and manages collection assets; processes,

receives, and correlates data from strategic and tactical sensors and other sources to produce ground battle situation displays. The system then disseminates intelligence information to assist the commander in refining that guidance, aids in target development, and provides recommendations.

### **COMBAT SERVICE SUPPORT CONTROL SYSTEM (CSSCS)**

2-80. The CSSCS is the CSS component of ATCCS. As this is the primary CSS tool used within the DISCOM, it will be discussed below in more detail. CSSCS provides a concise picture of unit requirements and support capabilities by collecting, processing, and displaying information on key items of supplies, services, and personnel that the commanders deem crucial to the success of an operation. The CSSCS does not duplicate STAMIS functions. The management of all items within a class of supply or support function remains STAMIS functions. Items tracked in CSSCS represent a small portion, but critical, list of the items managed by STAMIS. CSSCS also supports the decision making process with course of action (COA) analysis. Staffs can analyze up to three COAs for a 4-day period. Variables include combat posture, unit task organization, miles traveled, and geographical region.

2-81. The CSSCS maintains a database of unit personnel and equipment authorizations by standard requirement code (SRC) similar to table of organization and equipment (TOE) and unit and equipment planning factors. CSSCS includes a database of equipment and personnel called a baseline resource item list (BRIL). The items that a commander identifies as critical to the operation can be selected from the BRIL to establish the commander's tracked item list (CTIL).

2-82. The CSSCS currently provides situation awareness of critical elements within supply Classes I, II/IV, III(B), III(P), V, VII, VIII and personnel strength management. Maintenance, transportation, and medical functionality are a few features to be added as the system matures.

2-83. The commander identifies a CSSCS manager who is responsible for developing and coordinating the plan to establish the CSSCS nodes and network. CSSCS manager responsibilities include:

- Ensure that each echelon is resourced and trained properly to operate CSSCS.
- Coordinates acquisition of information to build the CSSCS database.
- Ensures that CSSCS operations are integrated into all OPLANS, OPORDS, and annexes.
- Ensures that TSOPs contain current CSSCS operations.
- Coordinates training, maintenance, and fielding of CSSCS.

2-84. The seven critical steps in establishing the CSSCS network and database are:

- Configure the unit task organization (UTO) IAW the current OPORD.
- Develop data flow diagrams and build message handling tables IAW the diagrams.
- Develop the commander's tracked item list (CTIL).
- Establish status threshold percentages.
- Determine and set support to supported relationships.
- Establish reporting procedures and schedules for the command.
- Establish continuity operations (CONOPS) pairing.

### **CSSCS DATA COLLECTION**

2-85. Units supply status and requirements can be entered manually using standard input forms (screens) at the brigade S4, DSB, DASB, or FSB CSSCS terminal. Electronic interfaces to systems such as FBCB2 will greatly enhance the entry of unit data. CSSCS tracks unit information down to the company level.

2-86. Battle loss spot reports are input to the CSSCS node at any level (brigade, division, or corps). Information is inputted either manually, as in the case of Class III, or by electronic transfer as when a STAMIS disk is downloaded into the CSSCS terminal. The CSSCS automatically updates the database.

2-87. The data is then distributed to other CSSCS nodes. The primary means of communication is MSE. CSSCS nodes then manipulate the data through a series of algorithms that are based on Army planning factors, the specified task organization, and the established support relationships. This way, large quantities of data are presented in comprehensive, but useable, decision support information formats. This information is graphically portrayed to the commander through green, amber, red, and black bubble charts, situational understanding, subordinate unit locations, and supply point status. Status may be projected out to four days using a combination of planning factors and manually generated estimates. The commander and his staff can further evaluate simplified color status by accessing more detailed numerical data that supports the color status displayed.

2-88. At the brigade level, two CSSCS devices (or nodes) will exist. One is located in the brigade S1/S4 operational facility and the other in the FSB support operations section. The brigade node is the point of entry in CSSCS for all organizational level CSS status and requirements of the brigade and its subordinate units. The brigade S1/S4 can also view the status of its supporting FSB/DASB and higher echelon supply points. Through interfaces

to the other ATCCS, a CSSCS node provides the brigade S1/S4 with the battlefield common picture.

2-89. The FSB, DASB, and DSB CSSCS node serves as the entry point for some supply point data that is not supported by a STAMIS and all organizational status of their elements. The FSB, DASB, and DSB use CSSCS to:

- Provide common relative picture for CSS.
- Identify CSS commanders logistic posture.
- Enhance C2, decision support, planning, and forecasting.
- Provide CSS status reports for item status, unit status, and supply point status.
- Track and anticipate customer logistics status and requirements.
- Track supply point status, issues, receipts, and dues-in of CTIL items.

### **CSSCS INTERFACES**

2-90. All CSSCS nodes will be able to interface with all other CSSCS devices and are also able to interface with other ATCCS. CSSCS may connect to FBCB2 via LAN at the brigade S1/S4 level. The FBCB2 will serve as a data source for CSSCS by passing aggregate data (LOGSITREP and PERSITREP) that has been rolled up from squad/section, platoon, and company. The LOGSITREP includes roll-ups of Classes I, III(P), III(B), IV, V, VII, and VIII. Class VII data also includes non-mission capable information. The CSSCS consolidates battalion data selected by the commander on the CTIL, up to 120 items. The CSSCS reports to higher HQ and then provides lower echelons the location of supply points via FBCB2. The FBCB2 transmits personnel strength information by officer/warrant officer/enlisted through the PERSITREP. This information is rolled up from platform through battalion to brigade S1 where it may be entered directly into CSSCS. The CSSCS uses this information to update its database on those personnel categories listed on the CTIL. The CSSCS updates supply point locations whenever supply points move in an electronic map overlay format and passes it down to platform level via FBCB2.

2-91. Figure 2-3 depicts the CSSCS to BFA interfaces, and identifies the type of messages that are exchanged between these systems.

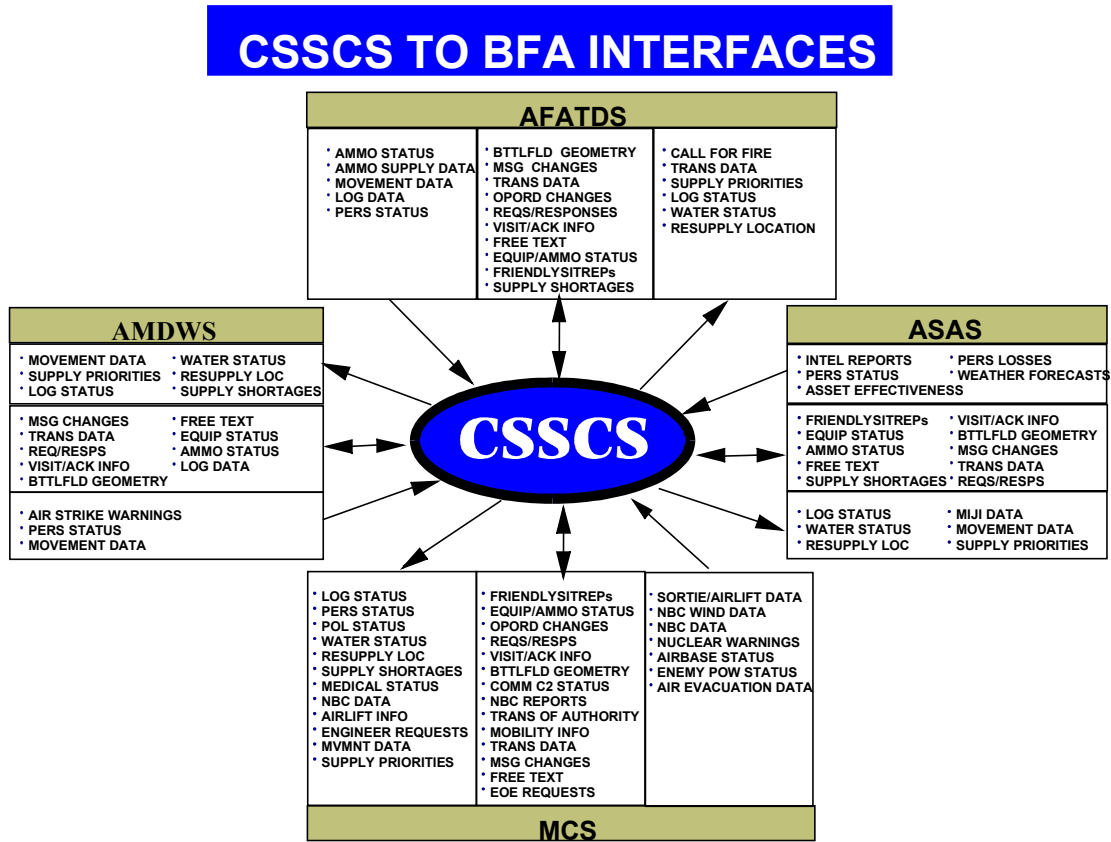


Figure 2-3. CSSCS Interfaces with Battlefield Functional Area (BFA) Systems.

2-92. Figure 2-4 depicts current CSSCS to STAMIS interfaces, and identifies the data elements that are exchanged between CSSCS and the STAMIS. Work is currently progressing on the development of the global combat service support-Army (GCSS-Army) system. This will be the single system that will integrate and replace the current separate logistics STAMIS, with the exception of SIDPERS and TAMMIS.

## CSSCS to STAMIS Interfaces

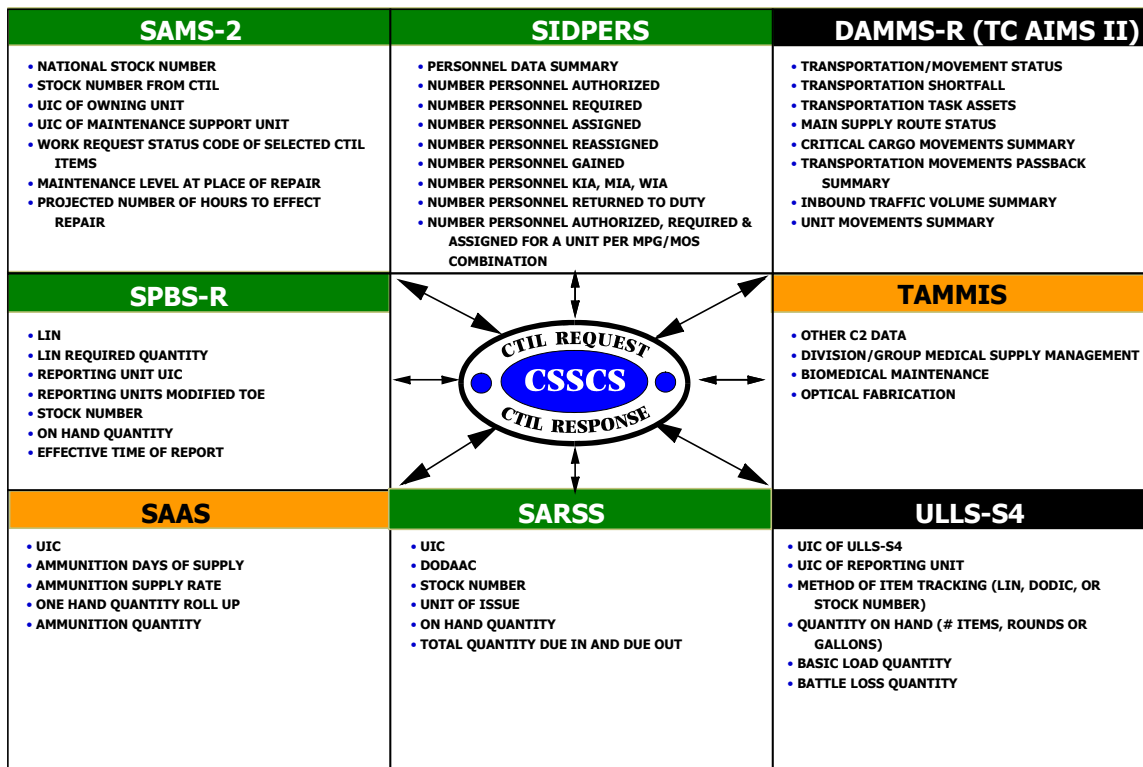


Figure 2-4. CSSCS to STAMIS Interfaces.



## Chapter 3

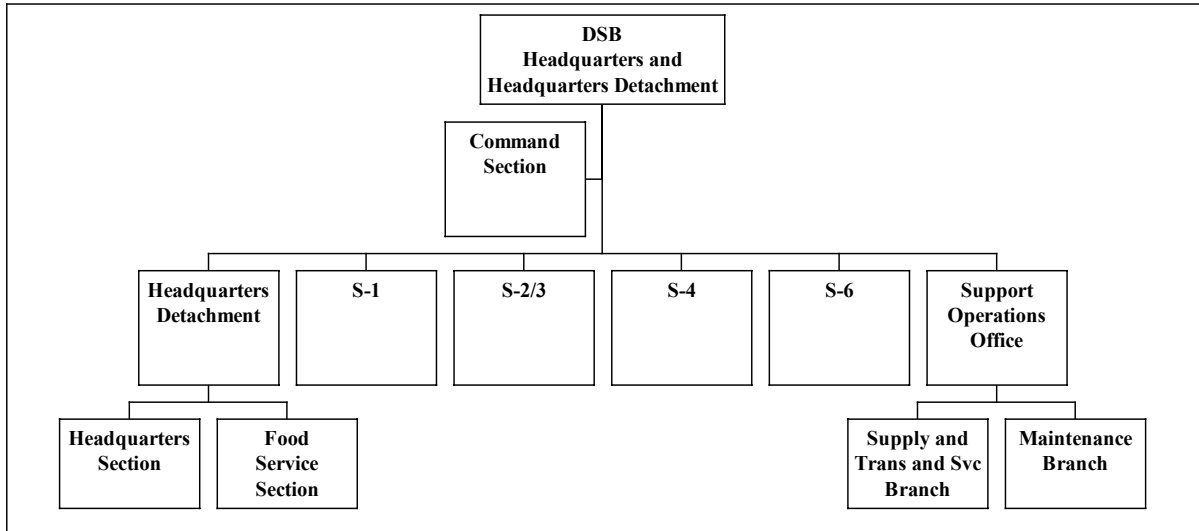
# Headquarters and Headquarters Detachment

### ORGANIZATION AND MISSION

3-1. The division support battalion headquarters and headquarters detachment provides command and control of organic and attached units. The headquarters and headquarters detachment (HHD) provides distribution management for all division rear supply and services support. It also provides food service support for units organic and attached to the DSB. The DSB performs its mission by supporting the division's course of action (COA) and meeting the DISCOM commander's guidance. It supports division customers by providing or coordinating to provide all classes of supply, as well as maintenance, medical, and field services. It also provides limited reinforcing support (Class III(B) and transportation only) to the forward support battalions (FSBs) and division aviation support battalion (DASB).

3-2. The DSB headquarters and headquarters detachment consists of a battalion headquarters and a headquarters detachment. As shown in Figure 3-1, the battalion headquarters has seven sections:

- Command.
- S1.
- S2/S3.
- S4.
- S6.
- Support operations.
- Unit ministry team (UMT).

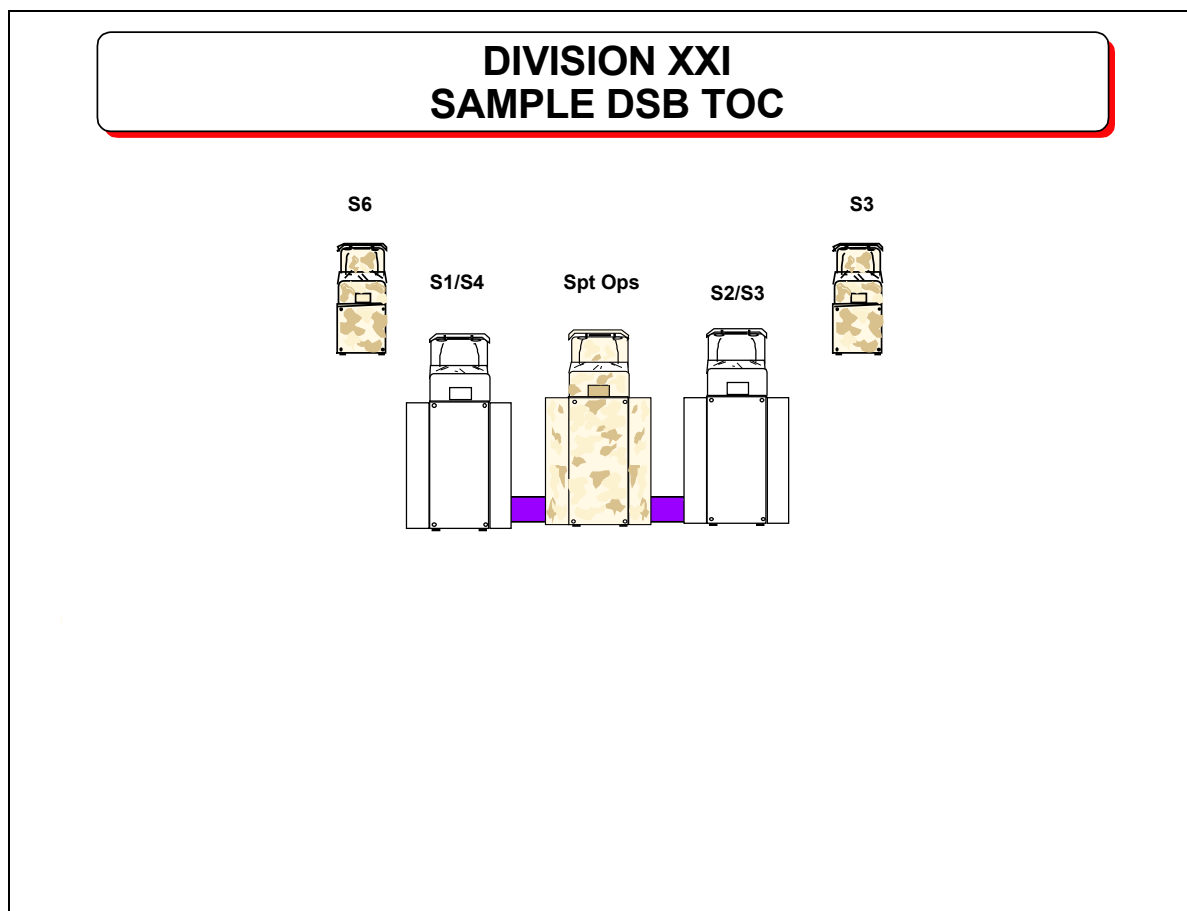


**Figure 3-1. HHD Division Support Battalion**

3-3. The battalion headquarters performs the command, control, communication, computers, intelligence, surveillance, and reconnaissance (C4ISR) functions. Generally, its mission includes:

- Command and control of organic and attached units.
- Planning, directing, and supervising support provided by the DSB to supported units.
- Providing information and advice on DSB support to the commander and staff of the DISCOM.
- Planning, directing, and supervising the administration for organic and attached units.
- Training and internal logistics support for units organic and attached to the battalion.
- Planning and directing rear operations as assigned by the DISCOM commander.

A sample DSB tactical operations center (TOC) configuration is depicted in Figure 3-2.



**Figure 3-2. Sample DSB TOC**

## PERSONNEL AND SECTIONS

### COMMAND SECTION

3-4. The command section of the DSB provides C2 for assigned and attached units and supervision for the DSB staff. It directs CSS for supported units. It also provides information and advice on CSS to the DISCOM commander, the supported commanders, and their staffs.

3-5. The command section consists of the DSB battalion commander, battalion executive officer (XO), and command sergeant major (CSM), coordinating staff officers, and special staff. Staff officers supervise and coordinate the functions of subordinate sections. In addition to the staff, there is a support operations officer. Command section staff officers perform duties and responsibilities common to all staff officers. FM 5-20, FM 6-99 (101-5), Staff Organizations and Operations, chapter 4, discusses in detail these duties and responsibilities which include:

- Provide information.
- Develop estimates.
- Develop recommendations.
- Prepare plans and orders.
- Supervise subordinates' actions.

3-6. Command section staff officers conduct battle staff mission analysis, develop estimates and plans, and implement policies and orders. They develop a reporting and monitoring system for staff operations in their area of expertise. They provide information updates to the battalion commander and exchange information with other battle staff sections on areas that are critical to mission accomplishment.

### **DSB Commander**

3-7. The DSB commander commands all units organic or attached to the battalion. He provides sustainment through the use of an array of digital information systems and technologically competent battle staff that is capable of capitalizing on all other technological innovations. He provides subordinate elements with clear missions, taskings, and statements of his intent.

3-8. The commander with his battle staff supervises the activities of subordinate units. They ensure that decisions, directives, and instructions are implemented and that the commander's intent is being fulfilled. The DSB commander and battle staff advises the division troop commanders and DISCOM commander on DSB support as required.

3-9. The battalion commander's duties include the following:

- The CSS operator that provides centralized distribution management and the CSS assets required to support the division troops.
- Provides commander's intent and mission guidance.
- Reviews battle staff estimates, course of action (COA) analysis, and recommends the COA that best supports the division mission.
- States his estimate of the situation and announces his decision.

3-10. Upon receipt of a mission, the commander gives planning guidance to his battle staff. He receives required information from his staff and restates the mission in a clear, concise statement of tasks to be done and purpose to be achieved. Examples of tasks that the staff must be able to perform are:

- Analyze terrain and threat.
- Function as an effective team.
- Exchange information.

- Prepare estimates.
- Give appraisals.
- Make recommendations and decisions.
- Prepare plans.
- Issue orders.
- Coordinate and control unit operations.
- Supervise subordinate units.

### **Battalion Executive Officer (XO)**

3-11. The battalion XO is the principal assistant to the battalion commander. As second in command, he must understand both the support operations and the internal functions of the battalion. He supervises the DSB staff and coordinates assigned missions with subordinate unit commanders. In accordance with command directives, he formulates staff operating policies. He also supervises TOC operations.

3-12. The duties of the battalion XO include:

- Supervises the battalion staff.
- Coordinates staff planning and response to the battalion commander's guidance.
- Disseminates time analysis limitations to all staff sections.
- Supervises staff mission analysis process.
- Assumes command of the battalion when the battalion commander is elsewhere.
- Develops, approves, and monitors staff operating policies.

### **Health Services Support Officer (HSSO)**

3-13. The health service support officer (HSSO) is assigned to the command section and is the medical plans and operations officer. The HSSO coordinates internal medical support. He coordinates the schedules, locations, and capabilities of medical support with the division support medical company (DSMC). He prepares and provides an area medical plan to the subordinate units. The HSSO is also responsible for:

- Providing the combat health service (CHS) estimates and medical threat input for inclusion in the DSB commander's estimate.
- Developing the combat health support portion of the DSB OPLAN in coordination with the DSB staff, the DSMC commander, the DISCOM medical operations branch, and the division surgeon's section (DSS).
- Ensuring the CHS plan is synchronized laterally and vertically.

- Coordinating the placement of supporting corps medical elements attached to the DSB within the battalion's assigned area of the DSA.
- Identifying CHS support requirements for the DSA and division rear.
- Coordinating CHS tasking from the DISCOM medical operations branch with the DSB staff and the DSMC commander. Tasking may include area medical/dental, preventive medicine, combat stress control, reinforcement, or reconstitution support.
- Advising the DSB commander on CHS operations in the DSA and division rear.
- Submitting and forwarding status reports IAW DISCOM and division tactical standard operating procedures (TSOP).
- Working with the support operations office in synchronizing CHS/taskings and for planing the use of nonstandard medical evacuation platforms in the support of mass casualty operations.

### **Command Sergeant Major (CSM)**

3-14. The CSM is the principal enlisted advisor to the battalion commander on all matters pertaining to and dealing with the enlisted members and their families. He is an advisor and personal battle staff member whose general duties and responsibilities pertain to all levels of the command.

3-15. The command sergeant major (CSM) serves as the senior enlisted representative for the battalion. As an extension of the eyes and ears of the battalion commander, he maintains frequent contact with his subordinate units and monitors the pulse of the battalion.

3.16. The duties of the command sergeant majors include:

- Serves as the battalion commander's principal enlisted assistant. Maintains liaison with the division troop's command sergeant major.
- Provides the battalion commander information on the status of enlisted matters.
- Ensures the health, morale, and welfare of the unit.
- Serves as the battalion's senior enlisted master trainer. The CSM is critical to identifying training requirements for individuals, crews, battle staff, units and leaders. The CSM ensures training solutions are resourced, executed, and assessed to satisfy mission essential task list (METL) and battle tasks.
- Ensures that new soldiers/leaders replacement training is conducted.
- Demonstrates expertise in call for support.

- Ensures training and development of first sergeants, battle staff NCOs, and platoon sergeants within the battalion.
- Emphasizes training in field crafts (command post set up, field sanitation, erect field tents, etc...).
- Emphasizes training in force protection, including marksmanship, fortifications, convoy operations, NBC, and combat lifesaver.
- Demonstrates expertise in operation of battalion equipment such as weapons, vehicles, generators, communications, and automation.
- Understands ongoing missions of his unit(s) and supported headquarters.
- Engaged in medical evacuation and mortuary affair operations.
- Identifies and helps resolve any battle field sustainment problems.

## **S1 SECTION**

3-17. The S1 is the battalion commander's principal battle staff officer for personnel and other soldier-related support functions. He advises the commander on all personnel support issues and has primary battle staff responsibility for coordinating personnel service support internal to the DSB. This includes personnel services, finance services, chaplain activities, command information services, medical, and legal services support. He develops the personnel service support annex of the OPORD/OPLAN. He also coordinates for transportation assets in support of personnel service support functions.

3-18. The S1 functionally organizes the S1 section personnel to execute the responsibilities of the element. The personnel sergeant assists the S1 by directing the activities of the three major elements. The unit support element is responsible for postal operations management, morale, welfare, recreation (MWR) program administration, and other unit support programs such as equal opportunity (EO), sponsorship, alcohol and drug abuse prevention control (ADAPC), line of duty (LOD), safety and publications/blank forms. The legal support element is responsible for reviewing officer or enlisted transfers and discharges. They also review military judicial or nonjudicial actions and courts and boards. The personnel support element functions include personnel accounting strength report (PASR), readiness management, data base management, casualty reporting, replacement operations, personnel actions, evaluations, retention, promotions and reductions, awards and decorations, military pay and leave, and coordinates command information activities, finance services, chaplain activities and EPW administration. Typically, the battalion S1 co-locates with the S4 section in or near the DSB CP.

3-19. The duties of the S1 officer include the following:

- Supervises battalion administrative and personnel matters.
- Informs the battalion commander of personnel actions.
- Develops personnel estimates.
- Develop casualty estimates.
- Informs the battle staff of the supportability of missions from a personnel services viewpoint.
- Recommends ways to reduce the effects of major personnel deficiencies.
- Informs the battalion commander on areas that impact on troop preparedness.
- Assist in preparing and processing court-martial and board proceedings.
- Ensures proper and prompt disposition of legal actions to protect the rights of soldiers within the battalion.
- Gather, input, and maintain personnel data in the CSSCS database.
- Develop the personnel CTIL.
- Set status thresholds for personnel.

3-20. Administrative specialist. The duties of the administrative specialist include the following:

- Processes personnel actions and reports. These include personnel situation reports, personnel spot reports, unit feeder reports, classifications, promotions, reductions, and efficiency reports.
- Operates the message center.
- Prepares correspondence.
- Establishes and maintains logs, rosters, and status boards.
- Controls, publishes, and distributes orders, directives, and forms developed at the battalion level.
- Control and distributes mail internal to the battalion.

### **STAFF JUDGE ADVOCATE**

3-21. The DSB does not have staff judge advocate (SJA) support within its staff. However, the division SJA section supports the division with legal support operations as far forward as required. It provides subordinate brigade and other commanders with a lawyer to serve as a member of the subordinate commander's special staff, as required. In addition to advising on defense and prosecution issues, the DSB commander can call upon the SJA for advice and assistance when dealing with issues such as:

- International agreements regarding the status of forces and installations on foreign soil.



- Contingency contracts and regular acquisitions of goods and services needed for entry into, and sustainment of the force within an area of operations.
- Compliance with the law of land warfare and in the treatment of enemy prisoners of war (EPW), retained persons, internees, and refugees.
- Claims against the United States and against soldiers or the unit under article 139, uniform code of military justice (UCMJ).
- Investigation and disposition of allegations of war crimes and violations of the law of land warfare.
- Compliance with the law of land warfare in operational seizure and use of and reimbursement for foreign, real, and private property.
- Compliance with domestic and international environmental law and regulation.
- Coordination of the commander's legal requirements with the SJA in the main CP.

## **S2/S3 SECTION**

3-22. The S2/S3 officer is the operations, security, and training officer. He is responsible for internal DSB operations. The S2/S3 advises and assists the DSB commander in tactical planning, coordinating, and supervising the communications, operations, training, and security functions of the battalion. The S2/S3 supervises the DSB functions that are not classified as logistics or medical. However, his role and that of the support operations officer require that they maintain constant contact. The S2/S3 is responsible for writing and reviewing the battalion tactical standard operating procedure (SOP).

3-23. The S2/S3 section monitors the tactical operations of the DSB, makes recommendations to the commander, publishes orders, develops the R&S plan, and supervises implementation of plans and orders. It maintains the current friendly and enemy situations. It obtains maps and prepares overlays. It positions units within the DSA and plans DSA security that includes planning the equipment and personnel for the base cluster reaction force. Also, in coordination with the supporting military police (MP), it develops and implements the traffic circulation plan for the DSA. The branch ensures the DSA security plan is integrated into the overall division rear operations plan. Guidance appears in FM 3-19.4 (19-4) (Military Police Team, Squad, and Platoon Combat Operations).

3-24. The section also plans and coordinates tactical movements. It conducts route reconnaissance, supervises tactical road marches, receives closing reports, and supervises appropriate battle staff activities during movement.

3-25. The S2/S3 officer supervises the operations of the plans-operations branch. His duties include the following:

- Conducts continuous logistics preparation of the battlefield.
- The S2/S3 officer must develop the unit task organization in coordination with DSB support operations to correctly reflect the task organization in the existing operation order/plan.
- Consider tactical intelligence and develop OPLANs and OPORDS.
- Plans and executes operations security and NBC defense and training.
- Provides estimated times for deployment of the DSB.
- Issues warning order to all assigned or attached elements, informing them of pending operations.
- Coordinates with brigade S3 section battle staff on the tactical situation in the brigade area.
- Prepares contingency plans.
- Analyzes operational data and reports for conformance to directives and commander's intent.

3-26. The S2/S3 operations SGT. The duties of the S2/S3 operations SGT include the following:

- Conducts continuous logistics preparation of the battlefield.
- Operates the rear operations frequency modulated (FM) net.
- Advises on base security.
- Coordinates with explosive ordnance disposal (EOD) detachments/teams.
- Determines which group facilities are vulnerable to damage.
- Supervises rear operations training.

3-27. The S2 intelligence analyst NCO develops procedures for handling and using or disposing of enemy equipment and documents. The intelligence analyst NCO informs the DSB commander on all IPB information. The S2 NCO supervises the handling of enemy defectors and materiel, and monitors EPW collection point activities for the DSB. He also is responsible for obtaining classified maps required by DSB units. Finally, he is responsible for the preparation of the following documents:

- Intelligence annex to orders.
- Daily intelligence summary for subordinate units.
- Operations estimates.
- Intelligence estimates updates. Paragraphs 2 and 3 of the DSB OPORD/OPLAN.
- Essential elements of information (EIs) for inclusion into the OPORD.

3-28. He is also responsible for the following tasks:

- Conducts continuous logistics preparation of the battlefield.

- Coordinates tactical intelligence activities between subordinate units, and DISCOM S3.
- Maintains a weather factor analysis matrix.
- Performs terrain analysis of the area of responsibility (AOR).
- Prepares situation, event, and decision support templates.
- Supervises preparation of the intelligence portion of OPLANs/OPORDs and maps.
- Develops the intelligence estimate.
- Distributes the analysis of the AO, as appropriate.
- Identifies intelligence collection requirements.
- Assesses enemy vulnerability and probable courses of action.
- Disseminates intelligence to subordinate units.
- Prepares reports on captured enemy materiel.

3-29. The nuclear, biological, and chemical (NBC) NCO prepares the NBC defense annex to OPLANs/OPORDs and SOPS. He monitors NBC threats and predicts fallout and collects, evaluates, and distributes NBC reports. He monitors contamination patterns and disseminates NBC data. He prepares vulnerability analyses of significant targets in the DSB's area of operation (AO). The NBC NCO coordinates surveys and determines requirements for NBC protective shelters. He also recommends priorities for decontamination support and monitors and assists in the employment of NBC teams. He develops response procedures for NBC defense and makes recommendations to the commander on mission oriented protective posture (MOPP) levels. He also prepares NBC reports 1 through 6.

3-30. The duties of the NBC NCO include the following:

- Conducts continuous logistics preparation of the battlefield.
- Supervises the NBC program.
- Prepares tactical NBC plans.
- Conducts weather analysis and nuclear vulnerability assessment analysis.
- Maintains the radiation exposure status for subordinate units.
- Plans for decontamination support to subordinate units.

#### **S-4 SECTION**

3-31. The DSB S4 provides technical supervision and assistance for unit-level support within the battalion. He is responsible for preparing the logistics estimate and making recommendations to the commander on internal logistics activities. He also writes, in

coordination with the S1, the service support annex to the DSB OPORD/OPLAN. He supervises personnel in the S4 section.

3-32. The S4 also reports on the overall internal logistics situation. He reports significant problem areas and major deficiencies in basic loads. He should also include an account of significant incidents that hinder internal logistics operations.

3-33. The S4, in conjunction with the S2/S3 section personnel prepare the unit administrative movement order for moves, although elements may move constantly. The S4 develops and maintains administrative movement plans for all modes of transportation using FM 55-series publications. Unit movement plans should include:

- Security requirements.
- Logistics coordination requirements.
- Load plans for vehicle, aircraft, and rail cars.
- Duties of unit movement personnel.
- Preparation of transportation documents.
- Description (weight, length, width, and height) of outsized, unusual cargo.
- Coordination with the DISCOM movement control office (MCO).

3-34. The S4 also coordinates movement plans with the S2/S3 and monitors field feeding and sanitation activities within the DSB. He consolidates transportation requirements for DSB units and passes them to the support operations section. The S4 coordinates through the DISCOM S4 to obtain payment support for local procurement and imprest fund operations from the servicing corps finance support unit.

3-35. The duties of the S4 officer include the following:

- Conducts continuous logistics preparation of the battlefield.
- Develops the internal logistics estimate.
- Keeps DSB battle staff informed of mission supportability from an internal logistics viewpoint.
- Monitors the unit supply and unit maintenance operations of subordinate units.
- Acquires and assigns facilities.
- Provides advice on food service operations and the command.
- Monitors property book activities.

3-36. The S4 section supervises and monitors DSB company supply activities. It coordinates with them on locations of internal supply and services activities. It processes requests for replenishing basic loads of all DSB elements, and monitors the

request of Class I, II, III, IV, V and VII items. It requests and issues all required common table of allowances (CTA) 50-900 items within the FSB. It monitors requests that DSB elements submit to the Class IX section in the S&T platoon for Class IX items. The section also monitors the status for all battalion elements in the area of operational readiness of equipment. It prepares the Class III forecast for the DSB and submits it to the support operations section. S4 section coordinates with the S1 on unit strength and replacement data to project logistics requirements. Together they also ensure DSB replacements are issued all authorized equipment.

3-37. The S4 section, through the unit maintenance officer (UMO), coordinates unit maintenance operations. It consolidates subordinate units maintenance reports to analyze overall battalion equipment status. It provides materiel conditions status reports (MCSR) to the commander and other staff sections for mission planning purposes. It monitors subordinate unit's prescribed load list (PLL). This ensures operating levels are consistent with tactical SOP requirements and DA guidance. It coordinates recovery and evacuation assets with subordinate elements. Coordination ensures timely recovery and evacuation of all battalion equipment. The section coordinates with the S3 and support operations section on the priority of maintenance effort.

## **S6 SECTION**

3-38. The S-6 section is responsible for the full range of tasks associated with network management, systems administration and systems/software security for all tactical automation IAW FM 24-7. This section and its subordinate elements will troubleshoot hardware needing repair and monitor contractor repair performance. They will collect status from organic elements for ABCS and the CSSAMO for CSS STAMIS.

3-39. As systems administrators and system/software security managers, they will perform all tasks normally associated with information technology (IT) operations ranging from issuing passwords, installing anti-virus software, and performing CSSCS network management functions. The S6 works closely with the CSSAMO to resolve applications problems with CSS STAMIS and CSSCS.

3-40. The S6 is also responsible for installing and operating local area networks in support of the DSB operations. This section is responsible for determining requirements and exercising staff supervision over communications services related to DSB operations. It advises the commander, staff, and subordinate units on communications matters. It also operates the battalion switchboard, serves as net control station for the DSB and performs unit level maintenance for all communications electronic equipment in the HHD. The section ensures communications links with higher, adjacent, subordinate, and supported units. It plans and

implements backup means of communications. It also ensures radio communications exist during a move between the start point and release point.

## **SUPPORT OPERATIONS SECTION**

3-41. The support operations section coordinates and provides supervision for all external logistics and medical functions. The support operations officer advises the commander on requirements versus available capabilities. Requirements are determined in coordination with the division support operations section. The support operations officer ensures logistical and medical support to the supported units remain at a level consistent with the tactical operation. He recommends support priorities and ensures logistics standard operating procedures (SOPs) are up to date. He prepares and distributes the external service support SOP. This SOP provides guidance to supported units on procedures involved in requesting support. He coordinates additional support with the division support operations section. The support operations officer directs the activities of the support operations section.

3-42. The support operations section is responsible for the following actions:

- Advises the DSB commander on logistics support operations.
- Assists (working with the HSSO) with coordinating the delivery of Class VIII via LOGPACs and with synchronizing CHS for the DSA and division rear.
- Provides technical assistance to the DSB companies and supported units.
- Coordinates with the DSB S2/ S3 to integrate the support mission with the tactical operations plans.
- Maintains the logistics situation map depicting locations of units providing logistics support for division units.
- Coordinates with the DSB S2/S3 on the location of all support points within the DSA. Ensures supported units are aware of the locations and time schedules for support operations.
- Implements the commander's guidance on priority of support to committed units.
- Advises the DSB commander on logistics support operations.
- Prepares, reviews, or implements plans and procedures based on guidance from the DSB commander.
- Develops and maintains reconstitution support plans for reconstitution of committed units. Designates and trains members of reconstitution teams. The reconstitution teams assess damage and/or reconstitutes decimated units.

- Coordinates DS to division troops. Limited reinforcing support (Class III(B) to the FSBs.

3-43. The support operations officer must work in conjunction with the S3, S4, and S6 to establish and manage the CSSCS network and database. The support operations officer must maintain direct support supply point and maintenance data entered into the system. Specific tasks for the support operations officer are:

- Gather, input, and maintain supply point logistics data in the system. He must also conduct the SAMS-2 and SARSS download to CSSCS to capture DS maintenance and Class IX data.
- Develop the DSB CTIL to track supply point items of interest to the commander.
- Set message handling tables to correctly route supply logistics messages.
- Set status thresholds for supply point items IAW DISCOM policy.
- Establish reporting times for subordinate direct support units.
- Set support to supported relationships to reflect which supply points support which units.

### **Support Operations Office**

3-44. The support operations section has a support operations office; a supply, transportation, and services branch; and a maintenance branch. This office is responsible in planning, coordinating, and supervising external support requirements for the battalion. The office coordinates with the customer's logistics staff officers and the division support operations section. Personnel coordinate SOPs, both internal and external, for all units supported by the DSB.

3-45. For CHS, the support operations office, assisted by the HSSO and DSMC commander, provides input to the division support operations. It provides input for the annex on all medical activities to include: attachment of corps medical units/elements, Class VIII resupply, medical evacuation (MEDEVAC), and priority of CHS support for the DSA and division rear areas. Based on casualty estimates, the HSSO develops the CHS plan for the DSB's area of responsibility and the support operations office assists with the coordination and implementation of the plan. The support operations office coordinates the CHS plans with units in the DSA and the DISCOM. It provides appropriate and timely tasking to the DSMC to ensure adequate support. The support operations office routinely plans for the use of nonstandard evacuation platforms and will manage their use during mass casualty operations. See FM 8-10-6 for definitive information on medical evacuation operation.

### **Supply, Transportation, and Services Branch**

3-46. This branch plans, coordinates, and supervises battalion operations for supply, transportation, and field services. The branch prepares schedules and assigns priorities in coordination with the division support operations, and distributes the workload. It monitors the status of Class I, II, III (B)(P), IV, VII, and IX. It also monitors the subordinate units' weapon system replacement operations (WSRO) status reports for anticipated requirements. The branch also plans and supervises battalion repair parts support matters. It supervises the receipt, storage, and issue of repair parts by DSB. Personnel coordinate SOPs, both internal and external, for all units supported by the DSB.

3-47. The branch has several specific functions in the area of supply and services. It coordinates supply distribution and services with the division support operations. It monitors daily battle loss reports to anticipate requirements. If airlift, airdrop, or sling load is required, it requests and coordinates the aircraft support with the DISCOM movement control officer (MCO).

3-48. In the area of transportation, the branch provides and coordinates with the DISCOM movement control officer (MCO) for daily vehicle availability for mission requirements. It maintains statistics on operational capabilities of the transportation motor transport (TMT) company and other organic or attached transportation assets. The transportation personnel also evaluate transport capabilities of the battalion. This includes transportation of supplies to and from using units.

3-49. This branch coordinates supply operations with the quartermaster company, DSB units and supported units. It requests field services for the DSB units. It coordinates through the division support operations office for incoming augmentation. The branch coordinates the augmentation of the mortuary affairs collection point (MACP) for the DSA, and coordinates transportation requirements for the MACP.

### **Maintenance Branch**

3-50. The support operations maintenance officer plans and recommends the allocation of resources in coordination with the supported unit's chain of command. This includes coordination of the area support maintenance company maintenance team operations. He also forecasts and monitors the workload for all equipment by type. The maintenance officer and maintenance NCO use SAMS-2 to collect and process maintenance operations data and to assist in the management of maintenance operations. It processes maintenance information required to control workload, manpower, and supplies. The SAMS-2 capabilities are designed to assist in both maintenance and readiness management. The CSSCS provides map graphics that portray unit locations, grid coordinates, and terrain features so support operations can track maintenance on the battlefield.



3-51. The support operations maintenance branch develops the plans and policies for reparable exchange, and Class IX operations. It monitors shop production and job status reports in the area support maintenance company. It also monitors and reviews the combat spares and coordinates critical parts status with the DISCOM. For unserviceable items, it generates disposition instructions based on division and DISCOM commander guidance. Instructions include evacuation, cannibalization, and controlled exchange policies. With the respective supported unit S4s, it reviews backlogs on critical weapon systems. For any additional support requirements, the DSB support operations coordinates through the division support operations branch. The duties of the maintenance officer include the following:

- Conducts continuous logistics preparation of the battlefield.
- Tracks and investigates Class IX high priority requisitions.
- Assists with planning and coordinating contingency support.
- Directs redistribution of maintenance workloads.
- Coordinates maintenance back-up support with DISCOM.
- Monitors units' maintenance posture using SAMS-2.
- Coordinates maintenance priorities with the brigade S4.
- Establishes maintenance priorities for workload management through coordination with the supported unit.

#### **UNIT MINISTRY TEAM**

3-52. The DSB commander is responsible for the religious program in his unit. The DSB unit ministry team (UMT) is the staff section that provides religious support (RS) to the battalion. Its primary mission is to advise the commander on RS to elements of the DSB and to units located in the DSA. It advises the commander on unit morale and ethical issues and to meet the religious and spiritual needs of the soldiers. It also advises the commander on the role of indigenous religions in the area of operations.

3.53. The team consists of a chaplain and a chaplain assistant. The chaplain provides the clergy-related support to the unit. These include worship and prayer services, funeral and memorial services, and in-depth grief counseling. The chaplain assistant provides the administrative and logistical management for the team as well as the team's security.

3-54. Initially, the UMT develops a RS annex for the DSB OPORD/OPLAN. This annex is based on the DISCOM RS plan and the commander's intent. It addresses the priority of RS to the DSB and DSA. This includes UMT support to medical facilities, actions during mass casualty situations, support to enemy prisoners of war, and planning for worship, funeral, and memorial services. During operations, the UMT keeps abreast of the situation by maintaining contact with the DSB S1 and S2/S3.

3-55. Because the team is small and the mission sensitive, it is critical that the commander allow the UMT as much autonomy as possible. This will provide the most responsive and effective support to the soldiers.

## **BATTLE STAFF**

3-56. The DSB headquarters battle staff is the competent and confident team that allows the DSB commander to be a practitioner of battle command. Listed below are the battle staff roles and an example of a portion of a logistics synchronization matrix, see Figure 3-3, that assists the battle staff in the execution of their respective roles:

- Maintain situational understanding.
  - Install information management architecture.
  - Train members of the battle staff.
  - Access available CSS and operational databases.
  - Receive, process and transmit information.
  - Know the current CSS and operational situation.
  - Know current CSS and other key locations.
- Synchronize logistical and operational activities.
  - Analyze data from multiple sources/disciplines.
  - Match capabilities to requirements efficiently.
  - Coordinate CSS activities with all involved.
  - Optimize CSS resources and time.
- Anticipate future operations (branches/sequels).
  - Understand higher/subordinate/supported commanders' intents.
  - Conduct logistics preparation of the battlefield (LPB).
  - Know OPLANS/CONPLANS of involved HQ's.
  - Conduct intelligence preparation of the battlefield (IPB)
  - Employ liaison team(s) at key HQ's.
  - Workload battle staff planners.
  - Conduct wargaming drills.
  - Identify projected CSS capabilities available.
  - Identify projected CSS unit displacements.
  - Identify external resources/solutions required.
- Make recommendations, decisions; and, execute those decisions.
  - Conduct risk assessments.
  - Employ deliberate decision-making process.

- Employ quick decision-making process.
- Provide clear and understood verbal orders.
- Provide timely and accurate responses to unit issues.
- Maintain current estimates, status, and data.
  - Maintain one continuously updated estimate.
  - Display estimate in the battle staff area.
  - Provide command group with periodic estimate updates.
  - Transmit estimate electronically as needed.
- Maintain secure/non-secure, communications with key HQ's.
  - Exploit communications and other technologies.
  - Train battle staff on available technology.
  - Employ alternate means of communications.
  - Coordinate with supporting signal units/HQ's.
  - Provide assault CP with communications/automation package.
- Receive, prepare, coordinate, and disseminate plans, orders, annexes, reports, and taskings.
- Integrate augmentation forces.
  - Coordinate equipment, supply, and soldier link-up.
  - Exchange SOP and policies.
  - Provide/receive SITREP/briefings.
  - Establish command/technical/support relationships.
  - Provide liaison team to assist force.
  - Assess soldier/unit readiness shortfalls.
  - Reduce or eliminate unit readiness shortfalls.
  - Employ augmentation forces.

H HOUR	H+4	H+8	H+12	H+16	H+20
D-DAY	D+1				
DAY/NIGHT					
Phase	Phase I				
ENEMY ACTION	Defends in sector with two brigades. 13th IQ in the west and 14th in the east.	Continues Defense	Continues Defense	Shifts Priority to OBJ APPLE	Shifts Priority to OBJ APPLE
DECISION POINT	What is the level of success that 4AD is having Along Route Jackson?	What is the level of success that 4AD is having Along Route Jackson?	Does 4AD take operational control of 3rd BDE?	Does 4AD take operational control of 3rd BDE?	Is 9LID and 230th SAB attack to seize OBJ apple being successful?
MANEUVER	3rd BDE LD/LC. All other elements are REDCON1.	3rd BDE arrive MCP 2. 1st BDE SP. 2nd Bde REDCON1.	3rd BDE prepared to support 4AD ATK on OBJ Glory. 1st BDE LD, 2nd BDE SP	3rd BDE prepared to support 4AD ATK on OBJ Glory. 1st BDE MCP2, 2nd BDE LD	3rd BDE arrives TAA Hood. 1st BDE PL Colt. 2nd BDE MCP 2.
FIRE SPT	FSCL is PL NUT and PL Cougar. CFL PL Aqua. RFA TAA Hood/Bragg. NFA OBJ apple.	FSCL is PL NUT and PL Cougar. CFL PL Aqua. RFA TAA Hood/Bragg. NFA OBJ apple.	FSCL is PL NUT and PL Cougar. CFL PL Aqua. RFA TAA Hood/Bragg. NFA OBJ apple.	FSCL is PL NUT and PL Cougar. CFL PL Aqua. RFA TAA Hood/Bragg. NFA OBJ apple.	FSCL is PL NUT and PL Cougar. CFL PL Aqua. RFA TAA Hood/Bragg. NFA OBJ apple.
MOB/SURV	Focus is on Mobility	Focus is on Mobility	Focus is on Mobility	Focus is on Mobility	Focus is on Mobility
C2	Located with 1st Bde. Rear with DISCOM	Located with 1st Bde. Rear with DISCOM	4th AD potentially assumes control of 3rd BDE	4th AD potentially assumes control of 3rd BDE	Located with 1st Bde. Rear with DISCOM
MAN/MED					
SUSTAIN					
FIX					
ARM					
FUEL					
MOVE					

Figure 3-3. Synchronization Matrix

**HEADQUARTERS DETACHMENT**

3-57. The detachment headquarters provides the detachment with administration, supply, and food services support for the battalion for all assigned or attached personnel. It is responsible for the command and control, and security of the detachment. The

detachment headquarters consists of a headquarters section, and a food service section.

3-58. Functions of the detachment headquarters are to:

- Maintain load plans.
- Perform route reconnaissance.
- Organize the unit for movement and issue movement orders to detachment personnel.
- Request additional transportation through the DSB S4.
- Coordinate with the DSB S2/S3 on the quartering party.
- Provide C2 of the detachment headquarters in response to an air or ground attack.
- Coordinate base defense.
- Establish communications.
- Determine placement of NBC assets in the headquarters area.

#### **HHD DETACHMENT COMMANDER**

3-59. The HHD detachment commander is responsible to the DSB commander for the discipline, combat readiness, and training of the HHD.

3-60. The commander must be proficient in the tactical employment of the company. The commander must also know the capabilities and limitations of the company's personnel and equipment in performing the mission of providing billeting and overhead support to the HHD, DSB. Additionally, his responsibilities include leadership, discipline, tactical employment, training, administration, personnel management, supply, maintenance, communications, and sustainment activities of the company.

3-61. These duties require the commander to understand the capabilities of the company's soldiers and equipment and to know how to employ them to best tactical and CSS advantage. At the same time, the commander must be well versed in enemy organizations, doctrine, and equipment.

3-62. Using this knowledge, the commander prepares his unit for combat operations using troop-leading procedures. Ultimately, he must know how to exercise command effectively and decisively. He must be flexible, using sound judgment to make correct decisions quickly and at the right time based on the higher commander's intent and the tactical situation. He must be able to issue instructions to his subordinate leaders in the form of clear, accurate combat orders and then he must ensure that the orders are executed.

3-63. The detachment commander's responsibility in combat are threefold. He will:

- Accomplish all missions assigned to the HHD in accordance with the DSB commander's intent.
- Preserve the fighting capability of the HHD, DSB.
- Must maintain continual communications with higher, lower, and adjacent units.

### **DETACHMENT SERGEANT**

3-64. The detachment sergeant is the detachments senior NCO and normally is one of its most experienced soldier. He is the commander's primary CSS and tactical advisor and he is an expert in individual and NCO skills. He is the detachment's primary internal CSS operator and helps the commander to plan, coordinate, and supervise all logistical activities that support the detachment's mission. He operates where the commander directs or where his duties require him.

3.65. The detachment sergeant's specific duties include the following:

- Execute and supervise routine operations. The detachment sergeant's duties may include enforcing the tactical SOP; planning and coordinating training; coordinating and reporting personnel and administrative actions; and supervising supply, maintenance, communications, and field hygiene operations.
- Supervise, inspect, and/or observe all matters designated by the commander. For example, the detachment sergeant may observe and report on the detachment's base, proof fighting positions, or designing and ensuring emplacement of the defensive perimeter.
- As necessary, serves as quartering party NCOIC.
- Can call for support (CFS) for immediate resupply for Class III/IV/V or recovery missions.
- Conducts training and ensures proficiency in individual and NCO skills and small-unit collective skills that support the company's mission essential task list (METL).
- Receives incoming personnel and assigns them to subordinate elements as needed.
- Responsible for the medical evacuation of sick, injured, and wounded soldiers to the supporting medical treatment facility.
- Responsible for the evacuation of soldiers killed in action to the supporting graves registration collection point.
- In conjunction with the commander, establish and maintain the foundation for company discipline.

### **SUPPLY SERGEANT**

3-66. The supply sergeant requests, receives, issues, stores, maintains, and turns in supplies and equipment for the company. He coordinates all supply requirements and actions with the

detachment sergeant. The supply sergeant's specific responsibilities include the following:

- Control the detachment cargo truck and resupplies the water trailer, and supervise the supply clerk/armorer.
- Monitor company team activities and/or the tactical situation; anticipate and report logistical requirements; and coordinate and monitor the status of the company's logistics requests.
- Coordinate and supervise the issue or delivery of supplies to the HHD, DSB sections.

## **ARMORER**

3-67. The armorer performs organizational maintenance on the company's small arms and is responsible for evacuating weapons as necessary to the area support company for DS maintenance. In addition, he normally assists the supply sergeant in his duties. As an option, the armorer may serve as the driver of the detachment sergeant's vehicle to make him more accessible for weapons repair and maintenance in forward areas.

## Chapter 4

# Quartermaster Company

### ORGANIZATION AND MISSION

4-1. The quartermaster company provides DS supply to the division troops not supported by the DASB. This includes the division headquarters, DSB, DISCOM headquarters, DIVARTY headquarters, MLRS battalion, ADA battalion, MI battalion, signal battalion, and MP company. Additionally, the QM company provides Class III(B) reinforcing and resupply support to the FSBs and DASB. The QM company will provide receipt, limited storage, and issue of Class II, III(B), III(P), IV, and IX (less air). It provides receipt and issue of Class I & VI at the field ration issue point daily, and receipt and issue of Class VII at the supply support activity (SSA) as required. Water support requires augmentation from corps. The fuel platoon provides III(B) support to division troops and reinforcing support to the FSBs and DASB. It also has the ability to store fuel on the ground using a fuel system supply point (FSSP). Mortuary affairs requires augmentation from corps. The quartermaster company's maintenance section provides organic maintenance for the unit and the HHD. Figure 4-1 depicts the organization.

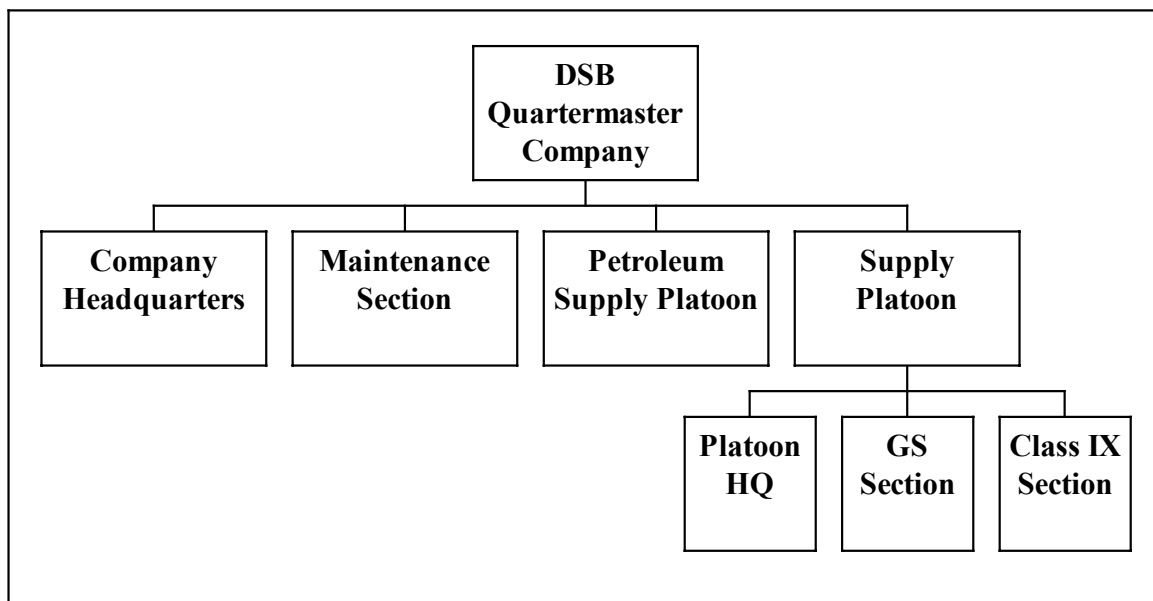


Figure 4-1. Quartermaster Company



## **SUPPLY SYSTEM**

4-2. The QM company commander, working with the DSB supply and transportation services branch of the support operations section, focuses his attention on the supply requirements of units in the DSA. In addition to following the priorities established by the commander, the following are factors that affect requirements:

- Tactical plans.
- Environment and terrain.
- Demand data and previous experience.
- Troop strength.
- Non-divisional units operating in the DSA.
- Equipment densities.
- Distance factors.

## **PLATOON/SECTION FUNCTIONS**

### **COMPANY HEADQUARTERS**

#### **Headquarters Section**

4-3. The company headquarters section provides command, control, and administration support for all assigned and attached personnel. The section provides distribution management for all classes of supply (less V, VIII and IX air) and services, and food service support to the division troops.

#### **Maintenance Section**

4-4. The maintenance section performs unit level maintenance for organic equipment in the company. This section also operates the ULLS-G.

### **SUPPLY PLATOON HEADQUARTERS**

4-5. The supply platoon headquarters provides coordinated supervision of the distribution of all classes of supply (less III(B), V, VIII and IX air) coming to or passing through the DSB. The supply platoon operates the supply points from which division and attached units in the DSA draw Class I, II, III(P), IV, VI, VII, and IX supplies. This section operates the SARSS-1 for the quartermaster company. Class II, III(P), and IV requests are received via ULLS-S4, and Class VII via SPBS-R. Class IX requests are received via ULLS-G which are located with various units and the SAMS-1, which is located in the area support maintenance company.

#### **Class I and General Supply Section, Supply Platoon**

4-6. The general supply section provides Class I, II, III(P), IV, VI, and VII direct support to the division troops. The general supply

section receives, stores, and issues Class II, III(P), IV, and VII. It also receives and issues Class I and Class VI at the field ration issue point. Figure 4-2 depicts supply operations for Class I and Figure 4-3 depicts supply operations for Class II, III(P), IV, VII, and IX.

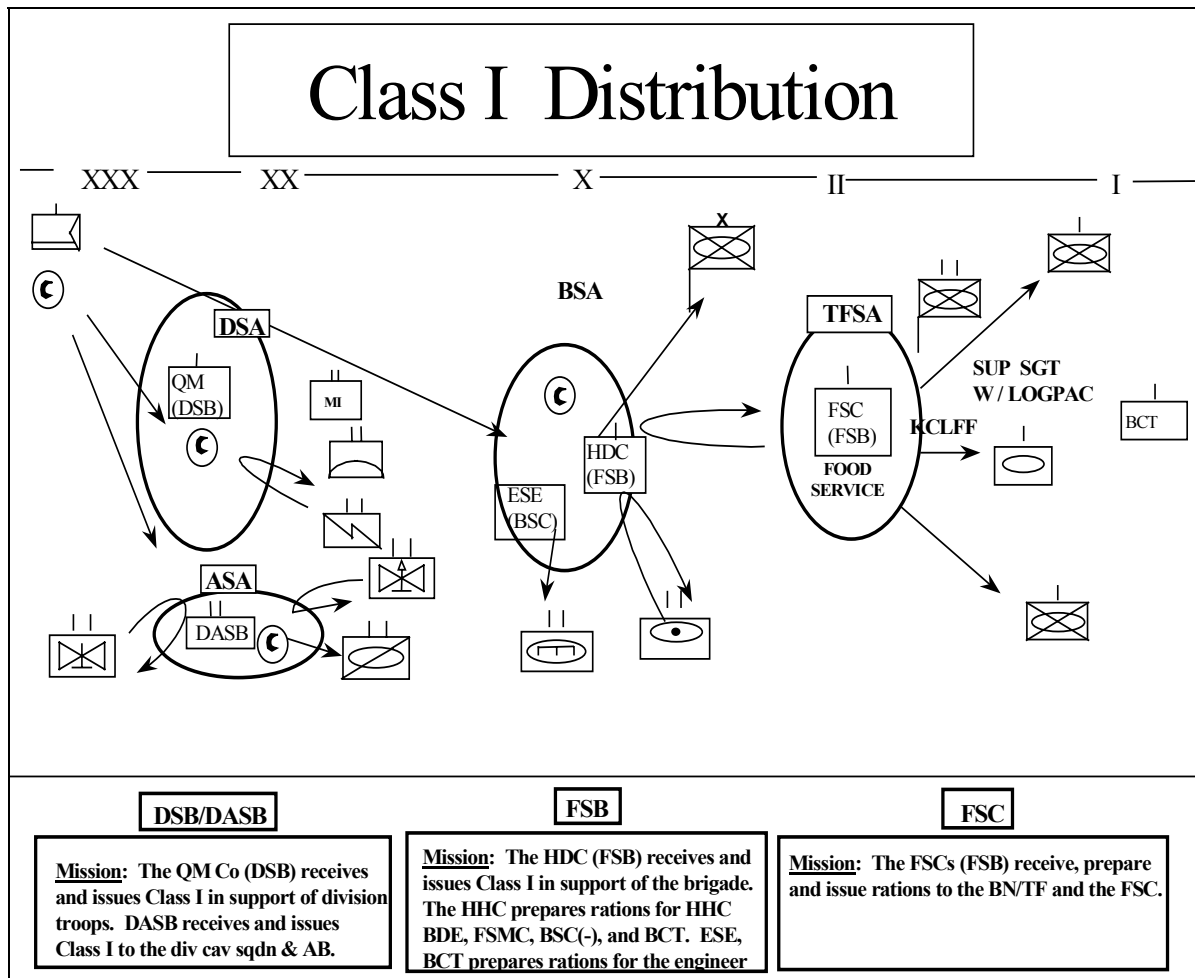


Figure 4-2. Class I Distribution

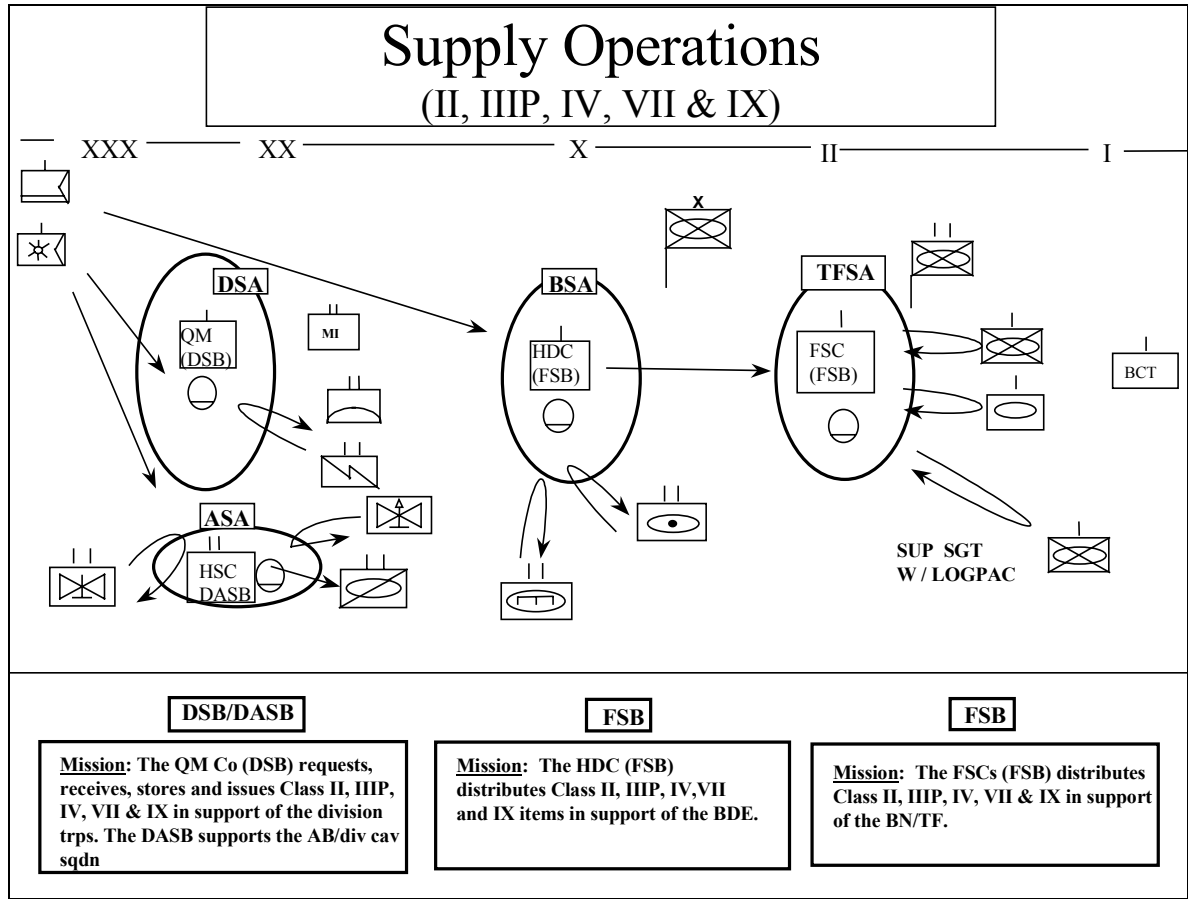


Figure 4-3. Supply Operations (II, IIP, IV, VII, IX)

### Class IX Supply Section, Supply Platoon

4-7. The Class IX supply section provides Class IX direct support to the division troops. The supply platoon receives, stores, and issues Class IX. The Class IX supply section also maintains the division troops' ASL for Class IX and provides exchange of repairable items.

### PETROLEUM PLATOON

4-8. The petroleum platoon establishes and operates the Class III(B) point in the DSA. It provides supply point distribution for the division troops, and has unit distribution capability to division troops as required. It provides vehicles and personnel for delivery of Class III(B) forward to the FSBs and DASB as required. It also has the ability to store fuel on the ground using a fuel system supply point (FSSP). The platoon has the capability to conduct refuel on the move (ROM) operations. The petroleum platoon must be able to maintain 24 hour operations of organic equipment. This unit is movement tracking system (MTS) equipped to increase control and

efficiency of support assets. Figure 4-4 depicts Class III(B) operations in the division.

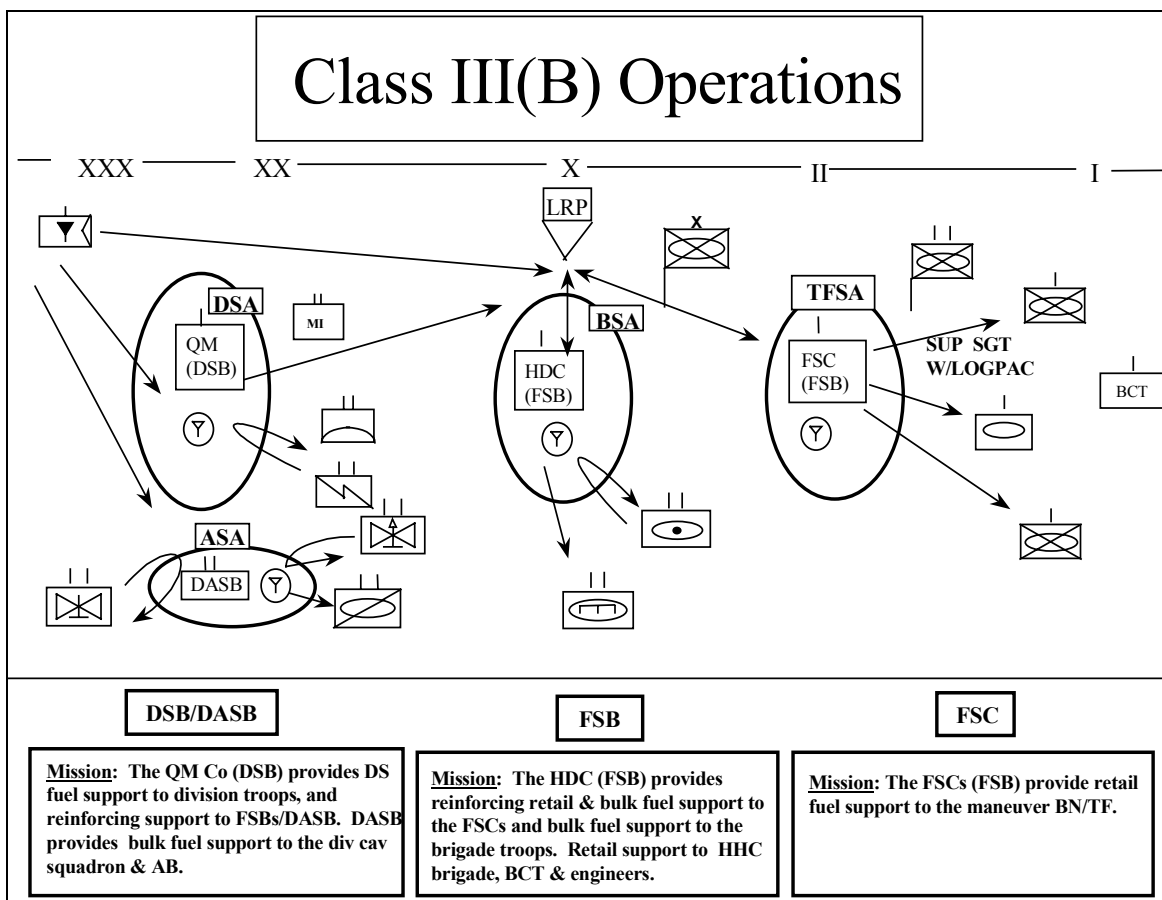


Figure 4-4. Class III(B) Operations

## Chapter 5

# Area Support Maintenance Company

### ORGANIZATION AND MISSION

5-1. The area support maintenance company (ASMC) of the division support battalion (DSB) provides direct support (DS) level maintenance to division troop units, DIVARTY headquarters, and other elements operating in the division rear area. The ASMC provides DS level maintenance support from the base maintenance shop or from its modular maintenance support teams (MST).

5-2. The ASMC provides unit level maintenance for itself and the HHC DISCOM. The remainder of division troop and field artillery units retain their organic unit maintenance sections. The aviation brigade and division cavalry squadron are supported by the ground maintenance company (GMC), division aviation support battalion (DASB).

5-3. The area support maintenance company consists of a company headquarters, a maintenance control section, a base shop platoon, and a forward repair platoon. See Figure 5-1.

5-4. The company performs the following functions:

Direct support level maintenance for division troop units.

Technical assistance to division troop units.

Limited line replaceable units (LRU) repair.

Base shop repair of communications and electronics equipment.

Quality assurance/quality control inspection.

Technical assistance inspections when required by user units.

On site maintenance teams to the ADA, signal, MI, and MLRS battalions.

Conduct integrated family of test equipment (IFTE) repair for the division.

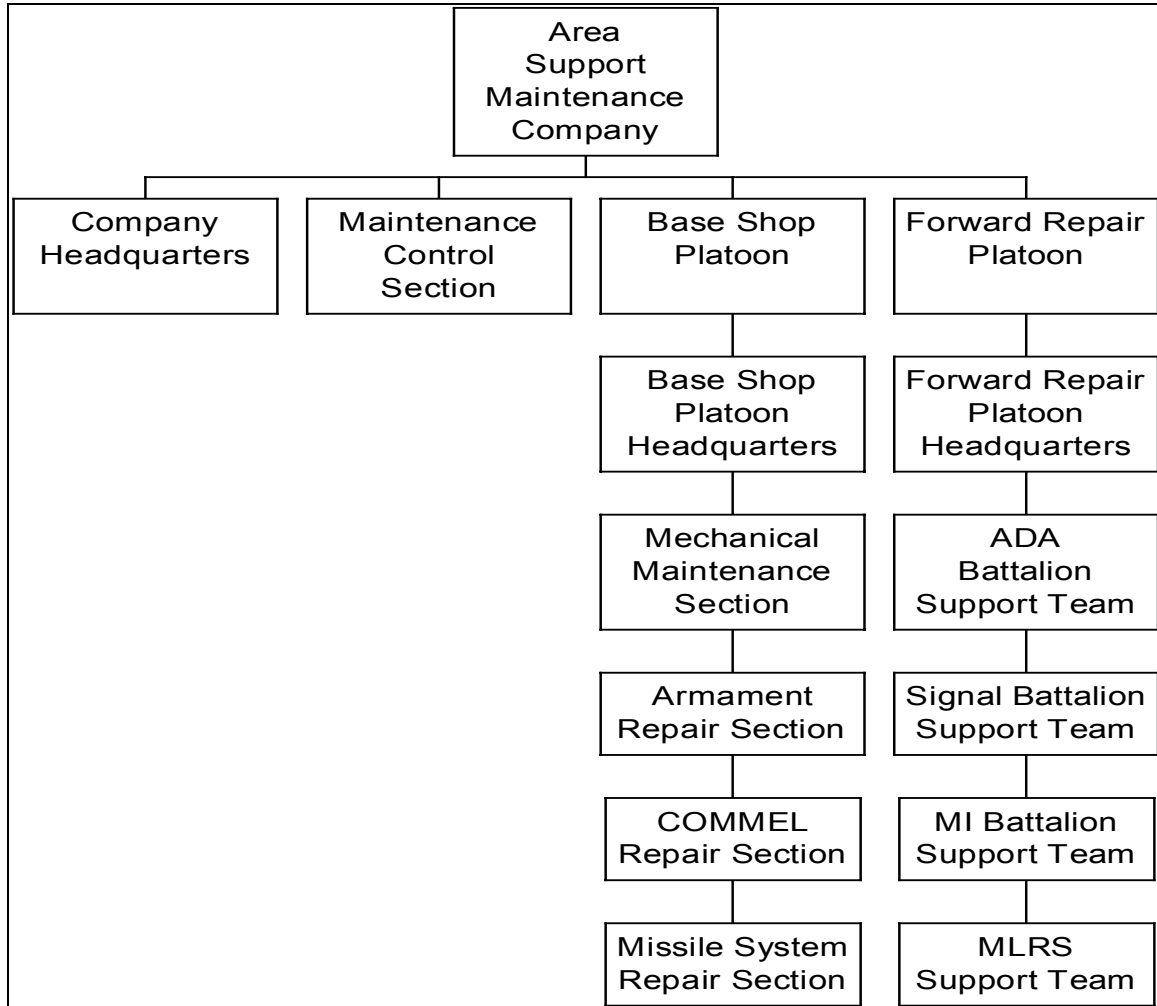


Figure 5-1. Area Support Maintenance Company

**PLATOON/SECTION FUNCTIONS**

**COMPANY HEADQUARTERS**

5-5. The headquarters section is responsible for the command and control of unit operations and overall unit mission accomplishment. It provides organizational administration, unit supply, and organizational level maintenance in support of company operations. The command element is responsible for training, discipline, billeting, and security for assigned personnel. This section uses the unit level logistics system – ground (ULLS-G) to provide the Army maintenance management system (TAMMS) functions and monitor organizational services for itself as well as the DISCOM headquarters company.

## **MAINTENANCE CONTROL SECTION (MCS)**

5-6. The MCS performs DS level maintenance management functions and production control for maintenance elements within the ASMC. The MCS directs the DS maintenance mission of the base maintenance platoon and forward repair platoon. It accomplishes its mission by using SAMS-1. It provides technical inspection services and maintains shop stock for base shop and on-site maintenance operations. It coordinates for back up and reinforcing maintenance support and services with customer units and DSB support operations section. The MCS processes SAMS-1 Class IX requests through the quartermaster company's SARSS-1 site. The MCS also forwards periodic maintenance status and equipment readiness reports from SAMS-1 to SAMS-2 operated by the maintenance branch of the DSB support operations section.

## **BASE SHOP PLATOON**

5-7. The base shop platoon headquarters provides command, control, and overall supervision of the platoon. The platoon consists of a mechanical maintenance section, an armament section, a communication and electronics section, and a missile system repair section.

### **Mechanical Maintenance Section**

5-8. The mechanical maintenance section provides dedicated recovery/lift and base shop DS level maintenance support to itself, DISCOM headquarters, division headquarters, DIVARTY headquarters, division MP company, and the division band. On an area basis, it provides support to units operating in the DSA. This section works on wheeled, tracked, power generation, and utility commodities. It provides reinforcing DS level maintenance support to the forward repair platoon maintenance teams. The MCS can tailor the section into teams to provide on-site maintenance support to customer units.

### **Armament Repair Section**

5-9. The armament repair section provides base shop and on-site DS level maintenance support for fire control devices, small arms artillery, and test, diagnostics, and repair by replacement of line replaceable units. The section supports the ASMC, supported customers, and units operating in the division support area (DSA). This section uses direct support electrical systems test set (DSESTS) for LRU repair.

### **Communications and Electronics Repair Section**

5-10. The communications/electronic maintenance section provides base shop DS level maintenance for all COMSEC equipment (less signal/MI peculiar items, combat-electronic warfare intelligence (CEWI) and aviation units). It also provides DS level radio, wire and radar systems repair from divisional customers.

**Missile System Repair Section**

5-11. The missile system repair section provides base shop DS maintenance for land combat missile systems (LCMS) and air defense artillery (Avenger). In addition it tests, diagnoses, and repairs by replacement specific line replaceable units within other missile systems. This section supports the ASMC, all supported customers, and units operating in the DSA. This section also uses integrated family of test equipment (IFTE) for LRU diagnostics and repair.

**FORWARD REPAIR PLATOON**

5-12. The forward repair platoon headquarters provides C2 and overall supervision of the platoon maintenance support teams. The platoon consists of an ADA battalion support team, signal battalion support team, MI battalion support team, and MLRS support team.

**ADA Battalion Support Team**

5-13. This team provides on-site DS level maintenance support to the ADA battalion. Repair capabilities include wheeled and tracked vehicles, power generation and utility equipment. All other maintenance support comes from the base maintenance platoon.

**Signal Battalion Support Team**

5-14. This team provides on-site DS level maintenance support to the signal battalion. Repair capabilities include wheeled and tracked vehicles, power generation, and utility equipment. All other maintenance support comes from the base maintenance platoon.

**MI Battalion Support Team**

5-15. This team provides on-site DS level maintenance support to the MI battalion. Repair capabilities include wheeled and tracked vehicles, power generation, and utility equipment. All other maintenance support comes from the base maintenance platoon.

**MLRS Support Team**

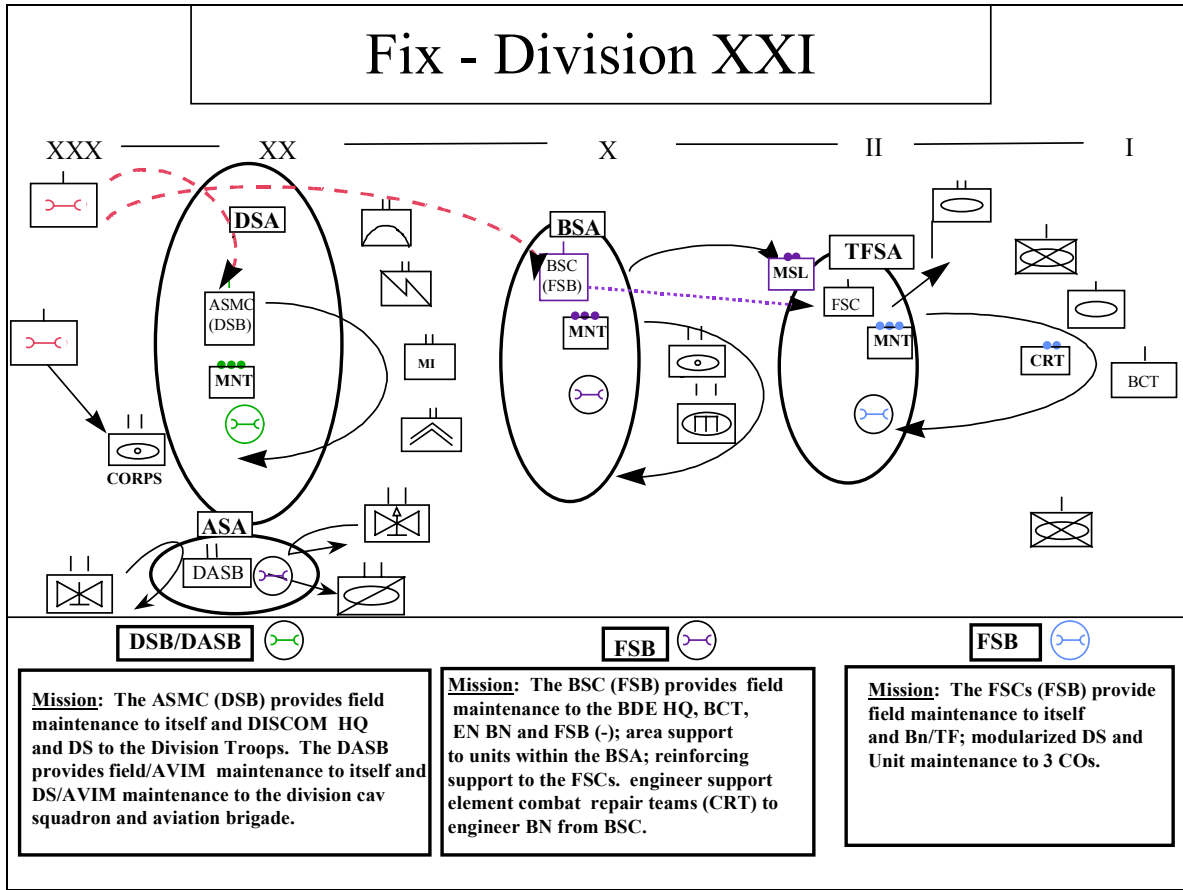
5-16. The MLRS support team provides on-site DS level maintenance support for MLRS self-propelled launcher/loaders and the target acquisition battery's surveillance/acquisition radar. This includes the capability to repair wheeled and tracked vehicles and generators. The 27M, MLRS repairers, are organized into six 2-man teams (1 team per 3 launchers) which equates to two teams per battery. The MLRS maintenance teams deploy and operate as part of the battery. Remaining MLRS repair capability is positioned forward and operates from the battalion combat trains. The base maintenance platoon provides all other maintenance support.



## METHODS OF OPERATION

5-17. The ASMC provides DS level support to units operating in the division rear. The ASMC establishes base shop operations in the division support area (DSA). As directed, MSTs from the ASMC provides on-site maintenance support to elements of the ADA, signal, and MI battalion as well as the division's MLRS battery. The company is focused on returning as many systems to the battle as possible. The ASMC is oriented toward equipment through the replacement of major components and LRUs. The ASMC typically collocates near the quartermaster company to facilitate the flow of Class IX parts to and from the company.

5-18. The ASMC maintenance control section provides command, control, and communications for the direct support maintenance mission. This section coordinates maintenance priorities with the company commander and DSB support operations officer. The maintenance control officer task organizes the DS maintenance assets to execute the established maintenance priorities. Maintenance assets provide maintenance support from either the base shop located in the division support area (DSA), from predetermined maintenance collection points (MCPs), or from on-site based on METT-TC. As the division task organizes to conduct combat operations, ASMC maintenance assets are tailored to support the changing missions. Figure 5-2 depicts maintenance relationships in the division.



**Figure 5-2. Fix Division XXI**

5-19. The ASMC operates the DSA MCP. Maintainers in the MCP perform replacement maintenance. Units recover their non-mission capable equipment to the MCP. Using advanced diagnostics, maintainers determine the major component failure and replace that component. METT-TC, availability of parts, tools, and maintenance expertise may dictate the need to perform BDAR or controlled exchange. When necessary, the ASMC submits requests for back-up support and augmentation from corps units through the DSB support operations section. These units will generally locate in or around the DSA. In most cases the DSB support operations section would coordinate forward repair activities, special repair activities, or contractor support, but as necessary, the MCS interfaces with these activities to facilitate the expeditious return of equipment to the using unit. The company currently uses both ULLS-G (organizational maintenance) and SAMS-1 (DS level maintenance) to manage maintenance functions. With the introduction of global command support system – Army (GCSS-Army), all maintenance functionality will be combined in a single maintenance module. The company manages a limited

amount of prescribed load lists (PLL) and shop stock items such as major assemblies and LRUs.

## **RECOVERY**

5-20. The base maintenance platoon of the company provides limited reinforcing recovery support for units in the DSA. Recovery is the process of retrieving or freeing immobile, inoperative, or abandoned materiel. Items are recovered from where they are disabled or abandoned and returned to operation or to the MCP. When recovery is required, the operator/crew sends a call for support message to the maintenance control section of the ASMC. The MCS sends a task order to the base maintenance platoon, mechanical maintenance section. The operator/crew will receive a return acknowledgment message from the recovery operators. It is at this point that the recovery team coordinates the time and location for the link up operation. The inoperable equipment is repaired on-site, recovered to the MCP, or recovered to a designated location for evacuation.

5-21. Prior to calling for recovery support, the operator must attempt to repair the equipment or perform self-recovery or like-vehicle recovery. If the operator cannot recover the equipment, he requests additional assistance from the unit maintenance officer (UMO). The UMO evaluates the request on the basis of command guidance and the overall tactical and maintenance situation and develops a recovery plan. If the recovery support is beyond the unit's capability, the unit requests help from the ASMC, maintenance control section.

## **BATTLE DAMAGE ASSESMENT AND REPAIR (BDAR)**

5-22. BDAR is a technique used to expedite the return of a damaged piece of equipment to the current battle. Through battle damage assessment (BDA), maintainers inspect equipment to determine the extent of damage, classify it, and develop a maintenance plan of action. Priorities for repair of battle damaged systems are usually:

Most essential to immediate mission.

Repairable in the least time.

Repairable but not in time for immediate mission.

5-23. BDAR uses emergency repair procedures outlined in BDAR technical manuals (TMs) to return systems to a full or partial mission capable status. Commanders may direct use of BDAR during combat. Fuel and combat platforms are primary candidates for BDAR. At the completion of the mission, maintainers will perform standard maintenance procedures to repair the items.

## Chapter 6

# Transportation Motor Transport Company

### ORGANIZATION AND MISSION

6-1. The transportation motor transport (TMT) company provides the heavy digitized division truck transportation for the distribution and redistribution of all classes of supplies via flatracks and/or general cargo transport; the movement of personnel; the evacuation/relocation of tracked vehicles; the retrograde of material and equipment; the movement of 20' containers; the tactical relocation/displacement of units; the relocation of ammunition transfer points; and for direct support of maneuver units engaged in offensive or defensive operations.

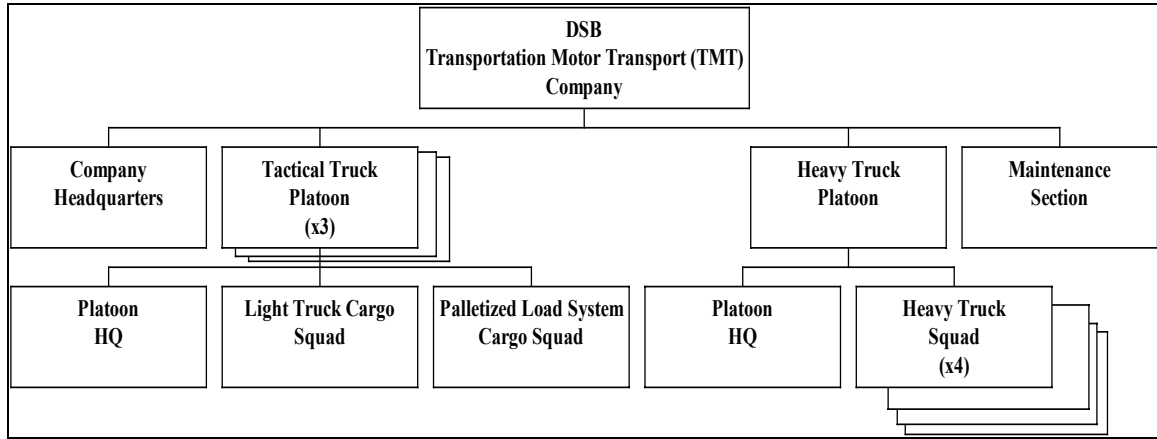
6-2. Specifically, it provides truck transportation for:

- Transportation of Classes I, II, III(P), IV, and IX supplies within the division troops area.
- Movement of heavy and outsized vehicles and cargo.
- Assistance in displacement of division elements with less than 100 percent mobility.

6-3. Additionally, the TMT company provides truck transportation for:

- Non-standard mass casualty evacuation.
- Personnel replacements.
- Transport of EPWs or displaced civilians.
- Evacuation of remains.
- A mobile logistics element for the divisional cavalry squadron.
- Water transport and distribution in an arid environment.
- Retrograde of captured equipment.

6-4. The company is comprised of a headquarters section, three tactical truck platoons, a heavy equipment transporter (HET) truck platoon, and a maintenance section as depicted in Figure 6-1.



**Figure 6-1. TMT Company**

**MAJOR PIECES OF EQUIPMENT**

6-5. This information is provided as an example of some of the major pieces of equipment found in a TMT company and is not intended to be all-inclusive. Refer to the appropriate table of organization and equipment for detailed information.

- 198 Cargo, demountable PLS 8x20 (flatracks)
- 33 Trk cargo, heavy PLS transporter
- 33 Trlr, palletized loading 8x20
- 6 Container handling unit
- 24 Trk tractor, HET
- 24 Semitr, low bed, 70-ton HET
- 33 Trk, cargo, MTV

**METHODS OF OPERATIONS AND FUNCTIONS**

6-6. The division support command (DISCOM) commander exercises operational control of the company transportation capability through the DISCOM MCO and coordination with the division transportation officer. The DISCOM MCO controls the employment of the TMT company assets while the TMT company commander provides fleet availability status to the MCO. Priorities of employment are established at the division general staff level and provided to the DISCOM.

**PLATOON/SECTION FUNCTIONS**

**COMPANY HEADQUARTERS**

6-7. The company headquarters provides command, control, direction, and supervision of the operating elements of the unit in the performance of their mission tasks. It also provides administrative and logistics functions of the unit.

6-8. The command element is the center of command, direction, supervision, and control of the operational matters of the company. Maintenance, training, support operations, and administration are key functional areas of the company that are directed and supervised by this element. In addition to ensuring the company's mission is accomplished, the command element has continual concerns for the health and welfare of the soldiers of the company.

6-9. The supply element is primarily responsible for the requesting, receiving, storing, safeguarding, and issuing of supplies and equipment for internal operations of the company. The supply element is also concerned with the efficiency and preparedness of the unit in matters relating to nuclear, biological, chemical (NBC) defense as well as the operational maintenance of all individual and crew-served weapons organic to the unit.

### **MAINTENANCE SECTION**

6-10. The maintenance section coordinates, directs, and supervises all matters of vehicle dispatch policy and procedures in the performance of mission operations. This includes coordination with platoons for vehicle repair, maintenance, and availability. This element also prepares and maintains dispatch and operational records and reports which requires coordinating with platoon personnel on vehicle availability and dispatch matters.

### **TACTICAL TRUCK PLATOONS**

6-11. There are three tactical truck platoons organic to the TMT company. The tactical truck platoon is organized with a platoon headquarters, a light truck cargo squad, and a palletized load system cargo squad.

#### **Platoon Headquarters**

6-12. The platoon headquarters provides command, direction, control, supervision, and technical guidance to the platoon in mission operations and administrative and training matters. The headquarters also inspects and supervises transport operations to ensure proper and efficient operation and use of platoon vehicles. Drivers training is planned and conducted by the truckmaster.

#### **Light Truck Cargo Squad**

6-13. There is a light truck cargo squad in the tactical truck platoon. This squad provides truck transportation for movement of general cargo and personnel by light truck. The motor transport may be used for local and line haul of troops and cargo. These squads provide supervisory and operating personnel to operate assigned vehicles in the performance of mission tasks. The squads ensure that daily operator maintenance services are performed and that operator dispatch records are prepared.

### **Palletized Load System Cargo Squad**

6-14. There is a palletized load system cargo squad in the platoon. This squad provides transportation for movement of containerized and general cargo by truck tractor with semitrailer combinations.

### **HEAVY TRUCK PLATOON**

6-15. There is a heavy truck platoon organic to the TMT company. This platoon is typically organized with a platoon headquarters and four HET truck squads.

### **PLATOON HEADQUARTERS**

6-16. The platoon headquarters provides command, direction, control, supervision, and technical guidance to heavy truck squads performing motor transport support tasks. The platoon leader plans, schedules, directs, supervises, and coordinates activities of the heavy truck platoon in mission operations and administrative and training matters. He works closely with the dispatcher in planning and scheduling platoon operations.

### **HET Truck Squads**

6-17. There are four heavy truck squads in the heavy truck platoon. The HET truck squad's primary mission is to transport heavy or outsized cargo by heavy truck tractor-semitrailer combinations. They also evacuate disabled heavy equipment. Evacuation normally starts at the unit maintenance collection point (UMCP) and terminates at the maintenance facility with the capacity to repair the vehicle. The secondary HET mission is to transport operational tanks and other heavy equipment over extended distances. This type transport allows combat vehicles to arrive at the battle area in good mechanical condition with fresh crews. Two personnel, one driver and one assistant driver, constitute a HET vehicle operating team. PLS and HET systems are not suitable for moving troops; HET systems are normally employed to move only tracked vehicles.

## Chapter 7

# Division Support Medical Company

### ORGANIZATION AND MISSION

7-1. The division support medical company (DSMC) has the overall mission of providing Echelon I and II combat health support (CHS) to units located in the division support area (DSA) and division rear areas. It provides command and control (C2) for organic elements and attached medical units. The DSMC is dependent on appropriate element of the corps and division for patient evacuation (including air ambulance), CHS operations planning, guidance, legal, finance, and personnel and administrative services. It is also dependent on the headquarters and headquarters detachment of the division support battalion (DSB) for food service and religious support. The DSMC is organized into a

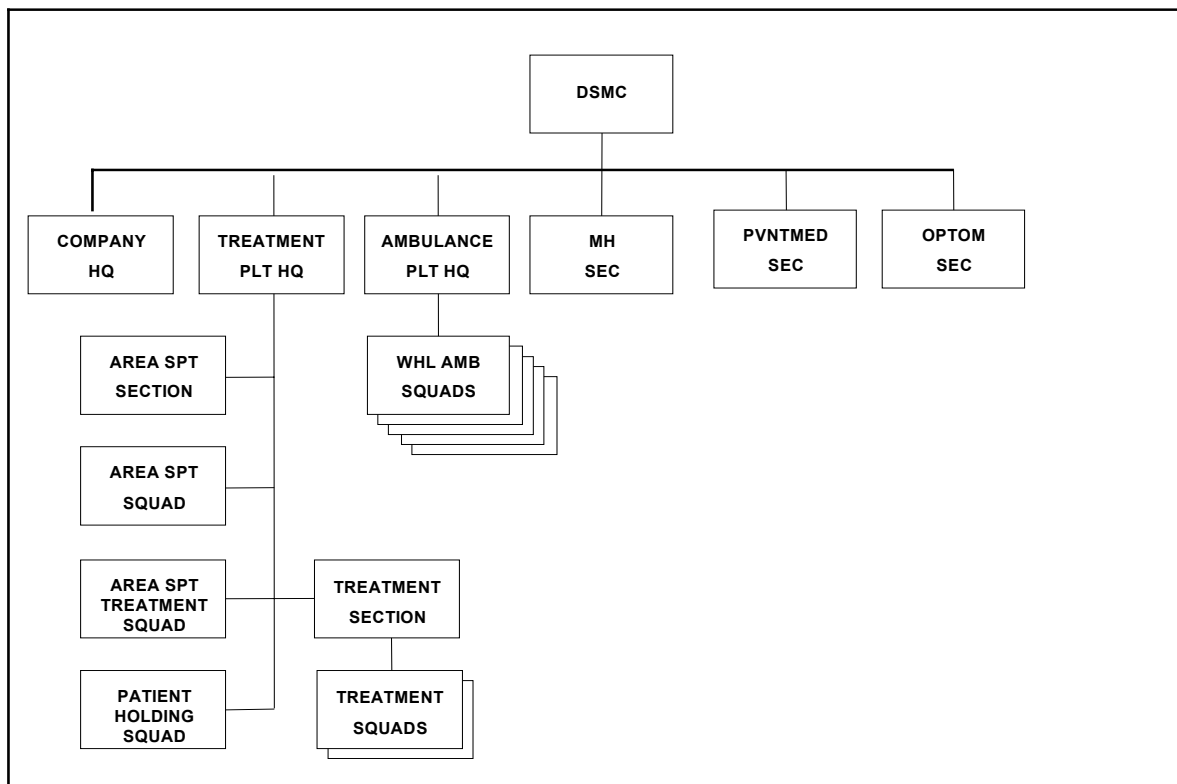


Figure 7-1. Division Support Medical Company.



company headquarters, a treatment platoon, an ambulance platoon, an optometry section, a preventive medicine (PVNTMED) section, and a mental health (MH) section.

## **PLATOON/SECTION FUNCTIONS**

### **COMPANY HEADQUARTERS**

7-2. The company headquarters is organized into a command element, a supply element, a maintenance element, and an operations and communications element. The company headquarters provides C2 for the company and other medical units/elements that may be attached. It also provides general and medical supply (MEDSUP)/resupply, arms maintenance, nuclear, biological, and chemical (NBC) operations, and communications-electronic (CE) support to organic and attached elements. For communications, the company headquarters employs amplitude modulation (AM) and frequency modulation (FM) tactical radios and a manual switchboard. Personnel of this section supervise unit operations, general supply, MEDSUP, communications, and power-generation operations.

#### **Command Element.**

7-3. The command element is responsible for providing billeting, security, training, administration, and discipline for assigned personnel. This element provides C2 of its assigned and attached personnel. It is typically staffed with a company commander, a field medical assistant/executive officer (XO), and a first sergeant (1SG).

#### **Supply Elements**

7-4. The supply elements include general and medical supply. These two elements provide Class VIII resupply, medical equipment repair, general supply and armorer support for the DSMC's organic platoons/sections and attached medical units. See Field Manual (FM) 8-10-9 for definitive information of Class VIII resupply operations and FMs 10-14 and 10-14-1 for definitive information on unit supply operations and property accountability.

#### **Operations and Communications Element**

7-5. The operations and communications element plans, coordinates, and trains NBC defense functions. It operates the company switchboard and serves as the company net control station (NCS) for the DSMC's operations nets' FM and AM radios. This element also performs unit-level maintenance on all CE equipment.

**Maintenance Element**

7-6. This element provides unit-level maintenance for wheeled vehicles, power generators, and quartermaster and chemical equipment assigned to the DSMC.

**Vehicle Maintenance**

7-7. All light-wheeled vehicle mechanics and the heavy-wheeled vehicle mechanic are under the technical supervision of the motor sergeant and the DSMC's senior light-wheeled vehicle mechanic. These personnel perform organizational maintenance and services and repairs on the gasoline and diesel-fueled, light and heavy-wheeled vehicles of the company and attached units.

**Power Generator Repair**

7-8. A power generator equipment repairer performs unit-level maintenance functions. Generator maintenance performed at the DSMC will include:

- Servicing and scheduling maintenance.
- Inspecting equipment and determining category of maintenance and extent of repairs required.
- Repairing tactical utility and precise power-generation equipment.
- Maintaining maintenance records on all power-generation equipment.

**Employment of the Division Support Medical Company**

7-9. The DSMC locates with the DSB in the DSA. The DSMC participates in the initial reconnaissance of a new setup area and assists with site selection for establishment of the DSMC. Treatment teams from the DSMC may deploy as required to the geographical locations of supported units. The DSMC headquarters element coordinates for convoy clearances and security for the movement of treatment teams through the DSB support operations section.

7-10. Site selection is an important factor impacting on the accomplishment of the DSMC's missions. Improper site selection can result in inefficiency and possible danger to unit personnel and patients. For example, if there is insufficient space available for ambulances to turnaround, congestion and traffic jams around the medical treatment facility (MTF) can result; or, if the area selected does not have proper drainage, heavy rains may cause flooding in the unit and treatment areas. The MTF established by the DSMC should not be placed near high-value Level I threat targets, hazardous materials (such as POL and ammunition), or storage areas and motor pools. The selected site is cleared of mines, booby traps, and NBC hazards. The selected site is not located near potential areas of filth such as a garbage dump, landfill, or

other waste disposal site. The site is at least 2.2 kilometers from breeding sites of flies and mosquitoes and 2.2 kilometers from native habitation when possible. There are additional factors to consider when selecting the site for establishing a DSMC.

### **Commander's Plan and Mission**

7-11. The specifics of the operation plan (OPLAN), the manner in which it will be executed, and the assigned mission can affect the selection of a site. The requirements for an area that is only to be used for a short period of time can differ significantly from an area which is expected to be used on an extended basis. For example, if the DSMC's mission requires that it relocate several times a day, complete treatment and holding areas will not be established; only essential services, shelters, and equipment will be used. On the other hand, if it is anticipated that the unit will be located at one site for an extended period of time, buildings or preestablished shelters, if available, may be used

### **Routes of Evacuation and Accessibility**

7-12. Although air ambulance evacuation is the primary and preferred method in the medical evacuation system, ground ambulances are also required and used. The DSMC's clearing station must be situated so that it is accessible from a number of different directions and/or areas. It should be situated near and be accessible to main road networks, but not placed near lucrative targets of opportunity. The site should not be so secluded that incoming ambulances have difficulties in locating the MTF. See FM 4-02.55 (8-55) for evacuation time on planning factors.

### **Expected Areas of Patient Density**

7-13. To ensure the timely delivery of CHS, the clearing station must be located in the vicinity proximate to the supported units. Without proximity to the areas of patient density, the evacuation routes will be unnecessarily long, resulting in delays in both treatment and evacuation. The longer the distance that must be traveled, the longer it takes for the patient to reach the next echelon of care. Further, this time delay reduces the number of ambulances available for medical evacuation support.

### **Hardstand, Drainage, Obstacles, and Space**

7-14. The site should provide good drainage during inclement weather. Care must be taken to ensure that the site selected is not in or near a dry river or stream bed, has drainage that slopes away from the MTF location and not through the operational area, and that there are not any areas where water can pool. The ground, in the selected area, should be of a hard composition that is not likely to become marshy or excessively muddy during inclement weather or temperature changes. This is particularly true in extreme cold weather operations where the ground is frozen at night and begins

to thaw and become marshy during daylight hours. Further, the area must be able to withstand a heavy traffic flow of incoming and departing ambulances in various types of weather. The area selected should be free of major obstacles that will adversely impact on the unit layout (such as disrupting the traffic pattern), cause difficulties in erecting shelters (overly rocky soil), or require extensive preparation of the area before the MTF can be established. The optimal land space required for the DSMC is approximately 500 meters by 500 meters, equaling 2,500 square meters, or .5 kilometers by .5 kilometers. This 2,500 square meters includes the helipad and motor pool parking requirements. The actual space allocated to the DSMC will be based on METT-TC and the amount of space available to the DSB. The site should provide adequate space for establishment of all unit elements including possible augmentation. It must be adequate in size to accommodate dispersion of unit assets according to the TSOP. While considering all the factors of site selection, remember that terrain can impede the communications systems. Outside of the perimeter, sites that are large enough to provide an area for patient decontamination should be identified. The specific site selected to establish the decontamination station must be downwind of the unit and treatment areas (see FM 8-10-7). For definitive information on site selection criterias pertaining to hardstand, drainage, obstacles, and space see FM 4-02.20 (8-10-1).

### **Establishment of the Company Headquarters**

7-15. The company headquarters must ensure that communication is established with the units within the DSB and DSA. All security precautions and requirements must be met according to DSB and DSA operating procedures. Only essential equipment is set up to support the medical company operations. If the failure to camouflage endangers or compromises tactical operations, the camouflage of the MTF may be ordered by a North Atlantic Treaty Organization (NATO) commander of at least brigade level or equivalent. Dispersion of tents and equipment is accomplished to the maximum extent possible. A controlled entry into the DSMC area is established.

7-16. North Atlantic Treaty Organization STANAG 2931 (Edition 1) provides for camouflage of the Geneva emblem and/or the red crescent on medical facilities where the lack of camouflage might compromise tactical operations. The STANAG defines "medical facilities" as medical units, medical vehicles, and medical aircraft on the ground. Medical aircraft in the air must display the distinctive Geneva emblem. Camouflage of the red cross means covering it up or taking it down. The black cross on an olive background is not a recognized emblem of the Geneva Conventions. The command element supervises the establishment of the company. The commander monitors all elements as the company sets up. He ensures the DSMC is established according to the unit layout and the TSOP. The field medical assistant/XO and the 1SG assist the

company commander. The field medical assistant/XO supervises and monitors the establishment of the company area for compliance with DSB TSOP and DISCOM guidance. The field medical assistant/XO coordinates with supporting units/elements for short- and long-term support requirements. Both the commander and field medical assistant/XO should interface with supported units as soon as possible. This interface includes:

- Combat health support requirements (displacement of ambulance and treatment teams to remote sites in support of units within the company's area of operations [AO]).
- Sick call operations.
- Medical evacuation support and procedures.
- Dental sick call.
- Mass casualty plan.
- Nuclear, biological, and chemical patient decontamination support.
- Preventive medicine.
- Combat stress control (CSC).
- Medical threat.
- Return-to-duty (RTD) policies/procedures.
- Class VIII resupply.

### **Area Damage Control**

7-17. When NBC patient decontamination support is required, the supported units are responsible for providing eight nonmedical personnel to perform patient decontamination (under medical supervision). This is accomplished according to FMs 3-11.5 (3-5), FM 4-02.7 (8-10-7), and FM 4-02.285 (8-285). The non-medical personnel are identified and trained on patient decontamination procedures, ideally prior to deployment, with medical company personnel. Additional personnel from the base cluster may be trained to transport patients by litter. All Echelon II medical companies are authorized three chemical patient treatment and two patient decontamination medical equipment sets (MESs). Each patient chemical treatment MES is stocked with enough supplies to treat 30 patients. Each patient decontamination MES is stocked with enough supplies to decontaminate 60 patients.

7-18. The 1SG focuses his attention toward ensuring all unit security requirements are accomplished. The 1SG supervises the establishment of the company headquarters and the troop billeting areas and monitors field sanitation team activities. The operations element assists in establishing the company headquarters. The NBC noncommissioned officer (NCO) supervises the company NBC team by monitoring its activities and use of unit NBC-monitoring equipment. He coordinates with the base cluster operations center (BCOC) and monitors the placement of early

warning devices for the detection of chemical agents. He supervises and monitors unit personnel for compliance with correct wear of mission-oriented protective posture (MOPP) clothing and equipment according to the current MOPP level and TSOP. The NBC NCO coordinates with veterinary services in cases of possible NBC contamination of food.

7-19. Unit communications personnel set up communications equipment and establish the NCS for the company. They establish contact with the battalion headquarters and with supporting and supported units. They establish the DSMC net control for company assets. Communications personnel establish the internal wire communications net. They connect to the MSE area system at the wire subscriber access point operated by area support signal element.

7-20. The supply element establishes both the unit and medical supply area. They ensure all supplies are secured, properly stored, and protected from the environment. They establish the unit POL and water points. The supply element supports the company during establishment and provides additional items such as sandbags, tent pegs, and other standard equipment normally associated with establishing the company.

## **TREATMENT PLATOON**

7-21. The treatment platoon operates the DSMC clearing station. It receives, triages, treats, and determines the disposition of patients based upon their medical condition. This platoon provides professional services in the areas of minor surgery, internal medicine, general medicine, and general dentistry. In addition, it provides basic diagnostic laboratory and radiological services and patient holding support. The treatment platoon is composed of a platoon headquarters, an area support section, and a treatment section. For communications, the platoon employs a total of seven tactical radios.

### **Platoon Headquarters**

7-22. The headquarters element directs, coordinates, and supervises platoon operations. The headquarters element directs the activities of the DSMC's clearing station and monitors Class VIII supplies, blood usage and inventory levels, and keeps the commander informed. The headquarters element is responsible for the management of platoon operations, operations security (OPSEC), communications, administration, organizational training, supply transportation, patient accountability, statistical reporting functions, and coordination for patient evacuation. The treatment platoon headquarters is responsible for:

- Supervising the treatment platoon support activities.
- Coordinating the movement of treatment squads within the DSMC's area of responsibility.

- Accomplishing the logistics functions for the platoon.

### **Treatment Section**

7-23. The treatment section contains two treatment squads, which provide emergency and routine sick call treatment to soldiers assigned to supported units. These squads can perform their functions while located in the company area, or they can operate independently of the DSMC for limited periods of time. Each squad has the capability to split and operate as separate treatment teams (Teams A and B) for limited periods of time. While operating in these separate modes, they may operate up to four treatment stations. They can be assigned to reinforce or reconstitute similar treatment squads.

### **Area Support Section**

7-24. The area support section of the treatment platoon is composed of an area treatment squad, an area support squad, and a patient-holding squad. These squads form the division clearing station (Echelon II MTF). The area support treatment squad provides trauma care and routine sick call care to personnel assigned to units located in the DSA and division rear areas. The area support squad provides emergency dental services, limited laboratory and radiological services, and blood support commensurate with Echelon II treatment facilities. The patient-holding squad provides up to 40 cots for patients requiring minimal treatment. Patients held in the patient-holding cots are those who are expected to be RTD within 72 hours from the time they are held for treatment. Elements of this section are not used to reinforce or reconstitute other medical units. Also, they are not normally used on the area damage control team.

### **Area Support Treatment Squad**

7-25. The area support treatment squad is the base medical treatment element of a clearing station. It provides sick call services and initial resuscitative treatment (advanced trauma management [ATM] and emergency medical treatment [EMT]) for supported units. For communications, the squad employs FM radios and is deployed in the DSMC's radio and wires communications nets.

### **Area Support Squad**

7-26. The area support squad includes the dental and diagnostic support elements of the clearing station. The diagnostic element is composed of a medical laboratory and has field x-ray capability. It provides for basic services commensurate with Echelon II medical treatment. The area support squad is typically staffed with a dental officer, a dental specialist, a medical laboratory specialist, and a x-ray specialist. The dental officer supervises the activities of the area support squad.

**Dental Element**

7-27. The dental element provides emergency dental care (to include treatment of minor maxillofacial injuries), general dental care (designed to prevent or intercept potential dental emergencies), limited preventive dentistry, consultation services, and dental x-ray services.

**Medical Laboratory Element**

7-28. The medical laboratory element performs clinical laboratory and blood banking procedures to aid physicians and physician assistants (PAs) in the diagnosis, treatment, and prevention of diseases. Laboratory functions include performing elementary laboratory procedures consistent with the Echelon II laboratory MES. This element is responsible for:

- Storing and issuing blood (liquid red blood cells).
- Performing hematocrit procedures.
- Performing/estimating total white blood cell count and differential white blood count procedures.
- Performing urinalysis (macroscopic and microscopic) and occult blood procedures.
- Conducting Gram's stain of clinical specimen procedures.
- Collecting and processing clinical specimens for shipment.
- Performing platelet estimates.
- Performing thick and thin smears for malaria.
- Maintaining the blood inventory status.

**X-ray Element**

7-29. The x-ray element operates radiological equipment consistent with the Echelon II x-ray MES. This element performs routine clinical x-ray procedures to aid physicians and PAs in the diagnosis and treatment of patients.

7-30. Specific functions performed by this element include:

- Interpreting physicians' orders, applying radiation and electrical protective measures, operating and maintaining fixed and portable x-ray equipment, and taking x-rays of the extremities, chest, trunk, and skull.
- Performing manual and automatic radiographic film processing (darkroom) procedures.
- Assembling x-ray film files for patients remaining within the corps, or arranging for such film to accompany those patients who are evacuated to corps hospitals.
- Assisting the NBC NCO with radiological monitoring, surveying, and documentation procedures.
- Serving on the radiological monitoring and surveying team.



- Operating and maintaining the assigned power generator.

### **Patient-Holding Squad**

7-31. The patient-holding squad operates the holding ward facility of the division clearing station. The holding ward is staffed and equipped to provide care for up to 40 patients. Normally, only those patients awaiting evacuation or those requiring treatment of minor illness or injuries are placed in the patient-holding area. Neuropsychiatric (NP) patients and battle fatigue (BF)/stress related casualties, who are expected to be RTD within 72 hours, may also be placed in the patient-holding area. The patient-holding squad works under the direct supervision of a physician or PA. The medical-surgical nurse assigned to the patient holding squad provides nursing care supervision. Since Echelon II facilities such as the DSMC do not have an admission capability, patients may only be held at this facility and are not counted as hospital admissions. If recovery (RTD) is not expected within 72 hours, the patients are sent to a corps hospital for admission.

### **Employment of the Treatment Platoon**

7-32. The treatment platoon establishes its elements using the DSMC layout. Platoon personnel set up patient treatment and holding areas. Some platoon personnel are detailed, as necessary, to assist with unit security and other unit activities associated with establishing and conducting company operations. Treatment section personnel assist the platoon with establishing the clearing section and preparing for further deployment of treatment teams according to the operation orders (OPORDs)/OPLANs. The platoon headquarters element supervises the establishing of platoon operations. The platoon leader directs setup operations and supervises the displacement of treatment squads/teams, when necessary. The field medical assistant assists the platoon leader in supervising establishment operations and coordinates the displacement of treatment squads/teams with company headquarters and supported units. He ensures all platoon elements perform PMCS on their assigned equipment and reports any deficiencies that are not correctable to the platoon leader, who reports them to the company commander. The treatment platoon sergeant is responsible for assisting the platoon leader and field medical assistant with establishing platoon operations. He ensures that the platoon treatment elements are established according to the DSMC layout and the TSOP. He supports the 1SG by providing platoon personnel to assist with security establishment and other operational activities of the company headquarters.

7-33. The area support section establishes all treatment areas as directed by the treatment platoon leader. A treatment team from the treatment section is tasked with providing medical support for the company until the clearing station is established. The area support section is also tasked with clearing and marking helicopter landing areas and the ambulance turnaround point.

7-34. The clearing station is established according to the unit layout and the company TSOP. Attached corps medical units normally establish in the vicinity of the clearing station. The clearing station maintains its integrity at all times. For suggested layout for the clearing station, see FMs 4-02.20 (8-10-1) and FM 4-02.24 (8-10-24). The area support squad establishes its patient treatment areas according to the layout and the TSOP. The dental treatment facility is established adjacent to the clearing station. The dental officer supervises the placement of dental supplies and equipment within the dental treatment area. The laboratory element is normally established within the clearing station area. Precautions for operating radiological equipment must be observed. Radiation hazard areas adjacent to the x-ray facility must be clearly marked and blocked so company personnel are prevented from crossing. The patient-holding squad sets up the patient-holding area. The patient-holding area is normally adjacent to the clearing station. The treatment platoon leader based on the commander's guidance, troop concentration, and casualty estimates determines the number of cots set up. If the commander directs that only 20 cots are to be set up, this may dictate that only one general purpose large tent be erected. In the vicinity near a patient-holding area, a water point (lister bag or collapsible fabric drums), a latrine, and a handwashing area should be established for the convenience of those patients being held at this facility. Field surgeons direct the activities of the two treatment squads. They identify the treatment team tasked with providing medical support for the DSMC during movement and establishment operations. Personnel assigned to this section are involved in assisting with establishment of the medical platoon area and/or preparing for further deployment when required.

## **AMBULANCE PLATOON**

7-35. The ambulance platoon performs ground evacuation and en route patient care for supported units. The ambulance platoon consists of a platoon headquarters, five ambulance squads, one high-mobility multipurpose wheeled vehicle (HMMWV) control vehicle, and ten HMMWV ambulances.

### **Ambulance Platoon Headquarters**

7-36. The ambulance platoon headquarters element provides C2 for ambulance platoon operations. It maintains communications to direct ground ambulance evacuation of patients. It provides ground ambulance evacuation support for units receiving area support from the DSMC to the company's treatment squad locations (MTF) or to the division clearing station. Further evacuation to corps hospitals is the responsibility of the medical evacuation battalion's ground or air ambulances. Personnel assigned to the ambulance platoon headquarters include the platoon leader and platoon sergeant. The ambulance platoon headquarters element directs and coordinates ground evacuation of patients within the DSMC's area of

responsibility. This element supervises the platoon and plans for its employment. It establishes and maintains contact with supported units and treatment squads of the DSMC. The headquarters element makes route reconnaissance and develops and issues map overlays. It also coordinates and establishes ambulance exchange points (AXPs) for both air and ground ambulances as required.

### **Ambulance Squads**

7-37. The ambulance squads provide ground evacuation of patients from units and organic treatment squads/teams (aid stations) located within the DSA and division rear areas. The ambulance squads consist of five aide/evacuation NCOs and fifteen aide/drivers. Ambulance squad personnel perform EMT, evacuate patients, and provide for their continued care en route. They also operate and maintain assigned radios. Ambulance squad personnel provide EMT necessary to prepare patients for movement and provide en route care. They operate vehicles to evacuate the sick and wounded and perform PMCS on ambulances and associated equipment. Ambulance squad personnel maintain supply levels for the ambulance MES. They ensure that appropriate property exchange of medical items (such as litters and blankets) is made at sending and receiving MTFs (Army only). They also maintain contact with supported units and update maps and overlays as necessary.

### **Employment of the Ambulance Platoon**

7-38. The DSMCs ambulance platoon locates with the treatment platoon for mutual support. The ambulance platoon is mobile because all of its assets may be totally dispatched at any given time. Each of its ambulance teams carry an on-board MES designed for medical emergencies and en route care. Ambulances deploy within the DSA and division rear area with treatment squads/teams of the DSMC as they establish treatment station operations. The ambulance platoon leader and platoon sergeant should begin reconnaissance of the area of support to establish primary and alternate evacuations routes, to verify locations of supported units, and to field site ambulance teams as necessary. The platoon leader and platoon sergeant coordinate support requirements with supported units for ambulance platoons placed in DS. Ambulance platoon personnel obtain appropriate dispatch and road clearances prior to departing company or supported unit areas. The platoon leader ensures map overlays are provided to platoon personnel when required. If time and fuel permit, the platoon leader or platoon sergeant may take ambulance drivers on a rehearsal of the evacuation routes. The platoon leader/sergeant coordinates/establishes AXPs as required by the medical evacuation mission. Ambulance platoon personnel assist with establishment of the DSMC and provide available personnel as tasked by the 1SG.

## **Mental Health Section**

7-39. The DSMC's MH section is the medical element with primary responsibility for assisting units in the DSA and division rear area to control combat stress. In the division, combat stress is controlled through vigorous prevention, consultation, and restoration programs. These programs are designed to maximize the RTD rate of BF soldiers by identifying combat stress reactions and providing rest/restoration within or near their unit areas. Also, the prevention of post-traumatic stress disorders is an important objective in both division and corps CSC programs. Under the direction of the division/DSMC psychiatrist, the MH sections of the DSMC and forward support medical companies (FSMCs) provide MH/CSC services throughout the division. The division MH section is assigned to the DSMC. Also, each FSMC has a MH section. The division psychiatrist has staff responsibility for establishing policy and guidance for the prevention, diagnosis, and management of NP, BF, and misconduct stress behavior cases seen by division health care providers and the MH sections assigned to the division. He also has technical responsibility for the psychological aspect of surety programs. He provides and oversees MH and stress control training for unit leaders and their staffs, chaplains, medical personnel, and troops. Through the DSMC and FSMCs MH sections, the division psychiatrist monitors morale, cohesion, and mental fitness of supported units. He has technical control over all MH personnel assigned to the division and provides guidance as required for the successful accomplishment of their responsibilities. These responsibilities include:

- Providing command consultation and making recommendations for reducing stressors.
- Evaluating NP, BF, and misconduct stress behavior cases.
- Providing consultation and triage, as requested, for patients exhibiting signs of combat stress reactions or mental disorders.
- Providing selective short-term restoration for hold category BF cases.
- Coordinating support activities with the medical company and detachment and CSC elements, when attached or in support of the division.

## **Mental Health Support**

7-40. The DSMC commander and the division psychiatrist monitor and prioritize MH support missions in coordination with the division surgeon's section (DSS) and DSB support operations section.

## **Mental Health Section Staff**

7-41. The dispersion of multidisciplinary MH professionals throughout the division ensures that expertise is present for:

- Training and supervising the MH specialists.
- Providing staff input to supported commands.
- Providing clinical evaluation and appropriate treatment or referral for all NP and problematic BF cases.
- Providing a MH professional for interface with supported brigades, groups, and corps resources.
- Providing rapid assistance with critical incident/ events debriefing for the DSMC's area of responsibility.

### **Mental Health Section Employment**

7-42. The DSS, DSB, and FSB support operations sections, based on input from the division psychiatrist DSMC, and FSMC commanders, prioritize MH support missions. The division psychiatrist is assigned to the DSMC and is the MH section leader. The psychiatrist is also a working physician who applies the knowledge and principles of psychiatry and medicine in the treatment of all patients. He examines, diagnoses, and treats, or recommends courses of treatment, for personnel suffering from emotional or mental illness, situational maladjustment, combat stress reaction, battle fatigue (BF), and misconduct stress behaviors. His areas of responsibility include:

- Implementing CSC support according to the battalion's area CHS plan.
- Coordinating and conducting MH/CSC operations.
- Providing staff consultation for the division surgeon, DSMC commander, and for supported commands within the division. This includes the personnel reliability program, security clearances, and the alcohol and drug abuse prevention and control programs.
- Training and mentoring division medical and MH personnel in neurological and mental status examinations and differential diagnosis of stress and psychiatric disorders from general medical/surgical conditions.
- Diagnosing, treating, and determining disposition of neuropsychiatric, BF, and misconduct stress behavior cases.
- Participating in the diagnosis and treatment of the sick, injured, and wounded, especially of those who can RTD quickly.
- Providing consultation and training to unit leaders, chaplains, and medical personnel regarding identification and management of BF (combat stress reaction), misconduct stress behaviors, and NP disorders.
- Providing therapy or referral for soldiers with NP conditions.
- Providing supervision and training of assigned and attached MH and CSC personnel.

- Coordinating with the supporting CSC medical detachment for additional MH support, as required.
- 7-43. Personnel assigned to the mental health section assist the division psychiatrist with the accomplishment of his duties. They may perform as CSC coordinators for selected units in the division rear. Their specific duties include:
- Keeping the division psychiatrist informed on the status of the MH sections and on the mental fitness of soldiers supported in the DSA and division rear area.
  - Assisting the psychiatrist with facilitating and coordinating training activities of the division MH personnel.
  - Monitoring situation reports from the MH sections of the FSMCs.
  - Conducting initial screening evaluations of patients.
  - The MH section personnel may also assist with and provide CSC training to:
    - Small unit leaders.
    - Unit ministry teams and staff chaplains.
    - Battalion medical platoons.
    - Patient-holding squad and treatment squad personnel of the DSMC.

## **MEDICAL EQUIPMENT MAINTENANCE**

7-44. The medical equipment repairer provides unit-level medical equipment maintenance for the division. He exercises his responsibilities by:

- Scheduling and performing PMCS.
- Performing electrical safety inspections and tests.
- Accomplishing calibration, verification, and certification services.
- Performing unscheduled maintenance functions with emphasis upon the replacement of assemblies, modules, and printed circuit boards.
- Operating a medical equipment repair parts program to include Class VIII as well as other commodity class parts.
- Maintaining a technical library of operator and maintenance technical manuals (TMs) and/or associated manufacturers' manuals.
- Conducting inspections for new or transferred equipment.
- Maintaining documentation of maintenance functions according to the provisions of Technical Bulletin (TB) 38-750-2 or DA standard automated system.
- Collecting and reporting data for readiness reportable medical equipment in accordance with AR 700-138.

- Notifying the MEDLOG battalion of requirements for maintenance support services, repairable exchange, or replacement from operational readiness float (ORF) assets.

7-45. Mandatory parts lists (MPLs) and prescribed load lists (PLLs) need to be monitored routinely. An MPL to support medical equipment is published annually in the SB 8-75 Series. Most medical equipment repair parts can be requisitioned through the Class VIII system; however, some repair parts are needed to repair medical equipment that fall in the category of Class IX repair parts (that is, common fasteners, electrical components, and others). Requisitions for Class IX repair parts are sent through the organization's supporting motor pool and require stringent monitoring and follow-up efforts. Special considerations for medical repair parts are explained in AR 40-61.

### **Preventive Medicine Section**

7-46. The PVNTMED section helps commanders implement PVNTMED measures (PMM) that protect division personnel against food, water, and vector-borne diseases, as well as environmental injuries (for example, heat and cold injuries). Lessons learned from past conflicts have shown that more soldiers have been rendered noneffective from DNBIs than from injuries received as a direct result of combat. Often the victor in battle has been the force with the healthiest and fittest troops. Consequently, PVNTMED operations are characterized by preemptive actions, increased soldier and commander involvement, and priority to combat units. To accomplish this, the DSMC PVNTMED section will focus its support to specific areas of troop concentrations within the DSA and division rear areas which is its assigned area of responsibility. Its missions are monitored according to the division CHS plan and coordinated as appropriate by the PVNTMED officer in the DSS. The DSS PVNTMED officer provides technical oversight for all PVNTMED activities in the division. The environmental science officer assigned to the DSMC is the senior environmental science officer in the division. He mentors and provides technical consultation on PVNTMED operations to the environmental science officers assigned to PVNTMED sections of the FSMCs. Taskings for this section will be provided by the DSS through the DSB HSSO. The PVNTMED section provides advice and consultation in the areas of environmental sanitation, epidemiology, and entomology, as well as limited sanitary engineering services and pest management. When PVNTMED missions exceed the capability of the PVNTMED section, request for corps PVNTMED support is submitted from the DSB HSSO through the DISCOM medical operations branch, to the DSS (PVNTMED cell). Corps PVNTMED support is normally provided by the corps medical detachment, PVNTMED. Additional information pertaining to PVNTMED staff and specific functions is discussed in FM 4-02 (8-10).

## Preventive Medicine Section Employment

7-47. Preventive medicine activities begin prior to deployment to minimize DNBIs. Actions taken include:

- Ensuring command awareness of potential medical threats and implementation of appropriate protective measures.
- Ensuring the deployment of a healthy and fit force.
- Monitoring the command's immunization status (see AR 40-562).
- Monitoring the status of individual and small unit PMM (see FM 4-25.10 (21-10) and FM 21-10-1).
- Monitoring PMM against heat and cold injuries and food-, water-, and arthropod-borne diseases (see FM 8-33 and FM 8-250, TM 5-632, TB Meds 81, 507, 530, and 577).
- Perform environmental sampling and or analysis on air, water, soil to assess for any health-related impact.
- Ensuring training in PMM which will assist in countering the medical threat.
- Monitoring the use of prophylaxis such as anti-malarial tablets.
- Ensuring adequate unit field sanitation supplies.
- The DSS PVNTMED officer, DSMC commander, and environmental science officers must be proactive and initiate action on presumptive information to reduce the medical threat early. They cannot wait until the incapacitation of troops occurs before taking action, for example:
  - If mosquito-borne diseases are endemic to troop assembly areas, and known or suspected vectors are present, mosquito control efforts should be initiated.
  - Inadequate sanitation practices must be corrected before the first case of enteric disease appears.
  - Establishment of bivouac locations on sites that are contaminated with industrial chemicals.

7-48. It should be anticipated:

- That sanitation breakdowns will occur while troops are still in debarkation assembly areas.
- That soldiers are at risk for arthropods transmitted diseases upon entry to the AO.
- Lack of or delay in implementing preemptive actions can significantly impact on the deployment forces ability to accomplish its assigned mission. Refer to FM8-250, FM 4-25.10 (21-10), and FM 21-1-1 for additional information.

7-49. The PVNTMED section sets up near the DSMC CP. Predeployment activities are concluded or integrated into the PVNTMED support operations. Preventive medicine support



operations are prioritized based on the mission, medical threat, assessment of data collected (through monitoring, inspecting, and reporting observations), taskings from the DSS PVNTMED officer, or requests for PVNTMED support. Preventive medicine section operations and activities may include:

- Assisting the DSMC commander and staff to prepare the CHS estimates by identifying the medical threat.
- Assisting the DSMC commander in determining disease prevalence in the AO.
- Assisting the DSMC commander in assessing the health status of unit soldiers.
- Conducting surveillance of supported units to ensure implementation of PMM at all levels and to identify actual or potential medical threats and recommending corrective action as required.
- Assisting supported units by providing training in PMM against heat and cold injuries and occupational hazards, as well as food, water, and arthropodborne diseases.
- Monitoring field food service operations to prevent foodborne diseases and illnesses.
- Monitoring the command immunization program.
- Monitoring the health-related aspects of water and ice production, distribution, and consumption.
- Monitoring disease and injury incidence to optimize early recognition of disease trends and initiation of preemptive disease suppression measures.
- Conducting epidemiological investigations of disease outbreaks and recommending PMM to minimize effects.
- Monitoring the level of resupply of disease prevention and related supplies and equipment, including water disinfectants, insect repellents, and pesticides, for the supported AO.
- Conducting limited entomological investigations and control measures.
- Monitoring the animal bite program to prevent the transmission of rabies to soldiers.
- Monitoring environmental and meteorological conditions to assess their health-related impact on supported unit operations and recommending PMM to minimize heat and cold injuries, as well as selected arthropodborne diseases.
- Assessing the effectiveness of field sanitation teams.

7-50. Supported units can request PVNTMED support through command channels or request support from the DSS, the DISCOM medical operations branch, FSB support operations section, or DSMCs. When requests are received by the DSMCs, the DSB headquarters is notified of the requests. The HSSO of the FSB

support operations section and DSS PVNTMED officer coordinate missions for either requested or preemptive actions. To avoid health and environmental problems historically encountered by deploying troops, it is imperative that PVNTMED assets be deployed in advance of the main body/forces.

### **Optometry Section**

7-51. The optometry section provides:

- Optometry services, including routine vision evaluation and refractions.
- Evaluation and management of ocular injuries and diseases.
- Spectacle frame assembly using presurfaced single-vision lenses.
- Spectacle repair services for units within the division.

7-52. The two optometrists assigned to this section independently conduct examinations of the eyes using optometric procedures, instruments, and pharmaceuticals as required. They are responsible for:

- Performing eye examinations and prescribing corrective lenses.
- Managing ocular diseases and injuries according to medical protocols (established by the division surgeon /credentialing committee of the home station medical department activity (MEDDAC)).
- Planning and directing the activities of the optometry section.
- Examining, evaluating, and referring laser-induced injuries for further ophthalmologic care as appropriate.
- Provide clinical statistical input through the DSB to the DSS according to TSOP.
- Advising commanders on all matters relating to vision, to include protective eyewear (ballistic and laser protection).

### **Optometry Section Employment**

7-53. The optometry section normally establishes operations near a DSMC clearing station. Patients seen by this section are normally referred from units and MTFs within the division. The section can form two teams with the capability of projecting optometry services into areas of large troop concentrations. All eyewear fabrications or repairs beyond the scope of the DSMC optometry section are sent to the supporting MEDLOG battalion.

## Chapter 8

# Combat Service Support Planning

### **COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, INTELLIGENCE, SURVEILLANCE, RECONNAISSANCE (C4ISR)**

8-1. To be successful in battle, commanders must make sound decisions rapidly. Battle staffs assist the commander in making these decisions and translating them into coherent changes to the concept of support. Units must act quickly and decisively once changes are received to maintain logistical support.

8-2. This chapter describes C4ISR techniques and procedures that exploit the unique capabilities of digitized forces. It will assist the division support battalion commander and his battle staff in realizing the advantages of automated information exchange during the planning, preparation, and execution phases of combat operations.

### **BATTLE COMMAND**

8-3. Battle command is the art and science of battle decision-making and leading. It includes controlling operations and motivating soldiers and their organizations into action to accomplish missions. Armed with the knowledge of the current state and the desired end state, commanders visualize those actions necessary to achieve the desired future state and then translate that visualization into action. It also includes the following:

- Assigning missions.
- Prioritizing and allocating resources.
- Selecting the critical time and place to act.
- Knowing how and when to make adjustments during the fight.

### **The Army Battle Command System (ABCS)**

8-4. The ABCS is designed to provide the commander and his battle staff with the needed information to effectively plan, coordinate, control, and direct the battle. To achieve the desired actions the battle staff utilizes the army battle command systems (ABCS), which includes the global command and control system-army (GCCS-A), the army tactical command and control system (ATCCS), and the Force XXI command brigade and below (FBCB2) system. ABCS provide the battle staff with the information they require to ensure the battalion commander sees the battlefield with unprecedented clarity in near-real time.

8-5. The key echelon in knowledge base is the battalion HQ. Currently, FBCB2 data is received at MCS. The information is

provided to the battalion TOC via the tactical internet. From the battalion it is transmitted to the companies for their common, relevant picture and brigade, for its knowledge base. This system places a significant burden on the battalion battle staff to analyze and move information from one location to the other.

## **BATTLEFIELD VISUALIZATION**

8-6. The definition of battlefield visualization is the process where the commander develops a clear understanding of the current state with relation to the enemy and environment, envisions a desired end state which represents mission accomplishment, and then subsequently visualizes the sequence of activities that moves the commander's force from its current state to the end state.

8-7. Battlefield visualization is the mental process that supports the commander's decision-making process and his ability to anticipate support. Using a vision of proposed support of the battle allows the commander to know when, where, and if a decision should be made. It is a continuous process that commences with the receipt of the first warning order and continues through the end of an operation. It provides the key to where and how the commander can best support the division troops.

8-8. Digital information systems have the capability of providing a clearer picture to the commander. Digital systems enhance the commander's ability to have an understanding of the current state of friendly and enemy forces. This extends beyond the knowledge of their physical location and includes environmental, readiness, and human considerations. It includes the ability to see and understand the dynamic relationship between opposing forces as the commander leads his forces through the sequence of events.

8-9. The available digital information systems enhance the commander's situational understanding by providing him with an unprecedented level of friendly and enemy information. Commanders must recognize that the common, relevant picture that is produced by a myriad of information systems represents both known and estimated information, and is possibly flawed by human input. The commanders must tailor this information with his judgment, intuition, and experience.

## **COMMAND AND CONTROL SYSTEM**

8-10. The C2 system refers to the arrangement and functions of personnel, equipment, communications, facilities, and procedures a commander employs in planning, directing, coordinating, and controlling forces and operations in the accomplishment of a mission. Command and control are two dependent concepts that have distinctive meanings rather than one word or system. Command is the art and science of assigning missions, prioritizing resources, guiding and directing subordinates, and focusing the entire division's energy to accomplish clear objectives. Control is

defining limits, computing requirements, allocating resources, prescribing requirements for reports, monitoring performance, identifying and correcting deviations from guidance, and directing subordinate actions to accomplish the commander's intent. The C2 system must support the ability of the commander and his staff to anticipate plans for future operations even while focusing on current support requirements. The related tools for implementing command decisions include communications, computers, and intelligence.

8-11. There are two types of control; procedural and positive. The ABCS will allow us to move from procedural to positive control. Procedural control is indirect. Commanders use regulations, policies, doctrine (principles and graphic control measures), techniques and procedures, and SOPs to impose procedures that control subordinate unit actions. Digitization of the battalion's C2 systems will increase the commander's situational understanding and reduce the requirement for excessive control measures. Positive control requires the active involvement of all leaders. The dangers of positive control are that it will also lend itself to information overload, increase in fatigue, and the risk of allowing the commander to over control the situation. Commanders must guard against robbing subordinates of their latitude by micromanaging the movement of small units.

### **INFORMATION FOCUS**

8-12. The common relevant picture of the battlefield derived from multiple databases and can be tailored to specific unit needs. The systems which provide input to the commander's (MCS) terminal include the following:

- FBCB2. Provides situational understanding of friendly ground maneuver elements from individual weapons platforms through battalion echelons with near-real time information. Unit databases continuously exchange information producing the common, relevant picture. The friendly situation is automatically updated with current unit locations, their CP locations, and logistical status.
- All source analysis system (ASAS). Combines the information from many sources to include space and aerial platforms, sensors, and reports from other units, human intelligence, and information derived from computer-assisted intelligence analysis to provide a detailed picture of the enemy's situation and intent.
- Combat terrain information system (CTIS). Engineer terrain visualization gained through the CTIS and MCS will allow the commander to view terrain represented digitally in three dimensions, showing percent of slope, types of vegetation and trafficability and other man-made features (including known and templated obstacles).

8-13. The ATCCS, with MCS as the central focus at the battalion level will enhance mission planning, rehearsal, and execution. Simulation will facilitate the decision making process by assisting the commander in the wargaming process and evaluating courses of action. MCS will also allow the commander to conduct rehearsals remotely using distributed communications on digital terrain. During execution of the operation, MCS provides the commander the tools to monitor, coordinate, and revise execution across the entire spectrum of his battlespace.

8-14. The key to the experienced and intuitive commander's effective exercise of battle command is information management. All information that is produced and processed, whether by automated or manual information systems, has one overriding purpose, and this is to help the commander formulate and answer sustainment requirements and then make timely decisions.

### **Commander's Critical Information Requirements**

8-15. The digital information system employed by the commander and staff is as sophisticated as the weapon systems they employ. The information available to the commander is only valuable if it can be focused to a manageable level. Information that the battle staff generates focuses on and is driven by the CCIR. It is prepared by the commander and his staff. They are based upon the commander's continuously evolving vision for the concept of support (current, future, and sequel to the future) and the commander's continuing, independent estimate of the situation. The staff supports the commander's development of CCIR, develops the common relevant picture in response to the CCIR and other parameters the commander identifies. The battle staff manages the type and volume of information fed to the commander based upon satisfying the commander's CCIR. In response to the CCIR, information systems focus on getting the right information to the commander or decision-maker as soon as possible. The battle staff processes most information into an information product (knowledge) that enables the commander to quickly grasp the meaning of the information and its impact. This should not imply that the commander does not receive any unanalyzed data. He does, in the form of spot reports, situation reports and other combat information from his subordinate commanders.

8-16. The use of CCIR focuses the information gathering process for the staff. It is that information which the staff will notify the commander of, regardless of his location or time. CCIR allows the commander to define information needs and, in turn, focus the battle staff (and subordinate commanders) on information acquisition, fusion, and analysis. They vary with each phase of an operation and consist of only those essential information requirements that the commander must know to make a decision concerning logistical support of a particular phase of a battle. The

battle staff must continuously update the CCIR so that they are current with the ongoing operation. The following sources normally feed the CCIR:

- Priority intelligence requirements (PIR) - What we want to know about the enemy?
- Essential elements of information (EEI) - Crucial information on enemy and environment needed by commander by a specific time.
- Essential elements of friendly information (EEFI) - How the enemy sees the friendly unit?
- Friendly forces information requirements (FFIR) Information commander needs on forces available for the operations such as personnel, maintenance, supply, ammunition, POL, experience and leadership capability.

8-17. How can the commander anticipate logistics requirements to best support the combat mission? CCIR allows the commander to define information needs and in turn, focus the staff (and subordinate commanders) on information acquisition, fusion, and analysis. The CCIR can be further described as being:

- Dependent upon the situation.
- Specified by the commander for each operation or phase.
- Generally time-sensitive in terms of the decision point on a decision support template or the event requirements of the synchronization matrix driving their collection.
- Applicable only to the commander, who specifies and publishes them; normally published in the applicable operations plan/order; and transmitted via specified means.
- A link between current, future, and sequel to the future operations.
- Logistics preparation of the battle field (LPB) process.

### **LOGISTICS PREPARATION OF THE BATTLEFIELD (LPB)**

8-18. The LPB is the process of gathering data against pertinent battlefield components, analyzing their impact on sustainment, and integrating them into tactical planning so that support actions are synchronized with maneuver. It is a conscious effort to identify and assess those factors which facilitate, inhibit, or deny support to combat forces. Just as intelligence preparation of the battlefield is important to the conduct of actual combat operations, logistics preparation of the battlefield is equally important to sustaining the combat power of the force. Although it may be true that even the most optimal support plan may not win the battle, it is also true that poorly planned support can certainly lose it. Working together leaders must synchronize support actions with maneuver in a unified plan so that logistics is a factor in the success of a mission rather than a cause of failure. In addition to mission, enemy,

terrain, troops, time available, and civilians (METT-TC), logistics preparation of the battlefield focuses on determining the status and impact of the specific components that make up tactical logistics. It assesses how time and space requirements and restrictions of the battlefield affect support. This LPB shows how battlefield data, when systematically collected and processed, provide meaningful information for the development of effective logistics estimates.

8-19. The process requires tacticians to understand the data needed by logisticians to plan and provide timely, effective support. It requires division logisticians to understand the mission, the tactical plan, and the battlefield's time and space implications for support. It is a coordinated effort to prepare the battlefield logistically. The basic steps in systematizing the process are:

- Determine battlefield data pertinent to support actions.
- Determine sources from which raw data can be derived.
- Gather pertinent data.
- Analyze collected data elements and translate them into decision information by assessing their impact on the mission and the competing courses of action.
- Integrate decision information into tactical planning by incorporating it in logistics estimates and division plans and orders.

8-20. When determining what battlefield data are relevant to sustainment, it's helpful to break down combat service support (CSS) operations into certain key elements against which data can be collected for study and analysis. These data elements are called the components of tactical logistics. The following descriptions of the components of tactical logistics are not intended to be all-inclusive. They are offered here, however, to stimulate thought and to facilitate an understanding of those factors which impact on tactical logistics support:

- Logistics resources are the wherewithal to effect support, including CSS organizational structures, command and control, task organizing for support, communications, information automation systems, medical facilities, and materiel such as transportation assets and supply, maintenance and field services equipment.
- Logistics capabilities include soldier and leader skills and the personnel staffing which, collectively, activate logistics resources and bring to life the required support. Capabilities are degraded in adverse situations such as severe climatic conditions, night operations, or elevated mission-oriented protective postures (MOPP).
- Logistics capacities include reception and clearance capacities, carrying capacities of transportation assets, volumes of storage facilities, maintenance production output rates, and supply route characteristics such as surface



composition, tunnels, overhead obstructions, bridge weight limits and traffic circulation rates.

- Materiel stocks include the quantity and status of weapon systems, ancillary equipment, ammunition, repair parts and consumable supplies required or available to sustain or reconstitute combat power of deployed units. Also included are logistics status reports and known or projected shortfalls.
- Consumption and attrition rates include experienced or expected usages of consumable supplies and weapon systems which must be considered to anticipate support requirements.
- Time and space factors are those requirements and restrictions of the battlefield which influence whether logistic support is provided to deployed forces at the right place and time. Included here are plans, orders, rehearsals, priority of support, positioning for support, tempo of support (intensity of demand), security, risk assessment, the effects of terrain, weather, contaminated areas, minefields, night time enemy threat on logistics operations, and the battlefield signatures of logistic resources. Time and space factors, especially, impact on the synchronization and integration of logistics on the battlefield.

8-21. Sources from which relevant battlefield data are derived include:

- Higher headquarters briefs, plans and orders.
- The commander's planning guidance. This is made up of the restated mission, initial concept of the operation, scheme of maneuver, deception objective, rear operations priorities, time plan, type of order to be issued, and type of rehearsal (backbrief, reduced force, full force). It may indicate what support tasks are required before, during, and after the mission.
- The commander's intent (or concept). The intent may indicate when and where support actions are to be synchronized with maneuver, thereby suggesting logistics triggering mechanisms.
- Operations and intelligence briefings and overlays. These provide locations of friendly and enemy forces, weather, terrain, likely logistics release points, resupply routes and distances.
- Modified table of equipment (MTOE) of division units. These provide data on logistics resources, capabilities and capacities.
- Logistics status reports. These reports from CSSCS and FBCB2 digital systems and manual sources provide data on the readiness of primary weapon systems and materiel stocks.

- Scouts. They are especially helpful if the need to gather data against the components of tactical logistics is included in their collection requirements (such as airlift resupply landing zones).
- Engineer route reconnaissance overlays.
- Traffic circulation and highway regulating plans.
- Personal reconnaissance. Logistics battle staff members may be required to collect data on likely resupply routes, obstructions, bridge weight limits or the composition of stream beds.

8-22. Logisticians routinely apply, more or less, available battlefield data in developing logistics estimates without thinking of it as a formal process. By focusing on the components of tactical logistics while collecting, analyzing, and applying this critical information in planning, logisticians systematically help prepare the battlefield for their commanders. These lessons are offered to stimulate a reciprocal understanding among tacticians and logisticians of the interdependency that exists between maneuver and support in planning, preparing, and executing combat missions.

8-23. Logisticians should treat the components of tactical logistics as essential factors that should be assessed for each plan. By doing so, they bring a professional approach to the contributions they make in the planning process. The components are variables. Some are dynamic and change with METT-TC so they should be validated daily, even hourly, if necessary. Commanders should appreciate the unique contributions their logisticians make in the planning process and when they've done a thorough job of collecting and analyzing pertinent battlefield data. Commanders must not accept less. The lessons that follow show how the components of tactical logistics relate to the sustainment imperatives of anticipation, integration, continuity, responsiveness and improvisation, see Chapter 1. They also show how the components of tactical logistics are used in developing effective logistics estimates.

8-24. The commander and staff conduct LPB. Successful LPB contributes immeasurably to the favorable outcome of battle. The LPB is an on-going process by which logisticians analyze:

- Tactical commander's plan/concept of operation.
- Tactical commander's intents.
- Supported force CSS requirements.
- Available CSS resources.
- CSS shortfalls.
- The enemy (intentions, capabilities, weaknesses, doctrine).
- Terrain and weather.
- Intelligence preparation of the battlefield (IPB) products.

- Transportation infrastructure.
  - HNS available.
  - Time/distance factors.
- 8-25. LPB products are:
- A logistics estimate.
  - A visualization of the pending battle and logistics activity required by phase of operation.
  - Anticipated logistics challenges and shortfalls.
  - Solutions to logistics challenges and shortfalls.
  - How, when, and where to position logistics units to best support the tactical commander's plan.
  - A synchronized tactical and logistical effort.

### INFORMATION MANAGER

8-26. The battalion commander appoints an information manager because of the importance and amount of information in the digitized DSB. The information manager oversees the battle staff in the processing of information to support the operation and that feeds the force level knowledge system. Because the commander's critical information requirements (CCIR) are directly linked to current, future, and sequel operational situations and previously identified decision requirements, the XO ensures that the staff collects, analyzes, and presents information meeting the CCIR on a timely basis. In particular, he supervises the TOC in maintaining and disseminating the DSB's knowledge base which is a logical database that contains information meeting the commander's common relevant picture requirements. The common relevant picture is a comprehensive view of the commander's battlespace, consisting of a graphic portrayal of the enemy and friendly situation on the same display. In the digital CP, these are typically computer-generated flat board displays. The operations section of the TOC CP generates specific requests for information from BOS or other sources to answer the commander's CCIR. The S2/S3 plans cell generates requests to answer planning specific questions. Specific queries can be initiated within MCS and CSSCS or flags placed on select information to ensure that it is rapidly forwarded to the commander.

### SUPPLY OPERATIONS

#### SUPPLY SUPPORT OPERATIONS

8-27. The two types of support operations are shown below. These operations include regular resupply of all classes of supply:

- **Mission support.** Mission support is designed for a specific maneuver operation. The designated maneuver CSS elements conduct mission support to ensure maximum unit

resources are available to support the fight and the specific operation is not hampered by a lack of supply support.

- **Continuous Support.** Continuous support operations keep the maneuver unit's resources sustained over a period of time. Continuous support operations are conducted as close to the supported unit as practical.

## **BASIC LOAD**

8-28. For classes of supply other than ammunition, basic loads are supplies kept by units for use in combat. The quantity of each item of supply in a basic load is based on the number of days the combat unit may have to sustain itself without resupply and on available transportation assets. For ammunition, the basic load is the quantity of ammunition required to be on hand to meet combat needs until resupply can be accomplished. The basic ammunition load is specified by the Army service component commander/Army forces commander (ASCC/ARFOR) commander and is expressed in rounds, units, or units of weight, as appropriate.

## **MISSION LOAD**

8-29. Mission loads consist of those materials required for a specific mission (for example, a standard fixed minefield). The basic load can be used for missions to save time; however, it is to be replenished from the materials in the mission load.

## **CLASSES OF SUPPLY**

8-30. There are 10 classes of supplies. During defensive operations Class IV/Class V supplies require special engineer considerations. During offensive operations Class III (B) requires special consideration.

### **Class I**

8-31. Class I consists of subsistence and gratuitous health and welfare items. Quantities are determined by the unit strength sent forward on digitized reports.

### **Class II**

8-32. Organizational clothing and individual equipment (OCIE) support is not normally available at battalion. The supply platoon of the quartermaster company in the DSB provides limited quantities of OCIE for division troops. The quartermaster company also provides supply support for other Class II items, such as tentage, tool sets, and administrative and housekeeping supplies.

### **Class III**

8-33. Class III consists of POL, including petroleum fuels, lubricants, hydraulic and insulating oils, preservatives, liquids and gases, bulk chemical products, coolants, deicer and antifreeze

compounds. Refueling operations are conducted using a combination of unit distribution and supply point distribution.

#### **Class IV**

8-34. Cache or throughput to the barrier site of Class IV is a procedure used in preparation for defensive operations. The following items are normally throughput from corps assets based on unit requirements:

- Construction materials.
- Barrier materials.

#### **Class V**

8-35. Technological advancements in real-time forecasting of Class V sustainment requirements allow more effective planning of this support. In addition, throughput distribution of Class V items, packaged to weapon system requirements, reduces the need for stockage of ammunition at ammunition supply points (ASP) and the resultant use of ammunition transfer points.

#### **Class VI**

8-36. This class covers personal demand items, such as candy, and toiletry articles that are normally sold through the exchange system during peacetime. In a combat environment, these items are sent with Class I as health and comfort packs (sundry packs).

#### **Class VII**

8-37. This class includes major end items. These are major pieces of equipment, assembled and ready for intended use, such as radios, tool sets, combat vehicles, and other major end items. Major end items that are destroyed or become inoperative are reported immediately to CSSCS by means of LOGSITREP reports. They are replaced by the supporting CSS unit as they become available.

#### **Class VIII**

8-38. This class includes medical supplies, which are provided through the DSMC of the DSB. Included are individual medical supplies such as first-aid dressings, refills for first-aid kits, water purification tablets, and foot powder. Combat lifesaver bags are reported to CSSCS using the LOGSITREP.

#### **Class IX**

8-39. Within the DSB, each company retains its organizational motorpool along with its ULLS-G and company PLLs. The area maintenance company provides DS maintenance. The DSB's quartermaster company maintains the division troops Class IX (common) ASL. Organizational Class IX requests are submitted from the ULLS-G and DS parts are requested via SAMS. ULLS-G

and SAMS requests are forwarded to the SARSS-1 in the quartermaster company.

### **Class X**

8-40. Class X consists of materials in any other class of supply to support nonmilitary programs, such as agriculture and economic development.

### **LOGISTICS RELEASE POINT (LRP) OPERATIONS**

8-41. A logistics release point (LRP) is the point along the supply route where the supported unit meets the supporting unit to transfer supplies. Likely functions performed at the LRP are:

- Synchronization.
- Load adjustment and cargo diversion.
- Transfer of responsibility.
- Updating battlefield intelligence.
- Driver briefing/vehicle maintenance.
- Decision making/C2 node.
- Link-up point for convoy guides.
- Empty flatrack backhaul.
- Human remains transfer.

8-42. Within a division's battlespace, one LRP is normally established in the vicinity of the BSA for each FSB, one for the DSB, and one for the DASB. Additional LRPs may be established based on METT-TC.

8-43. Optimally, the LRP is located along a well-protected supply route. The exact location takes advantage of cover and concealment. The LRP is large enough to accommodate expected inbound and outbound convoys under all weather conditions. At the LRP, dry cargo, liquid cargo, and flatrack transfer may occur. Trailer transfer may occur also. If practical, convoys may proceed past the support area LRP to the vicinity of the supported unit where supplies are then transloaded on to customer vehicles or downloaded on to the ground. When rotary wing aircraft are available for logistics resupply, the forward LZ may also be at or near the LRP.

8-44. The LRP security and C2 are critical. Routes into and out of each LRP must be secure. Security arrangements must be preplanned, synchronized, and executed. Convoys must include self-protection measures such as a combination of gun trucks, military police escort vehicles, armed helicopters, and combat vehicle escorts. Field artillery, engineer, and air defense unit support may also be required.

8-45. The LRP C2 considerations include:

- Which HQ is in charge?
- Assured, secure communications.
- Dissemination of LRP location to all CSS and supported units.
- Requirement for LNOs from supporting and supported units.
- Twenty-four hour operations.
- Situational understanding and situational understanding mechanism.
- Decision-making authority or access to key decision makers.
- Need for linguists at LRPs.
- Location(s) of future LRPs.
- Frequency of LRP displacement.

### **FLATRACK COLLECTION POINT (FRCP) OPERATIONS**

8-46. Flatrack collection points are predetermined points conveniently located to facilitate the harvesting and management of common user flatracks. Flatrack employment, management, and retrograde operations are the responsibility of distribution managers integrated at each echelon of support throughout the distribution pipeline. For detailed flatrack management operations and reporting procedures see the moving the force section in CSS operations chapter of this manual.

8-47. Proposed FRCP locations are identified and reported to higher headquarters early in the planning process. Exact locations are reported immediately upon occupation. FRCP location considerations include:

- Collocation with existing logistical nodes (SSAs, ATP vicinity, other supply points and collections points) or consolidation with other FRCPs on an area basis.
- Access to supply routes (MSRs/ASRs), feeder routes to supply routes, and traffic circulation.
- Maximize force protection, cover and concealment, and other security resources.

### **METHODS OF RESUPPLY**

8-48. A company uses voice or digital means to request resupply and report status. The method used is determined after an analysis of the factors of METT-TC. The two distribution methods of resupply are:

- **Supply point.** Supply point distribution requires unit representatives to move to a supply point to pick up their supplies.
- **Unit.** Unit distribution provides delivery of supplies directly to the unit. A unit representative meets the resupply package at the LRP and guides the package to the company's position.

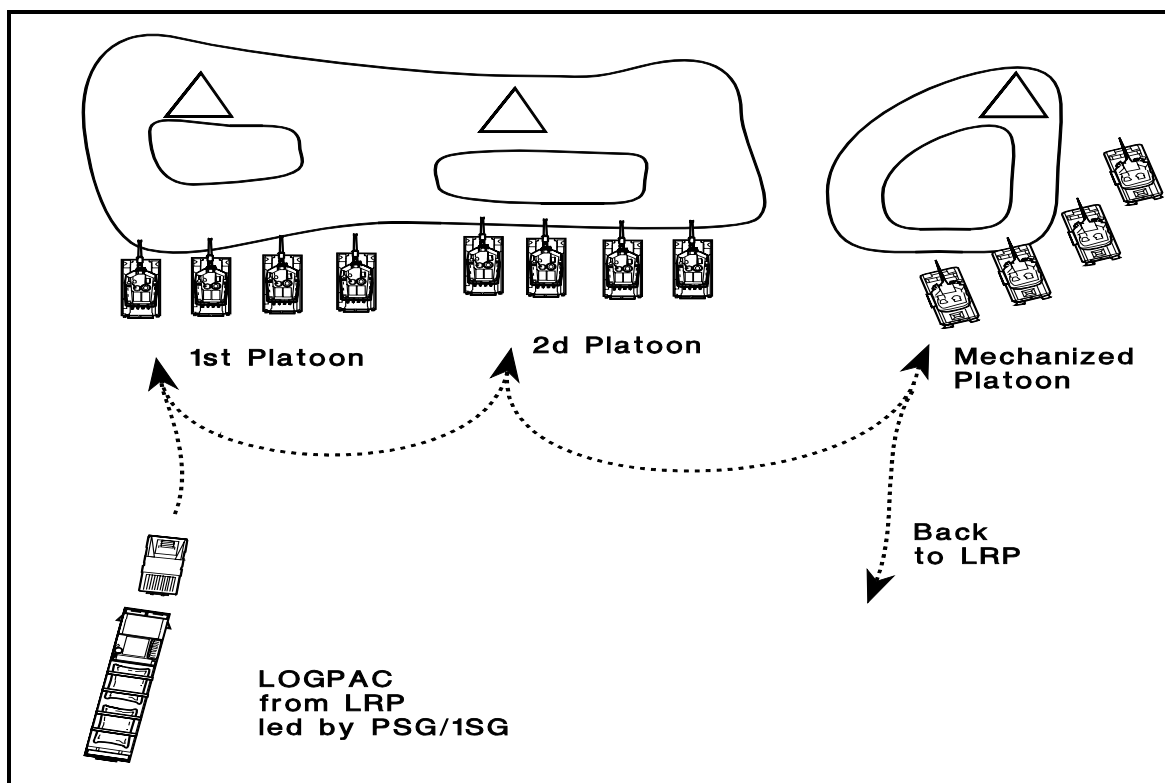
8-49. Throughput to forward areas leverages configured loads, containerization, information, force structure design, technological enablers, and command and control relationships to deliver sustainment from the operational level directly to the customer or its direct support unit. Throughput bypasses one or more echelons in the supply system to minimize handling and speed delivery forward. Direct throughput relies on unity of command and situational understanding.

#### **TECHNIQUES OF RESUPPLY**

8-50. The tactical situation will dictate which technique of resupply the company will use: tailgate, service station, a variation of one type, or a combination of both types. The situation will also dictate when to resupply. Generally, the company should attempt to avoid resupply during offensive operations; resupply should be done during mission transition. Resupply is unavoidable during defensive missions of long duration.

8-51. In the tailgate technique, fuel and ammunition trucks, which have been handed off to the PSG, are brought to individual vehicles. This method is used when routes leading to vehicle positions are available, and the company is not under direct enemy observation and fire. It is time-consuming, but it is useful in maintaining stealth during defensive missions because the vehicles do not have to move. If necessary, certain supplies can be hand-carried to vehicle positions to further minimize signatures. See Figure 8-1.





**Figure 8-1. Tailgate LOGPAC**

8-52. In the service station technique, vehicles move to a centrally located point for rearming and refueling, either by section, platoon, or an entire company. Service station resupply is inherently faster than the tailgate method, because vehicles must move and concentrate, however, it increases the security risk. See Figure 8-2.

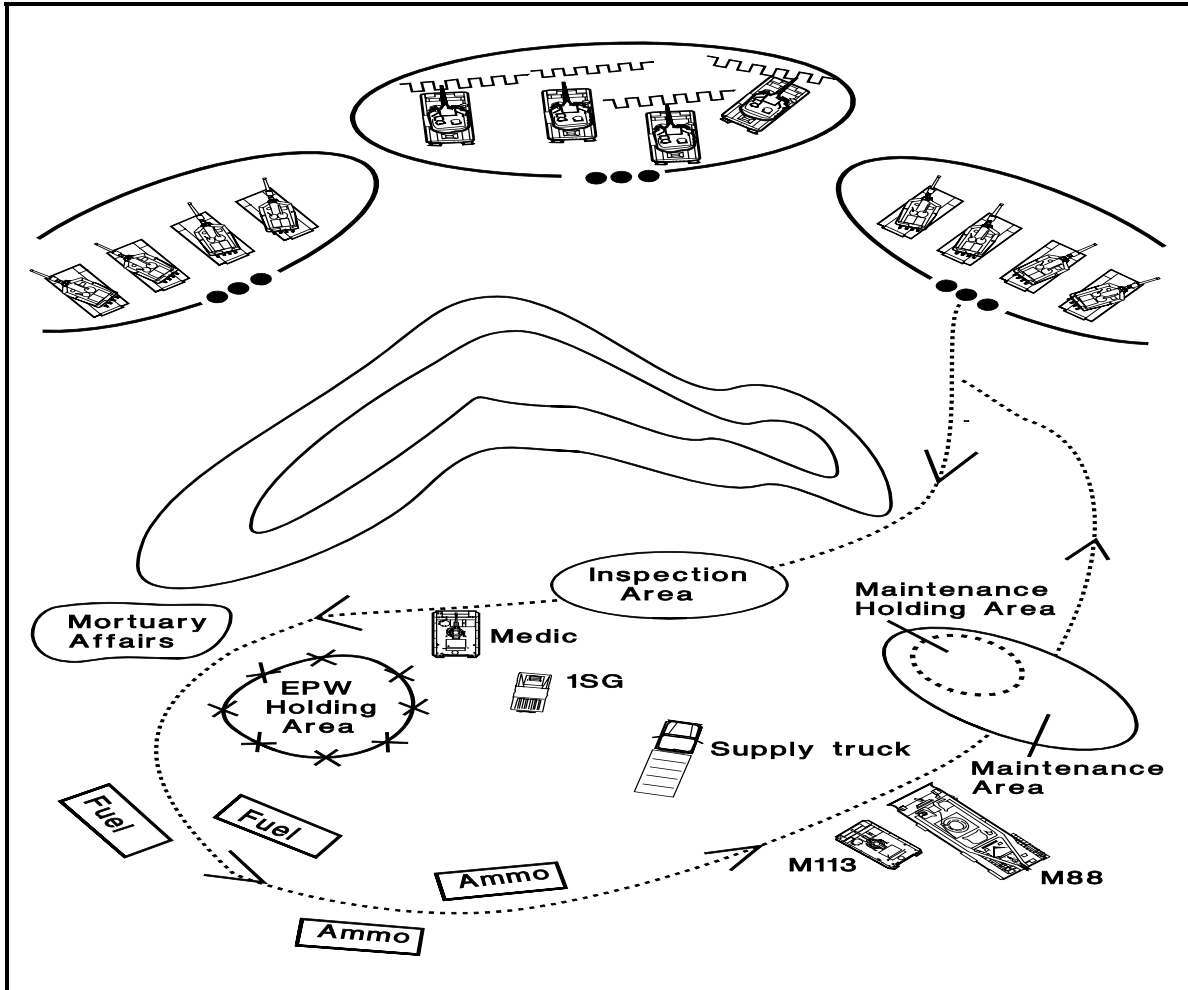
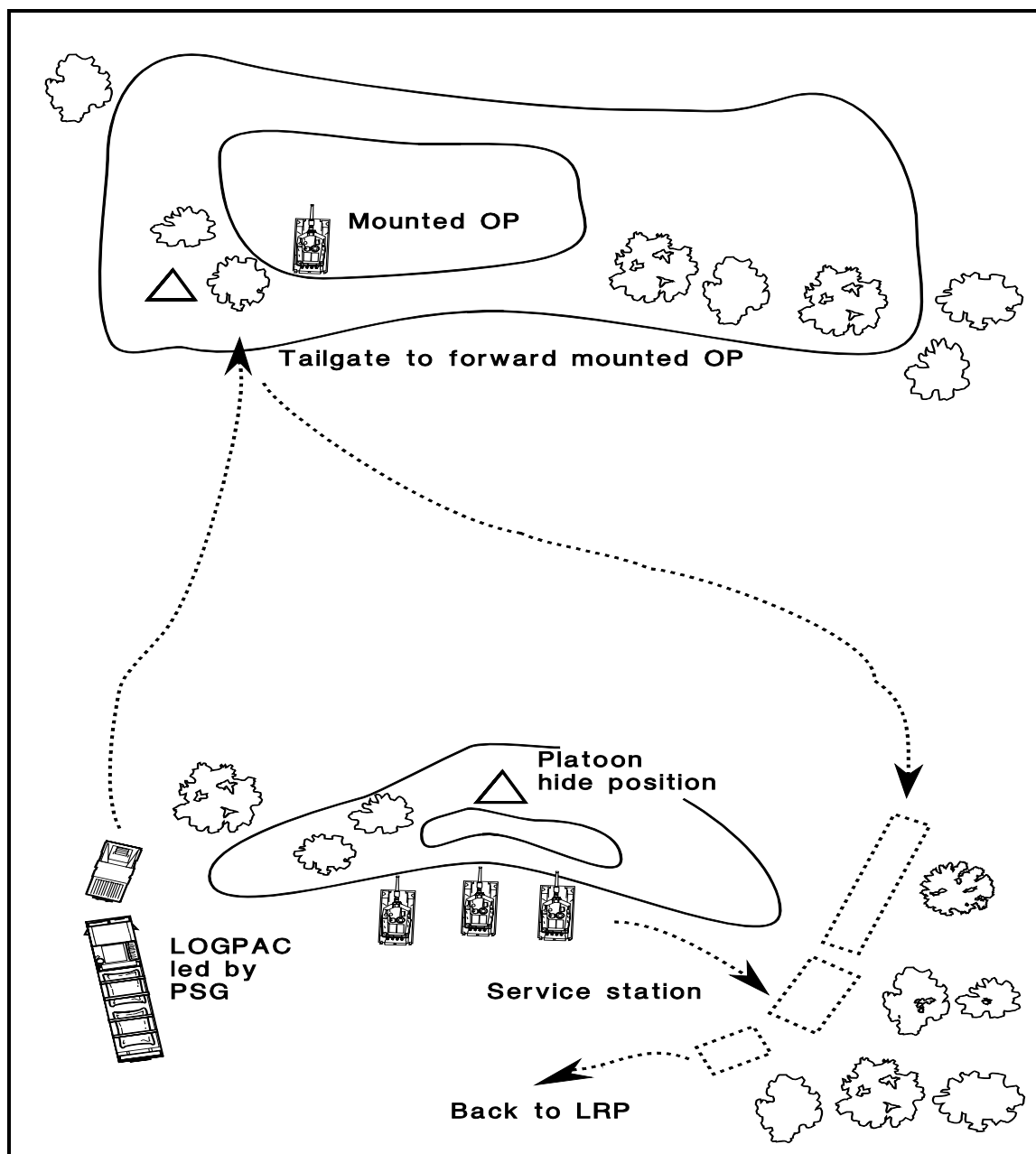


Figure 8-2. Service Station LOGPAC

8-53. A company commander can vary the specifics of the two basic techniques, or he can use them in combination for various platoons. During a defensive mission, for example, he may use the tailgate technique for selected forward observation points (OP), and the service station method for the remainder of the company located in their positions. See Figure 8-3.



**Figure 8-3. Modified Tailgate LOGPAC**

#### IMMEDIATE RESUPPLY

8-54. Immediate resupply, normally involving Classes III, IV, and V, is executed when the unit has such an urgent need for resupply that it cannot wait for the routine LOGPAC. Immediate resupply procedures start with the redistribution of supplies, for example, the

redistribution of ammunition in individual vehicles, followed by cross-leveling of ammunition within the platoon. It is better to have four Bradley Fighting Vehicles (BFVs) with 50 rounds of 25MM ammunition each than two BFVs with 100 rounds and two others with none.

8-55. The commander, XO, or 1SG, transmits a “call for support” for Class III/IV/V through to the support operations section of the DSB. Based on the enemy situation, the unit may conduct resupply while in contact with the enemy. Two techniques are used to resupply units in contact:

- Limited supplies are brought forward to the closest concealed position, where the tailgate technique of resupply is used.
- Individual vehicles or sections disengage and move to a resupply point, obtain their supplies, and then return to the tactical mission. This is a version of the service station technique.

## **OFFENSIVE OPERATIONS**

8-56. The goal of CSS offensive planning is to ensure the division warfighters begin the tactical operation with their basic loads of all classes of supply and planned resupply is coordinated. The planning process for DSB operations is led by the DSB support operations. The planning tool most critical to the sustainment is the enemy course of action (most likely and most dangerous). The common denominator between the CSS plan and the maneuver plan is the S2’s assessment of the enemy’s courses of action.

8-57. The planning for offensive operations must be well developed and complete. Accurate offensive CSS planning, and tracking of consumption will reduce the requirement for immediate resupply to the individual combat vehicle. By identifying the point of consumption by the warfighters, the DISCOM, DSB, DASB and FSB support operations will be able to position mission tailored support.

8-58. The two most critical supplies for offensive operations are Class III and Class V. The DSB TOC will direct the movement of resources to resupply planned or forecasted requirements, as stated in the logistics support matrix.

## **DEFENSIVE OPERATIONS**

8-59. The CSS defensive plans are characterized by a clear and defined time at which the CSS assets will begin to conduct survivability operations and discontinue mission support. However, mission supports the mobility and survivability efforts of the division rear.

8-60. The most critical supplies for the preparation for the defense are Classes III, IV, and V. Class III may be critical depending on the type of defense and possible follow on missions. Routine

resupply of planned/forecasted requirements will be directed to designated units as stated in the logistics support matrix. Class IV may be pushed from corps directly to the emplacement site. The resupply of the supported units will come from the DSB and EAD (Class III bulk). Class V is given the highest priority of all critical supplies during defensive operations. The increased expenditures of ammunition will significantly impact transportation assets.

### **URBAN WARFARE CSS OPERATIONS**

8-61. There is an increased likelihood of U.S. Forces fighting in urban environments which is the preferred battlespace for many potential adversaries. Most wars have included major battles in and around urban areas with U.S. deployments being centered on or in the vicinity of urban areas. The CSS organizations must have the capabilities to support units in combat and peace operations in urban environments. Mechanized and armored divisions, although not ideally suited for urban operations, may have to conduct various missions in or in the vicinity of urban areas.

### **CSS SITUATIONAL UNDERSTANDING IN URBAN OPERATIONS**

8-62. Knowledge of the urban battlespace as it pertains to logistics preparation of the urban battlefield (LPB) is critical in terms of the following:

- Supported commanders' intents and concepts of operation.
- Transportation infrastructure (air, rail, waterways, pipelines, subway).
- Telecommunications and automation network posture.
- Traffic patterns/flow/selection of main and alternate supply routes.
- Local resources with military sustainment value.
- Local population sentiments (friendly/non-friendly).
- Contracting, bartering, and trading capabilities.
- CSS commanders' access to intelligence preparation of the battlefield (IPB) products.

8-63. Other CSS factors in an urban environment:

- Expect increased consumption of small arms ammunition and explosives.
- Expect increased consumption of precision munitions.
- Expect decreased consumption in certain large-caliber and area-type munitions.
- Expect increased usage of non-lethal munitions.
- Expect increased aerial resupply requests.
- Expect increased medical workload (increased casualties).
- Expect increased mortuary affairs workload.

- Routes within an urban area can be denied easily.
- Movements control is more complex.
- Force protection of CSS nodes and convoys is exacerbated in urban areas. Vertical ambushes and other terrorist-type attacks are real threats to CSS activities. Close fight may be fought between 1st and 2nd floors of a building.
- Smaller resupply vehicles (HEMTT/PLS) may be in greater demand than tractor-trailers.
- Gun trucks are required to protect convoys.
- Expect the operation to be asymmetric (not linear) and multi-dimensional (building tops can be the high ground).
- Adequate CSS C4ISR may be nearly impossible within a large urban area. Avoid sites where communications are severely degraded.
- Urban areas afford numerous CSS hide locations (warehouses/industrial parks).
- Understanding The Law of Land Warfare (FM 27-10) and applicable rules of engagement (ROE) are imperative.
- Expect refugee and displaced person sustainment missions.
- Expect support requirements from other services, combined or coalition organizations, non-governmental organizations (NGOs), and private volunteer organizations (PVOs).

## Chapter 9

# CSS Operations

### CSS SUPPORT STRUCTURE

9-1. The DISCOM is a multi-functional organization capable of providing, coordinating, and synchronizing logistical support to the division. The DISCOM's mission of sustaining the division's combat power is more critical than ever. The DISCOM consists of FSBs, a DSB, a DASB, and the HHC. The DISCOM provides CSS for the division. It provides arming through its Class V operations, fueling through Class III operations, fixing through its maintenance operations, transportation through the truck company in the DSB and the supply and transportation sections in the FSBs, and sustaining through the provision of rations, individual equipment, and CHS. The personnel sections throughout the division provide the manning function. This chapter will discuss the six tactical logistics functions throughout the DISCOM to give the DSB commander and battle staff an understanding of what and how CSS integrates from higher, DISCOM and EAD, laterally, with the DSB and FSB, and to the lower supported units. The DISCOM organization is shown in Figure 9-1. Shown in Figure 9-2 are the non-divisional CSS assets, their command and support relationship, and their location in the divisional battlespace.

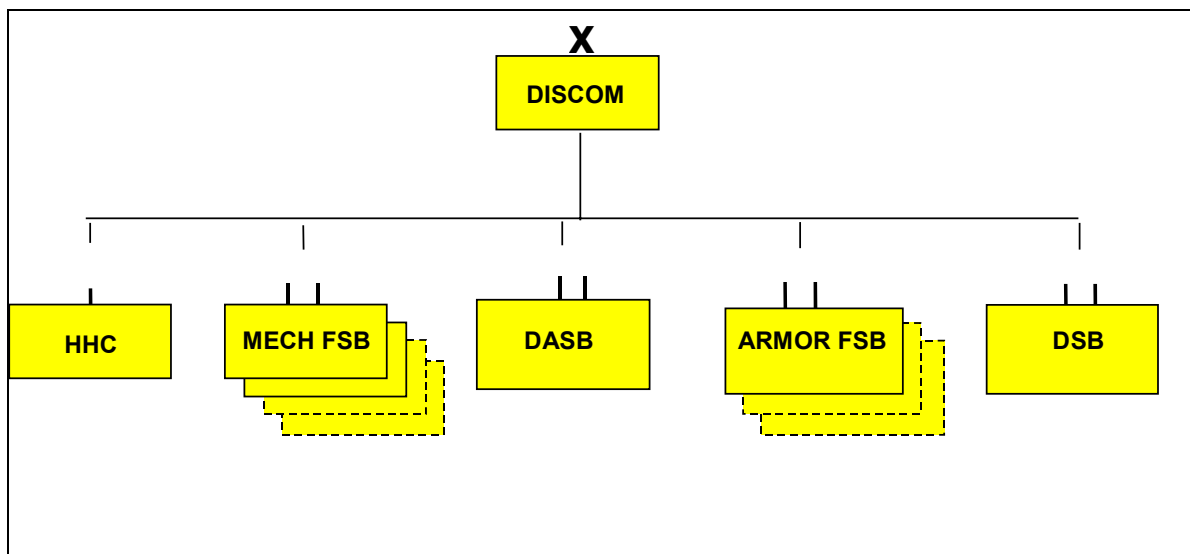


Figure 9-1. DISCOM Organization

**Non-divisional CSS Inside FXXI Divisional Battlespace**

**(METT-TC)**

Command and Support Relationships May Vary Based on METT-TC, as well as Availability of EAD CSS Capability

**In Support of the Division**

*MST	+Air MEDEVAC
F&E Rpr	+Gnd Ambulance
Allied Trades	+FST
DS Reinf Trk&Whl	+Cbt Stress Ctrl Tm
	+ Contingency K Tm
*Wtr Purif Det/Tm	+AMC-LSE/LAO Tm
*ASP	+CA Tm
*MCT	
*MA Plt	

**In Support of Corps Trps/Div Area Spt**

Trailer Transfer Point FDRP	
TMDE/Cal Tm	EOD Det
PSB&Fin Bn elements	Field Svc Co

**In Support of Corps Trps In Div Rear**

*CSB HQ/HHC	*DS Supply Co
*DS/GS Mt Co	Perishable Sub Plt
Wh/Trk Veh Rpr	DS Ammo Co
Arm/FC Rpr	Trk Co(PLS/POL)
FA/ADA/Msl Rpr	MCT
Pwr Gen Rpr	MA Sect
Commel/F&E Rpr	
Allied Trades	+Area Spt Med Co
Recovery	+Air MEDEVAC

**In Spt of the Div in BDE Battlespace**

\*Commel Repair  
 \*Wtr Purif Det/Tm  
 \*MA Tm

+Air MEDEVAC Element  
 +Gnd Ambulance Element  
 +FST

**In Spt of Corps Trps in BDE Battlespace**

*FLE FA Bde	*FLE Engr Bde
Log C2	Log C2
MST	MST
Supply	Supply
Trans	Trans

\*Log Tsk Force ACR  
 Log C2  
 MST  
 Supply  
 Trans

+Air MEDEVAC Element  
 +Gnd Ambulance Element

**Note: Med units denoted by + will likely be C2 by Med HQ; CA/AMC by their respective command**

**Figure 9-2. Non-divisional CSS Assets Inside FXXI Divisional Battlespace**



## **ARMING THE FORCE**

9-2. The division operates four ATPs. These are usually arrayed to support one maneuver brigade each and the aviation brigade and division cavalry squadron. A DAO representative manages each of the ATPs. In addition to these division ATPs, the corps DS ammunition company establishes an additional ATP which provides Class V support to both divisional and non-divisional troops in the division area. The corps DS ammunition company also operates an ASP, which provides support to the ATPs in the division and serves as an alternative source of Class V to units not supported by an ATP. Both the ASP and rear ATP are corps assets.

## **UNIT LEVEL AMMUNITION STATUS REPORTING**

9-3. Using the LOGSITREP, unit ammunition on-hand status is reported per unit SOP to the 1SG, with information copies going to the company commander. The 1SG consolidates the unit's on hand quantities and forwards them via the LOGSITREP to the battalion S4, with information copies to the battalion commander and S-3. Company commanders will indicate in their LOGSITREP remarks any critical ammunition shortages or forecasted changes in ammunition requirements. At the discretion of the company commander cross-leveling on-hand ammunition within platoons or throughout the company is accomplished.

## **DETERMINING/REQUESTING DIVISION TROOPS AMMUNITION REQUIREMENTS**

9-4. The BN/TF S4 will determine ammunition resupply requirements based on information provided in the LOGSITREP and guidance received from the battalion commander and S3. The BN/TF S4 will consolidate the entire battalion ammunition requirement. He will then submit company rollups for ammunition resupply to the brigade S4. The brigade S4 will consolidate the ammunition request and pass that request to the support operations officer located in the supporting FSB.

9-5. Units in the division rear submit their requests through the LOGSITREP or LOGSTAT to the support operations officer located in the DSB. The support operations officer for the FSB, DASB and DSB will request the ammunition support from the division ammunition officer (DAO) in the Class V section of the division support operations section. The DAO will compare the request with the controlled supply rate (CSR). If the request is within the limits of the CSR, the DAO will order the ammunition from corps either to be shipped directly to the FSC, or to replace stocks that will be issued from the ATPs located in the FSBs, DASB, or the rear ATP.

9-6. The ATP, operated by the HDC in the FSB, is responsible for supporting all units located in the brigade that are assigned, attached, have established a support relationship, or as directed by the DISCOM commander. The ATP in the DASB supports the AB and division cavalry squadron. The rear ATP, operated by corps, is

responsible for supporting all divisional and non-divisional units in the division rear.

9-7. The ATP is designed to provide the required lift and transload capability associated with high-volume and high tonnage. The support operations officer of the FSBs and DASB, in conjunction with the DAO NCO representative, will coordinate directly with those nonorganic units that will be supported by the ATP. The support operations officer/DAO representative will consolidate their ammunition requirements, and their request for resupply will be "rolled-up" with the brigade's request. Ammunition and explosives will be accounted for and provided proper physical security at all times.

### **AMMUNITION REQUEST VALIDATION**

9-8. The DAO validates the brigade's ammunition requests by comparing the amount of ammunition requested against the CSR and the on-hand stocks in the FSB's ATP, DASB ATP, and the rear ATP. The DAO will take into account the current mission posture, scheduled/future mission posture, and operational guidance. Once all of these factors have been considered, the DAO will either validate the request or adjust it to meet the situation in coordination with the brigade S4 and supported units. The DAO will then determine, based on METT-TC and transportation availability, whether the ammunition resupply will be throughput to the FSB's ATP, or a forward rear point. Ammunition can be throughput to a cache (a storage location where corps transportation drops flatracks loaded with ammunition, the ammunition will be closer to the maneuver unit to reduce transit time) unless the tactical situation does not allow delivery that far forward. "Prep-fire" ammunition will be delivered as close to the batteries as possible to prevent the artillery ammunition carriers from having to up-load after the "prep-fire." The ammunition resupply requests and transportation requests are then sent to the corps materiel management center/corps movement control center (CMMC/CMCC), with information copies to the brigade DAO representatives, and the brigade and battalion S4s. The brigade DAO representatives will notify the HDC ATP (FSBs), HSC ATP (DASB), or rear ATP section (run by corps) of any scheduled ammunition deliveries.

### **AMMUNITION RESUPPLY**

9-9. The CMMC, using SAAS-MOD and recommendations from the division support operations Class V section, determines whether the ammunition resupply will come from the ASP or the corps storage area (CSA). The DAO will use the CSSCS Class V-ATP's CS5-016 report to determine the ammunition status of the ATPs in the division. This information will determine if ammunition within the division can be cross-leveled to meet ammunition requirements. If the ammunition is coming from the ASP, the

CMMC cuts a materiel release order (MRO) directing the ammunition shipment. If the ammunition needs to be brought forward from the corps storage area (CSA), the CMMC will submit a request for ammunition resupply to the corps G4. Ammunition will arrive in theater in strategic configured loads (SCLs). The supporting activity, either the corps ASP in the division area or the CSA, will reconfigure the SCLs into mission configured loads (MCLs) prior to transportation asset arrival. The CMCC will schedule transportation IAW priorities. The ASP is then notified of where and when transportation will arrive by the CMCC. After ammunition has been loaded, the RF tags will be verified along with the correct cargo and destination. All ammunition shipments will be tracked through the MTS. Delivery coordinates and time will be sent by FFCB2 or CSSCS free text message to the receiving unit/activity, with information copies furnished to the DAO, brigade S4, DAO representative, the BN/TF S4, and respective FSB/DASB/DSB support operations. In the event an ammunition shipment needs to be diverted within the brigade, the brigade commander or designated representative will retain the sole authority to do so. This will be done through the DASB support operations officer using the CSSCS, MTS or FFCB2 through free text. Ammunition shipments that need be diverted within the division will be directed by the DISCOM commander or designated representative.

## **ATP OPERATION**

9-10. The ATPs act mainly as a temporary distribution point, conveniently located to facilitate rapid issues to the users. The ATPs are operated by the HDCs (FSB) for the maneuver brigades and the HSC (DASB) for the aviation brigade and division cavalry squadron. The rear ATP, when utilized, is located vicinity of the DSA. It is established and operated by the corps DS ammunition company. The rear ATP is responsible for providing Class V support to divisional and non-divisional assets located in the division rear. One DAO representative will be located at each ATP. The ATP will be used when forward deliveries are not required. Units that are directed to pickup ammunition from the ATP will follow the normal request procedures outlined above, and will also prepare a DA Form 581 to be sent to the DAO representative at the ATP. The requesting unit will submit the DA Form 581 through the BN/TF S4 who will approve the request and either forward it to the brigade S4, or have the unit hand carry it to the brigade S4 for approval. The DAO representative will confirm the request through the DAO prior to issue. If the unit has PLS, it will be directed to the appropriate "rack" to be picked up. If the unit requires "break bulk" issue, the ATP section will issue based upon the DA Form 3161 provided by the DAO representative. The DAO representative goes to the respective support operations section and uses CSSCS or MSE to coordinate and confirm. Coordination on the location, amount, and type of ammunition to be received at the ATP will be

made among the DAO, CMCC, and the respective support operations officer based on guidance from the DISCOM commander, division G4, and G3. Ammunition will be delivered on flat racks by corps transportation assets using PLS trucks and trailers. The ATP personnel will interrogate RF tags of arriving PLS shipments to gain immediate visibility of the shipment and enable it to immediately identify the organization it is to be issued to. Units arrive at the ATP to pick up ammunition; drop off empty, or partially empty, ammunition flat racks and retrieve fully loaded flat racks. ATP personnel will assist units PLS in transloading ammunition. The ATP section will reconfigure loads to meet mission requirements on a limited basis only. The flat racks will normally be issued as shipped. If partially empty flat racks are returned and the returned ammunition is required within the brigade, the ATP section may consolidate the ammunition from the partially empty flat racks and make full loads for issue within the brigade. All empty flat racks will be shipped back to the ASP or CSA as soon as possible. The ATP representative will report all issues and turn-ins. Corps transportation assets used to deliver ammunition resupply will pick up the unit turn-ins to respective support operations and to the DAO. for immediate retrograde. When time and equipment permits, the ATP representative will attach RF tags to the retrograde shipments. The MTS will track the ammunition vehicle returns as they are retrograded to the rear. The MTS provides the ability to redirect the shipment if needed. The ATP will maintain only those limited ammunition stocks that they can transport. Figure 9-3 depicts Class V distribution.

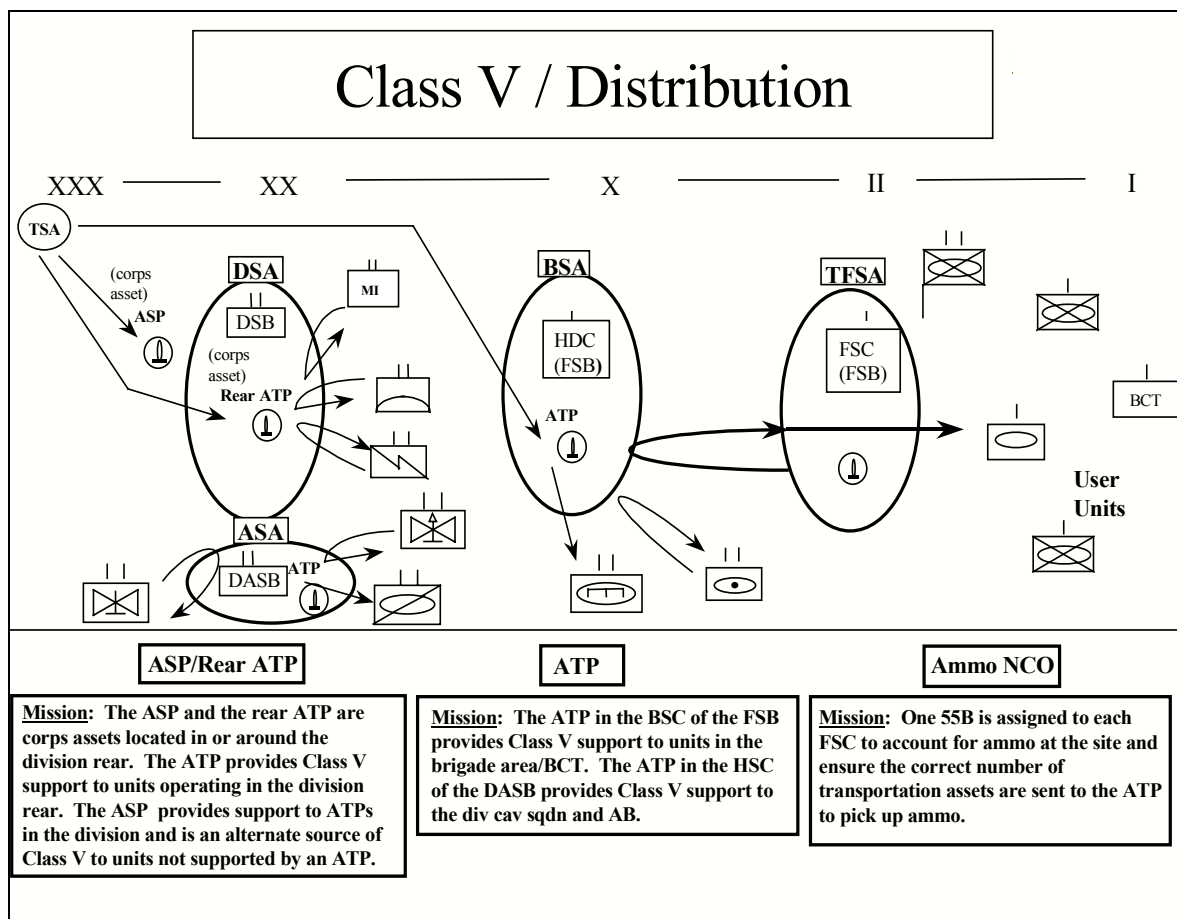


Figure 9-3. Class V Distribution

### ASP OPERATIONS

9-11. The ASP is located in the vicinity of the DSA, but is non-organic to the division and is run by corps assets. The ASP is run by the corps DS ammunition company and provides support to the ATPs in the division and also serves as an alternative source of Class V to units not supported by an ATP.

### FUELING THE FORCE

9-12. Bulk fuel, Class III(B) is handled by the corps petroleum distribution system, along with ½ DOS of reinforcing bulk fuel support to the FSBs and DASB handled by the fuel platoon of the quartermaster (QM) company in the DSB. The reinforcing fuel in the DSB provides capability for surge or pursuit and exploitations operations. This fuel is a contingency fuel in case the EAD fuel is interdicted.

9-13. The Class III(P/B) and water supply branch of the general supplies section in the division support operations controls and manages the supply of bulk fuels to division elements. It

determines fuel requirements and recommends priorities, allocations, and other controls for bulk fuels.

9-14. Fuel distribution will be a combination of unit distribution and supply point distribution. The fuel platoon of the QM company (DSB) will provide distribution of Class III(B) to the DSA, and reinforcing support to the FSBs and DASB. The distribution section of the supply and transportation platoon (HDC) is responsible for distribution of Class III(B) to the BSA, and distribution to the fuel tankers of the FSCs. The distribution section of the supply and transportation platoons (FSC) are responsible for distribution of Class III(B) to the supported BN/TF. The distribution section of the supply platoon of the HSC in the DASB is responsible for distribution Class III(B) to the AB and division cavalry squadron.

9-15. Fuel status is initiated at the platoon or company level, and reported daily to the 1SG using the LOGSITREP report in FBCB2. Information copies will be furnished to commanders at each echelon. The 1SG consolidates on hand quantities and submits the fuel status report via FBCB2 to the BN/TF S4, with information copy to the FSC support operations section. The BN/TF S4 consolidates the fuel status report for the CO/TM and submits by company rollup on hand quantities via FBCB2 to the brigade S4, with information copy to the FSC support operations. The brigade S4 consolidates the BN/TFs and brigade troops fuel status reports and submits the report to the FSB support operations via FBCB2, with information copy to the division G4 via CSSCS. The FSC and HDC using FBCB2, submit their bulk fuel status report to the FSB support operations section. The FSB support operations section consolidates the bulk fuel status reports for the brigade and slice elements, and submits it to the division support operations section using CSSCS. Units supported by the DSB submit their bulk fuel status reports to the DSB support operations using LOGSITREP or LOGSTAT. The DSB support operations consolidates the bulk fuel status report for the division troops and submits it to the division support operations using CSSCS. The DASB support operations consolidates the bulk fuel status report for the AB and division cavalry squadron and submits it to the division support operations using CSSCS. The division support operations uses the bulk fuel status reports from the FSBs, DSB and DASB to compute the Class III(B) requirements for the division. The division support operations submits the consolidated division requirements to the corps support command (COSCOM) CMMC using CSSCS, with information copy to the division G4.

9-16. The COSCOM resupplies the division with bulk fuel twice daily based on METT-TC. It may be transported into the division by tanker, railway, or pipeline. A transportation medium truck company (petroleum) usually makes deliveries directly to the DSB, DASB and FSB units. The division support operations, with guidance from the division G4, will coordinate the bulk fuel distribution into the division. Throughput will be maximized down to

the lowest level when ever possible. The preferred method of distribution is via LRP operations as coordinated with the DSB, DASB, and FSB support operations.

9-17. Bulk fuel will be issued based on priorities established by the division G4 with guidance from the division commander. The QM company of the DSB provides DS fuel to division troops and reinforcing support to the FSBs and DASB. The QM company provides supply point and unit distribution to the division troops, as determined by fuel consumption/distances/METT-TC. The DASB HSC provides bulk refueling to the AB and the division cavalry squadron. The FSB support operations is responsible for coordinating the resupply of bulk fuel to the FSCs and the HDC. The location of the bulk refueling site and the quantity of issue is transmitted using FBCB2 to the receiving unit and the supply and transportation platoon. The HDC provides DS support to the brigade troops and backup/reinforcing support to the FSCs. The FSC support operations and the BN/TF S4 will coordinate the refueling site and quantity of issue for the maneuver companies using FBCB2. Fuel HEMTT tankers located in FSC accomplish the tactical refueling operations for the maneuver companies. Figure 9-4 depicts Class III(B) operations.

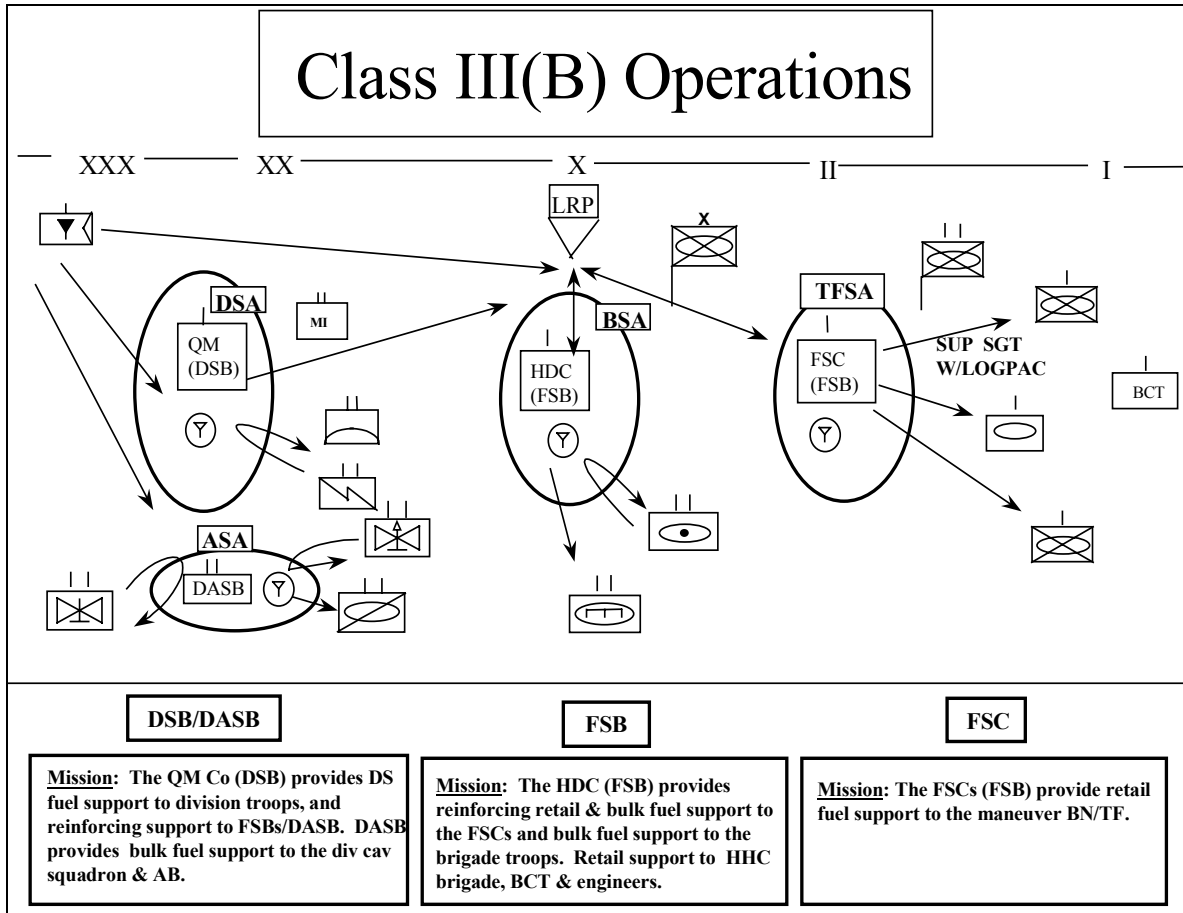


Figure 9-4. Class III(B) Operations

### FIXING THE FORCE

9-18. The overarching principle of performing maintenance as far forward as possible on the battlefield remains unchanged. Mechanics accomplish their mission by using advanced diagnostics and prognostics to diagnose to the major component fault, at which point, the component is replaced under the “replace forward” concept. “Replace forward” focuses on “on-system” maintenance tasks or those tasks that can be performed at the breakdown site, if possible, or UMCP. In the redesigned division, maintenance doctrine and procedures have been changed to gain greater effectiveness and efficiencies. Figure 9-5 depicts the maintenance relationships in the division.



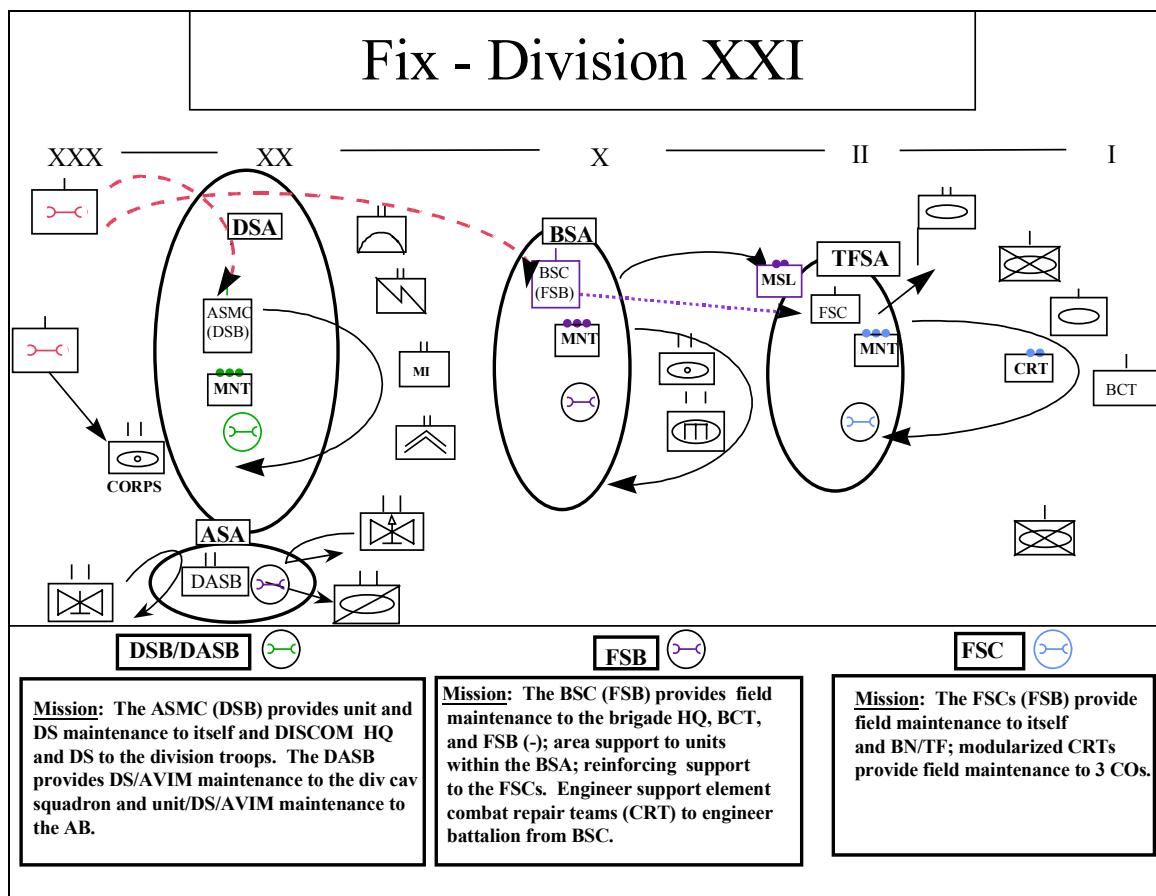


Figure 9-5. Fix-Division XXI

## CONTROLLED EXCHANGE

9-19. Controlled exchange is the removal of serviceable parts, components, or assemblies from unserviceable, but economically repairable equipment and their immediate reuse in restoring a like item of equipment to combat operable or serviceable condition. Published guidance for the use of controlled exchange should be in unit SOP.

## CANNIBALIZATION

9-20. Cannibalization is the authorized removal of parts, components, or assemblies from economically non-repairable or disposable end items. Cannibalization supplements and supports the supply operation by providing assets not readily available through the normal supply system.

## DIVISION SUPPORT BATTALION MAINTENANCE CAPABILITY

9-21. The DSB area support maintenance company (ASMC) provides DS maintenance to division troop units not supported by

the brigade support company or forward support company of the forward support battalion. The DASB provides maintenance support to the aviation brigade and division cavalry squadron. Except for medical items, airdrop equipment, light textiles, and munitions, this company provides the following:

- Performs field level maintenance for itself and the DISCOM headquarters company.
- Performs DS maintenance to all authorized divisional troop units' equipment.
- Provides technical assistance to division troop units.
- Provides modular DS maintenance teams forward in support of ADA, MI, signal, and FA (MLRS).
- Provides base shop maintenance for all divisional troops land combat and short-range air defence missile/gun systems.
- Performs quality assurance/quality control inspections.
- Conducts technical assistance inspections when requested by user units.
- Provides on-site repair for all missile systems not organic to the brigades.

9-22. All requests for ASMC maintenance support are directed through the division support battalion (DSB) support operations section. The DSB support operations section receives the maintenance calls for support (CFS) then forwards the task orders (TO) to the ASMC MCS. The MCS forwards the TO to the appropriate section or team who will perform the mission.

9-23. The ASMC manages organizational maintenance using ULLS-G. When unit level parts are required, the ASMC checks its PLL. If not available, ULLS-G forwards the request to the SARSS-1 site in the DSB quartermaster (QM) company where the request is either filled or passed to the SARSS-2A site at the DISCOM support operations section. The SARSS-2A site checks divisional SSAs, and either issues the part or forwards the request to the corps MMC.

9-24. When DS level maintenance support is required, the supported unit sends a CFS to the DSB support operation section via FBCB2 or SINCGARS radio. The DSB support operations section sends a task order (TO) to the ASMC maintenance control section. The MCS dispatches appropriate maintenance personnel and equipment to link up with the supported unit at the predetermined place and time to diagnose/troubleshoot and repair the piece of equipment. If repairs cannot be made on-site, the inoperable piece of equipment is recovered to the ASMC MCP or other designated location.

9-25. The maintenance support team and base shop platoon order all required DS level repair parts on a DA Form 2407, maintenance request, which is then inputted into SAMS-1. The MCS issues

those shop stock items that are available and orders the remaining parts through the SARSS-1 site in the DSB QM Company. The MCS monitors inoperable equipment using its SAMS-1 computer system. In addition, the DSB support operations section and the maintenance section of the division support operations section use SAMS-2 to assist in both maintenance and readiness management.

## **AUTOMATION MAINTENANCE**

9-26. The digitized division depends on a significant number of automated systems to accomplish its missions in both peacetime and wartime operations. Automation is a critical component of gaining information dominance, shaping the battlespace, conducting decisive combat, and protecting the force.

9-27. A major part of the success in leveraging all this automation involves the development of an integrated maintenance plan for keeping all the associated hardware and software operational and functioning. The maintenance plan must be integrated to maximize operator level, organizational, and direct support maintenance capabilities within the division and the reinforcing direct support and contractor maintenance capabilities at echelons above division.

9-28. Development of a successful automation maintenance plan at the DSB level in support of division troops' battlespace involves the following considerations:

- A viable PMCS program for all automated systems that can be executed at operator level (this may entail the local development of automation PMCS kits that consist of compressed air, keyboard covers, lint sheets, and disk drive cleaners for CD ROM disks, magnetic optical disks, and floppy disks). This must be coupled with an established maintenance cycle for automation that focuses on periodic checks and services.
- Clearly defined levels of maintenance responsibility for soldiers (31U/74B/35J) and contractor personnel that define who is authorized to perform certain maintenance related functions as well as identification of any warranty exceptions that may be required.
- Proper positioning on the battlefield of automation related "combat spares"/ASL (cables, T-connectors, keyboards, disk drives, motherboards, UPS, etc...) that supports the replace forward/fix rear maintenance concept.
- Identification of applicable tool sets and kits needed to support automation maintenance and equipping maintainers at appropriate levels with the proper tools to perform their mission.
- A clearly defined division automation evacuation and repair plan that contains procedures and SOPs for contacting "Help Desks", packaging and preparation of hardware for

evacuation to higher echelons, and issuance of spare or “float” automation equipment. The focus of this plan must be on maximum reduction of repair cycle time.

9-29. Other considerations at division level for automation maintenance include:

- A comprehensive training plan for exposing soldiers to automation maintenance at the operator level. This must parallel vehicle maintenance programs to the degree that maintenance of automation becomes a periodic, sustained process. Automation, like vehicles, must be viewed as combat systems and cared for accordingly.
- Increase operator confidence in troubleshooting and repairing automation systems. Reduce operator dependency on contractors and logistics assistance representative (LARs) from AMC electronic systems support center (ESSC) to solve operator and organizational problems. Free ESSC personnel to focus on isolation and repair of maintenance faults that cannot be resolved by division’s organic maintenance assets.
- Proper positioning of contractor personnel and LARs from AMC ESSC in the division area. Consider establishment of various “help desks” at different echelons within the division battlespace (i.e. at brigade level).
- Identify duties and responsibilities of various personnel, units, and battle staff sections regarding automation maintenance. Clearly define what tasks and functions that the operators, the CSSAMO, the various S6 sections at different echelons, maintenance units, and contractors are responsible for.

9-30. Rehearse evacuation and replacement procedures for combat critical automation systems such as FBCB2, ABCS (MCS, CSSCS, AFATDS, ASAS, AMDWS, and selected GCSS-A systems).

## **MOVING THE FORCE**

### **DIVISION TRANSPORTATION OPERATIONS**

9-31. The division support command (DISCOM) provides direct support CSS to the division. The foundation of this support is a single CSS operator providing unity of command and centralized distribution management at all echelons to meet the maneuver commander’s intent. Under Force XXI operations, this doctrinal premise is dependent upon battlefield distribution, throughput to forward areas, and improved situational understanding through the application of enabling technologies.

9-32. Significant changes in division transportation operations under Force XXI operations include: an improved division transportation motor transport (TMT) company design that replaces the M931 tractors/M871 trailer combinations with palletized load handling systems (PLS); merger of movements and materiel

management at the DISCOM distribution management center (DMC); reliance on corps throughput for sustainment resupply; transportation assets forward in the supply & transportation platoons of the support companies (HDC and FSCs); and movement managers located in the FSB support operations section to provide movement control and transportation coordination for the maneuver brigade.

9-33. In order to maximize division transportation capability, planners and operators must employ the Force XXI CSS integrating imperatives discussed below as the basis for all transportation operations.

### **Unity of Command, Centralized Distribution Management**

9-34. Synchronizing movement and materiel management and maintaining integrated end-to-end visibility of transportation assets is key to the successful operation of an efficient, fully integrated transportation system at the division level. The DISCOM movement control officer (MCO) performs this function for the division as a member of the DISCOM commander's staff and is located in the DISCOM's distribution management center. The movement control NCO performs this function for the maneuver brigade and is located in the FSB support operations section.

### **Increased Velocity, Throughput to Forward Areas**

9-35. Throughput operations bypass one or more echelons in the distribution pipeline to minimize handling of cargo and improve velocity on the battlefield. Direct throughput relies on unity of command and situational understanding to effectively implement the use of transportation assets and to divert, re-route; and ensure continuous movement of supplies into through, and out of the division area. The DISCOM MCO maintains constant in-transit visibility (ITV) of corps sustainment resupply convoys entering the division rear boundary through MTS and other ATCCS. The movement control NCO in the FSB support operations section maintains constant ITV of all corps (or division) sustainment resupply convoys in/out of the BSA through movement tracking system (MTS). The FSB movement control NCO also synchronizes delivery schedules via Force XXI battle command brigade and below, FBCB2 with customer units to complete throughput to forward areas.

### **Increased Velocity, Minimize Load Handling**

9-37. Minimizing load handling of cargo and reducing materiel handling equipment requirements are essential to successful throughput to forward areas under Force XXI CSS doctrine. Transportation corps materiel enabling technologies such as the PLS, HEMTT-LHS, and CROP significantly reduce handling requirements over break-bulk methods. These systems extend distribution throughput capability and enhance velocity through

flatrack exchange at the division, brigade, and task force support areas. Transportation managers will coordinate efficient flatrack exchange and maximize flatrack load capacity and retrograde operations.

## **MOTOR TRANSPORT AND MOVEMENT CONTROL OPERATIONS IN THE DIGITIZED DIVISION**

9-38. Movement and maneuver of combat forces are normally given priority over other movements, even though CSS traffic is essential to the success of battles. Movements planning and execution in the division are staff responsibilities, rather than being vested in operational units found at corps and above. Transportation mode operators and movement control elements at division level manage the movement of noncommitted units in the division area and requires close coordination between the division's G3 and G4. The G3 plans and directs maneuver. The G4, through the division transportation officer (DTO), DISCOM distribution management center (DMC), and DISCOM MCO coordinates and controls division transportation operations. Planning and regulating movement requires close coordination among the division staff and the commanders and staffs of brigades, separate battalions, and separate companies.

9-39. The division G4 DTO is the primary advisor to the division commander, the coordinating staff, special staff for transportation matters, and is the formal link between the division and corps. The DTO plans for movement of the division by all modes based on the division commander's guidance. The DTO develops and coordinates movement control and highway planning with division staff, the corps transportation officer (CTO), and division support command movement control team (MCT), habitually supporting from corps. The division G3 prioritizes CSS movement and tactical maneuver missions in support of the division operation and the DTO incorporates these priorities into all movement planning. The DTO participates in the military decision making process as a member of the division planning staff and recommends the allocation of division transportation assets and establishment of MSRs. The DTO will provide the DISCOM MCO with broad policy guidance and basic plans for the division road network written in the highway regulation and traffic circulation plans (movement annex) of the division OPLAN/OPORD.

9-40. The DISCOM MCO supports movement control through planning, and controlling the taskings to the TMT company. The TMT company commander provides a current status of fleet availability to the MCO. The FSB, DASB, and DSB support operations sections, as well as separate companies and battalions supported by the DISCOM pass requests for movements to the MCO. The MCO balances the requests to the availability of TMT company assets, then assigns the missions to the TMT.

9-41. When transportation requirements exceed capabilities, the MCO must decide whether to wait for TMT company assets to become available or forward the mission to corps for support. If forwarded to the corps, the request is submitted through the DTO to the division MCT. The supporting division MCT submits the request to the CSG(F)'s supporting area MCT. The transportation support will come from the supporting corps support group's (CSG) transportation units. The MCO is responsible for ensuring that transportation assets are properly employed and promptly released when missions are completed.

9-42. The DISCOM MCO develops the division movement program based on the G4 logistics planner's combat service support annex of the division OPLAN/OPORD and adheres to guidance within the division movement annex. The MCO coordinates with the materiel managers of the DISCOM DMC to determine and plan for transportation of materiel and assists in the development of the CSS synchronization matrix.

9-43. The MCO coordinates with subordinate support operations movement/materiel managers to ensure delivery of sustainment resupplies to the correct location and integrates retrograde movement of equipment, flatracks, and personnel. Throughput distribution is the preferred method of delivering commodities and supplies to requesting supply support activities or to the user. Sustainment materiel delivered to the DSB, DASB, and FSB will normally be scheduled deliveries and synchronized with subordinate support operations sections and customer units. Corps transportation assets contact the movement managers (MCO and DSB/DASB/FSB distribution managers) through MTS when entering the division/brigade rear boundary(s) and delivering to the DSA, ASA, or BSA logistics release points (LRPs). The movement managers will forward the coordinating information through their supporting area MCTs to the division via MTS. All divisional and non-divisional units operating in the division rear area will submit transportation requests and movement clearance requests to the DISCOM MCO. Figure 9-6 depicts the division movement control flow.

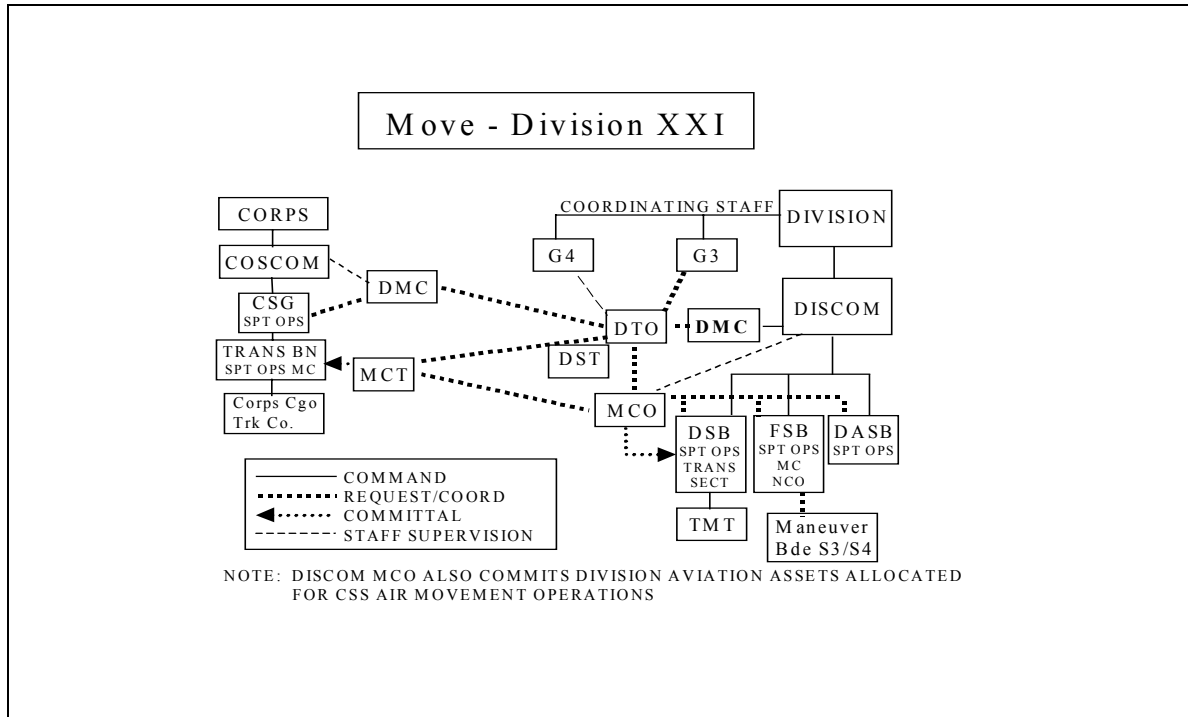


Figure 9-6. Division Movement Control

9-44. Transportation operations and movement control in the maneuver brigade is a CSS staff responsibility. The brigade S4 provides the brigade commander with overall staff responsibility for highway regulation and MSR/ASR establishment in the brigade area in coordination with the brigade S3's priority of movement and the DTO's highway regulation and traffic circulation plans. Movement control at the brigade level requires close coordination between the brigade S4, DISCOM MCO, FSB support operations officer, and the battalion S4/forward support company (FSC) support operations officer at the BN/TF level.

9-45. The movement of the brigade is coordinated and synchronized with the division G3, G4, and the DTO. Unless the movements are planned concurrently with the tactical plan, the best plans can be thwarted by road congestion. The brigade S3 approves all tactical movements in the brigade's battlespace. The brigade S3 must also maintain visibility of CSS movements to ensure they are synchronized with the scheme of the tactical movement. The brigade S4 plans, and manages all movements with assistance from the FSB support operations.

9-46. The FSB support operations section assumes the distribution management center's role in providing continuous and responsive sustainment to the brigade through a variety of STAMIS and ATCCS managed by the section. The FSB's limited distribution



capability relies heavily on support from the DISCOM and corps for sustainment throughput. The FSB's distribution manager synchronizes the delivery schedule with customer units and transfers information between the brigade S4 and the battalion S4/FSC support operations section (via MTS) to schedule and synchronize transportation requirements within or in direct support of brigade or battalion operations. For supplemental transportation support and coordination on inbound and outbound shipments the FSB movement control NCO coordinates with the DISCOM MCO through MTS.

9-47. The FSC support operations section assumes the movement and materiel management and maintenance (evacuation) functions of a DMC at the lowest echelon of support to a BN/TF. The FSC support operations officer coordinates with the BN/TF S4 and synchronizes the delivery of all classes of supply with customer units and transfers requirements and capabilities to the FSB support operations officer (info copy to FSC Cdr). The FSC support operations officer schedules and synchronizes transportation support, and the FSC rear CP coordinates inbound and outbound shipments with the FSB movement control NCO through MTS.

#### **FIRST DESTINATION REPORTING POINT**

9-48. A first destination reporting point (FDRP) is normally established along a MSR at or near the division rear boundary. The FDRP is a point manned by a movement regulating team, a movement control team, or military police that diverts a driver and cargo to an alternate consignee or destination. Basically, FDRPs are logistical information checkpoints. FDRPs support velocity management and situational understanding.

9-49. Even though the division is digitized, a FDRP is routinely required since many echelon above division (EAD) supporting units, host nation support, and/or contractors will be non-digitized. Either the division or an EAD unit can operate the FDRP. Optimally, both the division and supporting EAD headquarters have representatives located at the FDRP continuously. Security arrangements, command and control, and communications support must be addressed prior to FDRP establishment. Further amplification of FDRP operations can be included in unit SOPs. Some tasks performed at the FDRP are below:

- Track location of critical supplies.
- Perform movement control functions.
- Provide instructions to convoys.
- Provide and receive latest intelligence.
- Reroute convoys/vehicles.
- Provide information on routes and weather.
- Establish division "light line" for black-out driving.

- Linkup point for armed convoy escort vehicles.

## **FLATRACK MANAGEMENT OPERATIONS**

9-50. Flatracks offer tactical efficiencies that serve an increased pace of logistical operations and significantly alter the speed at which service support is provided to the warfighters. The key to sustaining these efficiencies and maintaining improved throughput velocity is flatrack employment, management, and retrograde procedures at each echelon of support. An increased battlespace depth and a reduction of CSS force structure challenge flatrack management and ultimately sustainment of combat power within the FXXI division area of operations. Flatrack management is a challenge that must be met in order successfully sustain combat power on the FXXI battlefield.

9-51. Flatrack employment, management, and retrograde operations are the responsibility of distribution managers integrated at each echelon of support throughout the division area. Flatracks will be dispersed throughout the distribution pipeline, particularly from the division rear boundary to the combat trains command post of a maneuver task force. It is imperative that stringent flatrack management procedures be implemented at the tactical level on an area basis.

### **Task Force Support Area Flatrack Management Operations**

9-52. Forward support companies operating TFSA face increased flatrack management challenges they are mobile units with limited transportation assets to move supplies and retrograde flatracks. Flatrack management responsibilities within the TFSA rest with the FSC support operations officer and the FSC S&T platoon leader. The FSC support operations officer flatrack responsibilities include:

- Identifying a proposed flatrack collection point (FRCP) upon occupation of the TFSA in coordination with the FSC S&T platoon leader.
- Managing all common user flatracks on an area basis.
- Ensuring flatrack exchange (providing a back hauled flatrack for every received) procedures are adhered to as a matter of priority.
- Maximizing the use of FSC S&T LHS for retrograding flatracks from the FRCP back into the distribution pipeline.
- Reporting flatrack on-hand quantity by location, status, and condition to the FSB support operations office movement control (MC) NCO.
- Coordinating with the FSB support operations MC NCO for supplemental transportation support when retrograding flatracks from the TFSA FRCP.

9-53. The FSC S&T platoon leader flatrack responsibilities include:

- Identifying a proposed flatrack collection point (FRCP) upon occupation of the TFSA in coordination with the FSC support operations officer.
- Ensuring flatrack exchange procedures are adhered to as a matter of priority.
- Collecting and consolidating empty flatracks across the BN/TF sector.
- Reporting flatrack on-hand quantity by location, status, and condition to the FSC support operations officer.
- Back hauling/cross leveling items on flatracks such as ammunition residue, trash, remains, unserviceable parts/assemblies, as directed by the FSC support operations officer.

9-54. Flatrack exchange is the preferred method for retrograding flatracks from the TFSA. The FRCPs are designated for flatrack consolidation purposes when required and this proposed location is reported to the FSB support operations officer. Logistics release points (LRPs), supply routes, feeder routes accessing supply routes, other collection points, and force protection measures are considered when selecting these locations. The FRCPs can also be collocated within the existing TFSA FSC perimeter or consolidated with adjacent FSCs to maximize force protection resources.

### **Brigade Support Area Flatrack Management Operations**

9-55. Forward support battalions operating in the BSA have flatrack management responsibilities for all flatracks throughput to and retrograding from the brigade area. Flatrack management responsibilities within the BSA rest with the FSB support operations office, supply & services movement control (MC) NCO and the HDC S&T platoon leader.

9-56. The FSB support operations MC NCO flatrack responsibilities include:

- Identifying a proposed flatrack collection point (FRCP) upon occupation of the BSA in coordination with the HDC S&T platoon leader.
- Managing all common user flatracks on an area basis.
- Ensuring flatrack exchange procedures are optimized using division and corps throughput assets as a matter of priority.
- Maximizing the use of HDC S&T LHS for retrograding/back hauling flatracks from the FRCP back into the distribution pipeline.
- Reporting flatrack on-hand quantity by location, status, and condition to the movement control office (MCO), DMC, DISCOM.
- Monitoring the status and location of FSC FRCPs.

- Coordinating with the DISCOM MCO for supplemental transportation support when retrograding flatracks from BSA FRCP.

9-57. The HDC S&T platoon leader flatrack responsibilities include:

- Identifying a proposed flatrack collection point (FRCP) upon occupation of the BSA in coordination with the FSB support operations office MC NCO.
- Ensuring flatrack exchange procedures are adhered to as a matter of priority.
- Collecting and consolidating empty flatracks/back haul items across the brigade rear area and at TFSA FRCPs.
- Reporting flatrack on-hand quantity by location, status, and condition to the FSB support operations MC NCO.
- Retrograding unserviceable assemblies/parts, supplies, trash, remains, or any back hauled/cross-leveling item on flatracks as directed by the FSB support operations office MC NCO.

9-58. The preferred method for retrograding flatracks from the BSA is flatrack exchange with the FSCs, division rear support units, and corps sustainment resupply convoys. The FRCPs are designated for flatrack consolidation purposes when required and this proposed location is reported to the DISCOM MCO. Logistics release points (LRPs), supply routes, feeder routes, accessing supply routes, supply support activity, and other collection point locations, and force protection measures are considered when selecting these locations. The FRCPs can also be collocated within existing logistical nodes to maximize force protection resources.

### **Division Rear Area Flatrack Management Operations**

9-59. The division support operations office has flatrack management responsibilities for all flatracks throughput to and retrograding from the division rear area. Overall flatrack management responsibility within the division rear area rests with the DISCOM MCO. The DISCOM MCO has flatrack management and status reporting responsibility to the supporting area movement control team (MCT) of the supporting corps support group.

9-60. Within the division rear area, flatrack management responsibilities are delegated further on an area support basis. The DSA and the ASA assume flatrack management responsibilities for their respective areas. The DSB support operations office, transportation section (in the DSA) and the DASB support operations office (in the ASA) are charged with collecting empty flatracks within their area of responsibility and providing a daily flatrack status report to the DISCOM MCO.

9-61. The preferred method for retrograding flatracks for the DSB and the DASB is flatrack exchange with corps sustainment resupply convoys. The DISCOM MCO, in coordination with the DSB and DASB, identifies proposed FRCPs upon occupation within the

division rear area. The FRCPs are designated for flatrack consolidation purposes when required and this proposed location is reported to the supporting area MCT. The LRP, supply routes, feeder routes accessing supply routes, supply support activity and other collection point locations, and force protection measures are considered when selecting these locations. The FRCPs can also be collocated within existing logistical nodes to maximize force protection resources.

9-62. The DISCOM MCO, DSB, and DASB manage all common user flatracks on an area basis, ensure flatrack exchange procedures are optimized using division and corps assets as a matter of priority, and maximize the use of TMT company PLS for retrograding flatracks from the FRCPs back into the distribution. The DSB and DASB support operations offices coordinate with the DISCOM MCO for supplemental transportation support for flatrack retrograding from their respective areas. The DISCOM MCO submits requests for supplemental transportation support to the supporting area MCT for flatrack retrograding from the division rear support area FRCPs.

### Flatrack Reporting Procedures

9-63. Accurate daily reporting of flatracks in a unit's area of responsibility by location, status, and condition is critical to efficient management of this crucial asset within the distribution pipeline. A separate report is not required for reporting flatrack status. Flatrack managers roll flatrack status into existing reports. Requests for

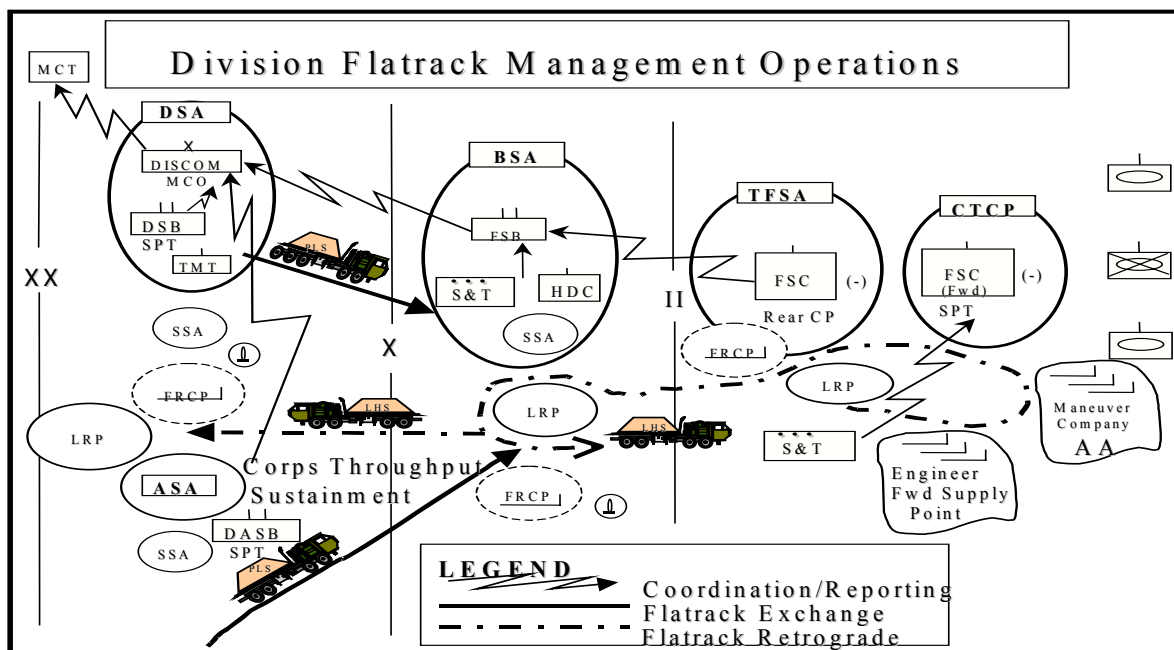


Figure 9-7. Division Flatrack Management Operations

supplemental transportation to retrograde flatracks on the battlefield are submitted as routine transportation requests through support operations channels. Flatrack procedures outlined in this appendix will be incorporated into unit tactical standing operating procedures (TACSOPs). Figure 9-7 depicts the digitized division's flatrack management operational flow.

## **ARMY AIRCRAFT SUPPORT**

9-64. Logistics planners categorize air movements request as preplanned or immediate. Units submit preplanned requests to satisfy programmed requirements 24-hour or more in advance. Immediate requests are initiated when there is less than 24-hour notice, support is absolutely essential to the survival of the unit, or when lack of support will result in complete mission failure.

9-65. Units submit requests to the DSB movement control NCO who forwards requests to the MCO at the DISCOM DMC. If the MCO determines use of aviation assets is appropriate, the request is forwarded through the DTO to the division G3 air officer. The G3 air officer allocates helicopter lift support by balancing combat, combat support, and CSS requirements. If divisional assets are not available the DTO submits a request through the CMCC to higher headquarters. For immediate requirements the DTO coordinates through division G3 air to corps G3 air.

9-66. When aviation assets are dedicated to CSS distribution missions for certain periods of time, the aviation brigade sends a liaison officer to the DMC movement control office of the DISCOM support operations. If aviation assets are required for CSS distribution missions, the MCO submits preplanned requests for these assets from the flight opns/S3 of the aviation brigade through the liaison officer (info copy to DTO). This liaison officer advises the MCO on capabilities and limitations of the aircraft, particularly the lift capability for current environmental conditions.

9-67. The MCO provides movement requirements including size of the load, pickup and delivery times, location of landing zones, and any special handling requirements pertinent to aircraft operations. The MCO also coordinates with the appropriate commodity manager within the DMC for transportation of supplies. If the aviation brigade is unable to support requirements, the MCO contacts the DTO. The DTO coordinates with the G3 air officer for verification and forwards the request to the corps through the division support MCT.

9-68. Units submit immediate requests for resupply and transportation through the same logistics channels as preplanned requests. However, the requests are submitted simultaneously through command channels from the unit to G3. The MCO will

submit the request through the DTO, who verifies the request. Once verified, the DTO forwards the request to the G3 air via CSSCS. At the same time the G4 coordinates for immediate resupply with the DMC commodity manager to identify the appropriate supply company to prepare the immediate shipment (reference FM 55-450-5). If the aircraft is equipped with FBCB2 the pilot contacts the supported customer to finalize coordination. Information is passed to both the supporting and supported units as well as the responsible operations center/staff proponent.

## **GENERAL HELICOPTER CSS MISSION AREAS**

### **Transition to War**

- Self-deploy to area of operations.
- Provide early in-theater transport.
- Move priority cargo, weapons, ammo, POL and barrier material forward from ports/staging areas to establish supply points.

### **Deep Battle**

- Move troops, equipment, weapons systems, ammo, POL, priority supplies from rear to forward staging areas to support deep battle operations.
- Deploy reinforcing units; evacuate wounded, recover battle-damaged equipment, and forward repositioning of artillery.

### **Covering Force and the Main Battle**

- Support air assault units with rapid resupply of ammo and POL.
- Augment reaction forces into blocking positions to contain enemy.

### **Rear Battle**

- Move forces and equipment to counter operations in rear.
- Augment reaction forces into blocking positions to contain enemy.

### **Combat Support**

- Emplacement, repositioning, resupply of forward area refueling points (FARPs).
- Rapid repositioning of reinforcement troops, equipment, artillery, etc...
- Transport barrier materials, mines, bridging equipment for engineering support.

### **Combat Service Support**

- Provide logistical air transport of cargo from rear to as far forward as brigade rear areas meeting time sensitive and surge demands.
- Deliver critical loads to areas not accessible by ground or Air Force airlift.
- Employed to move priority cargo to overcome congestion and enemy inflicted gaps in transportation system.

## **SUSTAINING THE FORCE**

9-69. Sustainment is the provisioning of personnel, logistics, and other support required to maintain and prolong operations or combat until successful accomplishment or revision of the mission or of the objective.

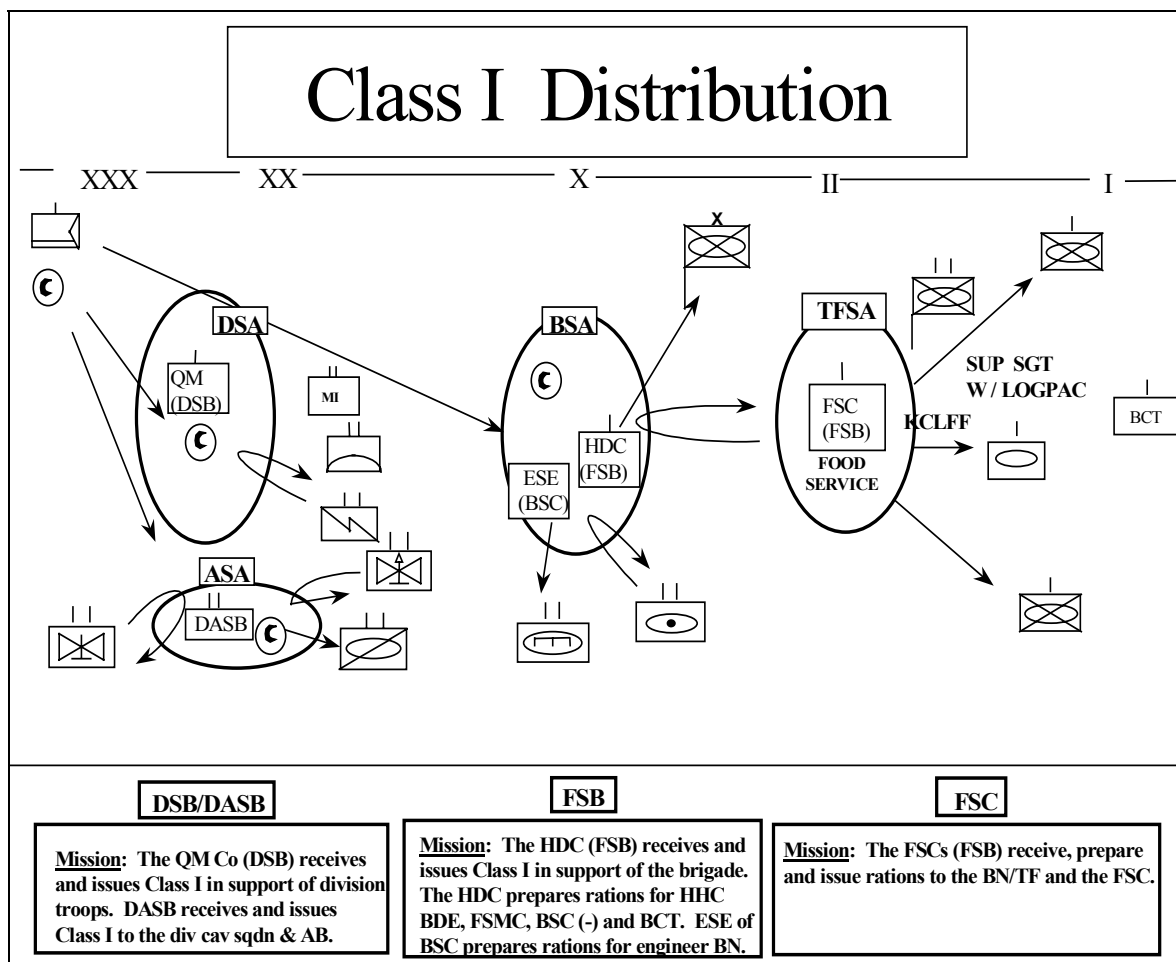
## **CLASS I**

9-70. Food is one of the most important factors affecting a soldier's health, morale, and welfare. However, the acquisition, storage, transportation, distribution, preparation, and serving of food have always been a logistics inhibitor to the operation. The Army field feeding system (AFFS) is based on the requirement to serve "three quality meals per day with the capability to distribute, prepare, and serve a Unitized Group Ration "A"(UGR-A), a "heat and serve" UGR meal, and a meal ready to eat (MRE) individual ration" (Chapter 1, FM 4-20.2 (10-23)) after initial entry into the theater.

9-71. As the operational situation permits, efforts are made to distribute, prepare and serve the UGR-A introduce the A Ration into the theater. This requires extensive planning and coordination. Some key points planners need to consider with the UGR-A A Rations are: refrigerated storage and distribution equipment and the availability of ice for unit storage.

9-72. The DISCOM receives headcount data for Class I from the FSB, DSB, and DASB support operations sections from CSSCS, and in turn sends it to CMMC. These Class I headcounts should be rolled up by BN/TF sets to their respective support operations before being forwarded to the DISCOM food service section. Corps or EAC will configure rations in BN/TF sets and push them forward to the FSB, DSB, and DASB field ration issue point IAW the ration cycle. The FSB, DSB, and DASB support operations sections coordinate with supported units for the location of ration issue point and pick-up schedule. Figure 9-8, shows Class I resupply.





**Figure 9-8. Class I Distribution**

9-73. Rations are pushed forward to the FSB, DSB, and DASB field ration issue point based on personnel strength reports, planned operations, and anticipated task organization. The Class I field ration issue point verifies shipping documentation with the shipment received. They also inspect shipments of rations for type, number, and condition or items received.

9-74. When the division is engaged in combat, the ration supplement health care package (HCP) is usually issued with the rations. Issue is to division troops and those attached troops operating in the division area. These supplement HCPs should not be confused with Class VI supplies. The HCP is composed of items essential to the health and comfort of troops. These items include toilet articles and confections. Pending establishment of adequate service facilities, this packet is made available in theaters of operations for issue.

**WATER**

9-75. The Class III and water supply branch of the division support operations will manage water distribution within the division. Figure 9-9 shows the DISCOM water distribution organization. Water production and storage is provided to the division by an augmentation team from the modular water unit within the COSCOM. This water augmentation team is capable of establishing water points that produce, store and issue potable water. The augmentation team will establish water points in the DSB, DASB and each FSB. The team is dependent on the division for life support and force protection. Water points are normally attached to the support battalions.

9-76. Water points may produce, store, and issue or (without the availability of a suitable water source) simply store and issue potable water. In an arid environment, water points will receive additional storage capacity from the COSCOM. Within an arid environment or where there is no suitable water source, the COSCOM will deliver water as part of normal sustainment pushes. An adequate water source should be a consideration when selecting the division, aviation, and brigade support areas. Limited water sources may require massing production assets from the augmentation team and transporting the water to support area water points.

9-77. Water distribution within the DSA, ASA and BSA will be through supply point distribution at the water points. The HDC's hardwall tankers will be used to distribute water to maneuver battalions. Maneuver company supply sergeants fill their water trailers at the TFSA according to an established schedule.

9-78. Bottled water may be locally procured or shipped from outside of the theater of operations. Bottled or packaged water is particularly well suited for reception, staging, onward movement, and integration (RSOI) and initial operation, however (situationally dependent) may be routinely issued throughout an operation or conflict. It is normally distributed along with Class I. The Army Medical Command has the responsibility for quality surveillance and quality assurance for bottled water.

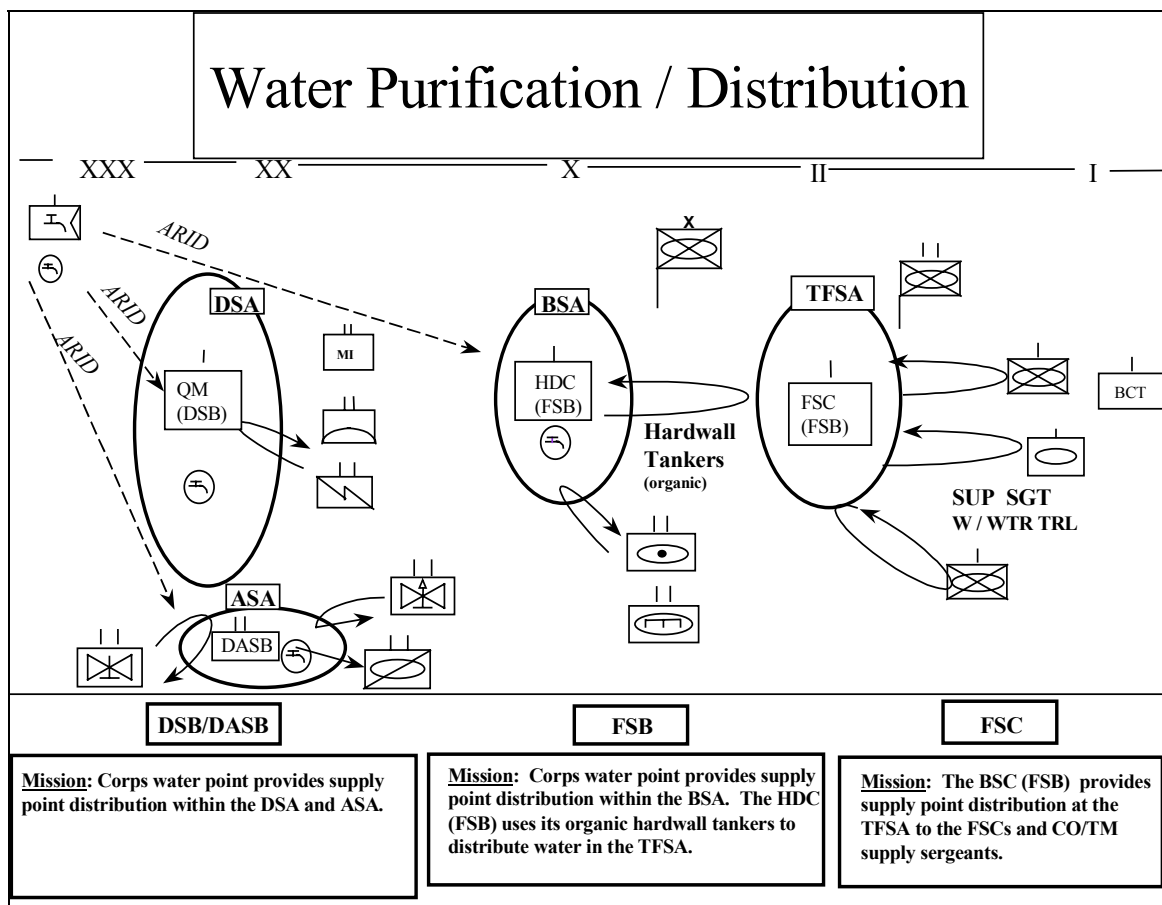


Figure 9-9. Water Purification/Distribution

**CLASSES II, III (PACKAGE), IV, AND VII**

9-79. Figure 9-10 depicts supply operations for Classes II, III(P), IV, VII, & IX. Figure 9-11 shows the requisition flow for Classes II, III(P), and IV.

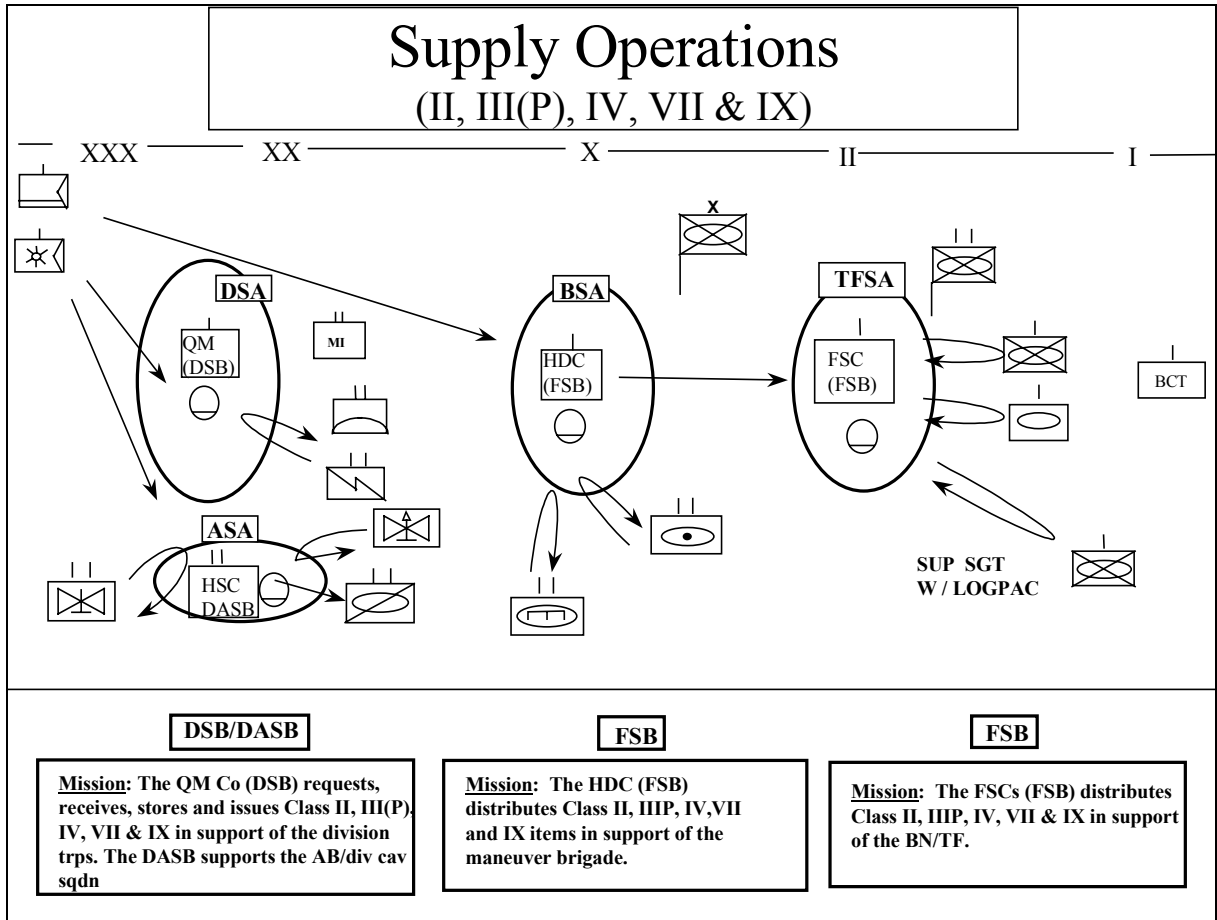


Figure 9-10. Supply Operations (II, III(P), IV, VII, & IX)

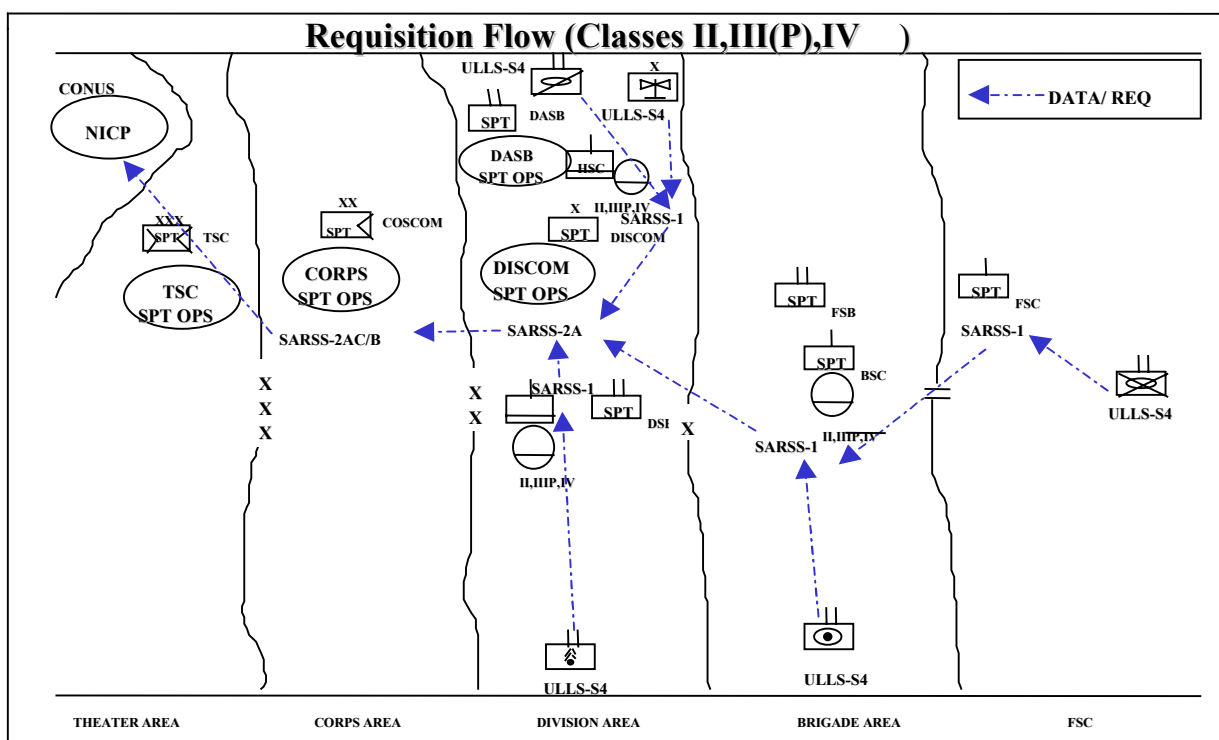


Figure 9-11. Requisition Flow for Classes II, III(P), IV

## CLASS II

9-80. Class II supply operations are limited to critical items since clothing and individual equipment are bulky and impede DSB mobility. The DSB must use priorities provided by DISCOM in coordination with the G4 for unit issues. Items normally stocked are Class II minimum essential combat ASL items. These items include high demand mechanics tools, protective items such as MOPP gear, boots, helmets, and individual soldier equipment.

9-81. Class II items may be issued individually or in lots to speed up receipt and issue time. These items support a specific number of troops. Intense combat operations in an NBC environment will increase the demand for Class II items. Arrangements should be made for scheduled resupply of protective overgarments and other Class II NBC related items and equipment.

9-82. Unclassified maps follow the same requisition flow as Classes II, III (P), and IV supplies. They are stored in the receipt, storage, and issue section. Maps are issued through supply point distribution to supported units according to established tables of allowances or to fill special requirements. Classified maps are handled through S2 channels.

## CLASS III (PACKAGE)

9-83. Class III (P) supplies are issued to division rear units. Class III (P) supplies are requested, received, and distributed like Class II and Class IV items. They include fuel in 5- and 55-gallon containers; packaged products such as lubricants, greases, hydraulic fluids, and solvents in containers of 55 gallons or less; and cylinders of liquid and impressed gases. The receipt, storage, and issue of packaged petroleum products and fuels are described in FM 10-69. AR 710-2 is used for guidance on preparing paperwork for packaged petroleum products.

#### **CLASS IV**

9-84. Class IV supplies consist of construction and barrier materials. Because of the bulk of these materials, the DSB handles limited quantities. COSCOM units store and maintain the majority of all Class IV supplies. The DSB supply platoon has the capability to handle limited quantities of survivability item. These are items that can be emplaced by any unit and include such common items as sandbags, concertina wire and fence posts. Requests for survivability items are processed the same as for Class II items. Supported units within the division rear obtain Class IV through supply point distribution. COSCOM units deliver barrier materials directly to the emplacement site whenever possible.

#### **CLASS VI**

9-85. Class VI supplies are those items used for personal hygiene, comfort, and welfare. They include such things as candy, gum, dental care products, soap, and stationery. Initially the soldier carries these personal items with him. As the supply system adjusts to demand, resupply is by HCP where personal demand items are issued gratuitously. HCPs, as already mentioned, are issued with Class I items. When the situation permits, tactical field exchanges provide services to specified units to troop concentrations.

#### **CLASS VII**

9-86. Class VII items are intensively managed and are normally command controlled. Class VII replacement is based on combat losses reported through command channels to the division G3 and G4 via MCS and CSSCS. This permits the commander to remain apprised of the operational status of subordinate commands and to direct the distribution of items to those units having the most critical need. Weapon systems such as tanks are intensively managed by weapon system replacement operations (WSRO). If the item is a WSRO weapon system, the primary linkup points of the item with its crew may occur in the DSA/ASA/BSA or in designated assembly areas.

9-87. Class VII requests will be accomplished by using the FBCB2 to submit combat loss reports from company level to the BN/TF S4. The CO/TM rollups will be consolidated by the BN/TF S4 and

submitted to the brigade S4, with an information copy provided to the FSC support operations. The brigade S4 will consolidate and submit battalion combat loss reports to the division support operations via CSSCS, with information copies provided to the division G4 and FSB support operations. The Class VII/PBO representative from the division support operations will enter the requests into the appropriate STAMIS (SPBS-R to SARSS-1). The DSB support operations will consolidate and submit division troops battle loss reports for Class VII to the division support operations, with a copy provided to the G4. The DASB support operations will consolidate and submit aviation brigade and division cavalry squadron requests for Class VII to the division support operations, with a copy provided to the G4.

9-88. A predetermined amount of Class VII may be maintained and issued to division organizations upon division support operations approval, based on guidance from the division G4. Upon corps approval of division support operations Class VII requisitions, COSCOM units transport Class VII equipment to the supporting SSA (QM CO, HSC, HDC, or FSC) or directly to the requesting unit when possible.

## **CLASS VIII**

9-89. Class VIII management in the Army's Force XXI division is accomplished by medical units/elements through the use of a functional business system called medical logistics-division (MEDLOG-D) a software application of the MC4 system. Currently the functional business system for Class VIII wholesale/retail management at echelons above division (EAD) is the theater army medical management information system (TAMMIS) which is a legacy system. This system will be replaced in the future by the defense medical logistics standard support (DMLSS) system. MEDLOG-D is a module of DMLSS and is scheduled for fielding to division and corps medical units/elements. This system provides division and corps medical units/elements a direct link with the supporting MEDLOG battalion's units. The health service materiel officer (HSMO) of the division surgeon's section (DSS) and the DISCOM medical materiel management branch (MMMB) in the division support operations section, coordinates Class VIII resupply for division medical units/elements. Each medical unit maintains its own basic load of 3 days of medical supplies. The MEDLOG battalion assigns one MEDLOG company in direct support of each division. Once established, it provides Class VIII resupply for the division and corps medical elements operating in the division AO.

9-90. During deployment, lodgment, and early buildup phases, medical units operate from planned, prescribed loads and from existing pre-positioned war reserve stockpiles identified in applicable contingency plans.

9-91. During the initial employment phase, each FSMC will receive a preconfigured medical resupply push-package every 48 hours

from pre-positioned stock or the continental United States (CONUS) base. Preconfigured medical resupply push-packages will continue until appropriate units of the corps MEDLOG battalion are established.

9-92. Initial resupply efforts may consist of preconfigured medical supply packages tailored to meet specific mission requirements. Preconfigured push-packages will normally be shipped directly to the division support medical company (DSMC) and FSMCs until replenishment line item requisitioning is established with the supporting MEDLOG company. During this time, medical company treatment and ambulance teams deployed with maneuver or other division elements are re-supplied from their medical company. Maneuver battalion medical platoons/battalion aid stations (BASs) will receive standard push-packages every 12-24 hours. Contents of push-packages can be adjusted as the battle changes. Line item requisitioning will be by exception only during this time. While resupply by preconfigured packages is intended to provide support during the initial phase, continuation on an exception basis may be dictated by operational needs. Planning for such a contingency must be directly coordinated with the DSS. Other than line item requisitioning from the FSMCs and DSMC, the HSMO of the DSS and the DISCOM MMB will coordinate all Class VIII requirements for the division with the supporting MEDLOG battalion and/or MEDLOG company as appropriate.

9-93. Divisional medical elements use MEDLOG-D, a software application of the MC4 system, to requisition Class VIII. Users of this system in the division include maneuver battalion medical platoons, FSMCs, the DSMC, and the DISCOM MMB. The MEDLOG-D system is the primary source for Class VIII line item requisitions from the FSMCs and DSMC. Forward support medical companies and the DSMC request Class VIII resupply from the supporting MEDLOG company.

### **Routine Requisitions**

9-94. Routine requisitions from maneuver battalion medical platoons for Class VIII resupply from their supporting FSMC will be via a digital request. An information copy of all requisitions within the brigade will be forwarded by the FSMC on-line to the DISCOM MMB and an information copy to the brigade surgeon's section (BSS). Routine requisitions submitted by FSMCs, division or corps medical elements operating in the BSAs are forwarded directly to the supporting MEDLOG company. An information copy goes to the DISCOM MMB. The MMB coordinates shortfalls in throughput distribution with the DSS and divisions support operations branch. The MMB may update priorities with the MEDLOG company to correct deficiencies in the delivery system. If the requested items are available for issue, a materiel release order is printed and the requested supplies are prepared for shipment. For items not available for issue, the requests are passed to the



MEDLOG battalion's logistics support company. Using TAMMIS, the MEDLOG company forwards information to the unit on items shipped and on those requests which were not filled. An information copy is forwarded to the MMMB.

### **Immediate Request**

9-95. Immediate requisitions from maneuver battalion medical platoons are submitted to the supporting FSMC. When the supporting FSMC is unable to fill the request, the requisition is forwarded to the DISCOM MMMB. The DISCOM MMMB will expedite handling of this request to ensure tracking of critical Class VIII items and timely delivery. Cross-leveling in the division may be accomplished if it is the most expedient method of obtaining and shipping required items to the requesting unit/element. If the DISCOM MMMB is unable to locate requested item(s) in the division, the request is forwarded to the supporting MEDLOG company. Immediate requisitions from FSMCs are sent through the DISCOM MMMB for management and to ensure visibility of the requisitions. The DISCOM MMMB maintains a record of the requisition until it is filled. All immediate requests received by the MEDLOG company are processed for shipment by the most expedient transportation available. The MEDLOG company forwards all immediate requests not filled, to the MEDLOG battalion's logistics support company located in the corps rear. The DISCOM MMMB has the responsibility of monitoring all immediate requisitions not filled by the MEDLOG company. The DISCOM MMMB reports all immediate Class VIII requests to the DSS/CHS cell.

### **Delivery of Class VIII**

9-96. Delivery of throughput Class VIII to the requesting medical units in the division is accomplished by logistical packages (LOGPACs) and nonmedical transports. Shipment of these Class VIII LOGPACs from the MEDLOG company is coordinated with the corps support battalion and the corps movement control officer (MCO). The management and in-transit visibility of Class VIII delivery is accomplished through document number and transportation number tracking. The systems that work together to provide this management and coordination are TAMMIS, transportation coordinator's automates information for movement system (TCAIMS), MTS, and global traffic network (GTN). These systems are located in the MEDLOG company and the DISCOM MMMB. In some cases, delivery of medical materiel into the division AO may also be achieved through use of the directed Class VIII resupply using medical evacuation resources that are returning to the division medical units. From the FSMCs, delivery of Class VIII to maneuver battalion medical platoons via LOGPAC or nonmedical transports is coordinated by the FSMC with the FSB support operations section. For directed Class VIII resupply, medical transports may be used. Immediate Class VIII resupply

will be processed for shipment by the most expedient means available. Based on casualty estimates, medical push-packages may be pre-positioned with maneuver battalion medical platoons or with the FSMC. Figure 9-12 provides an overview of Class VIII requisitions and resupply flow at echelon I. Figure 9-13 provides an overview of Class VIII requisitions and resupply flow at echelon II.

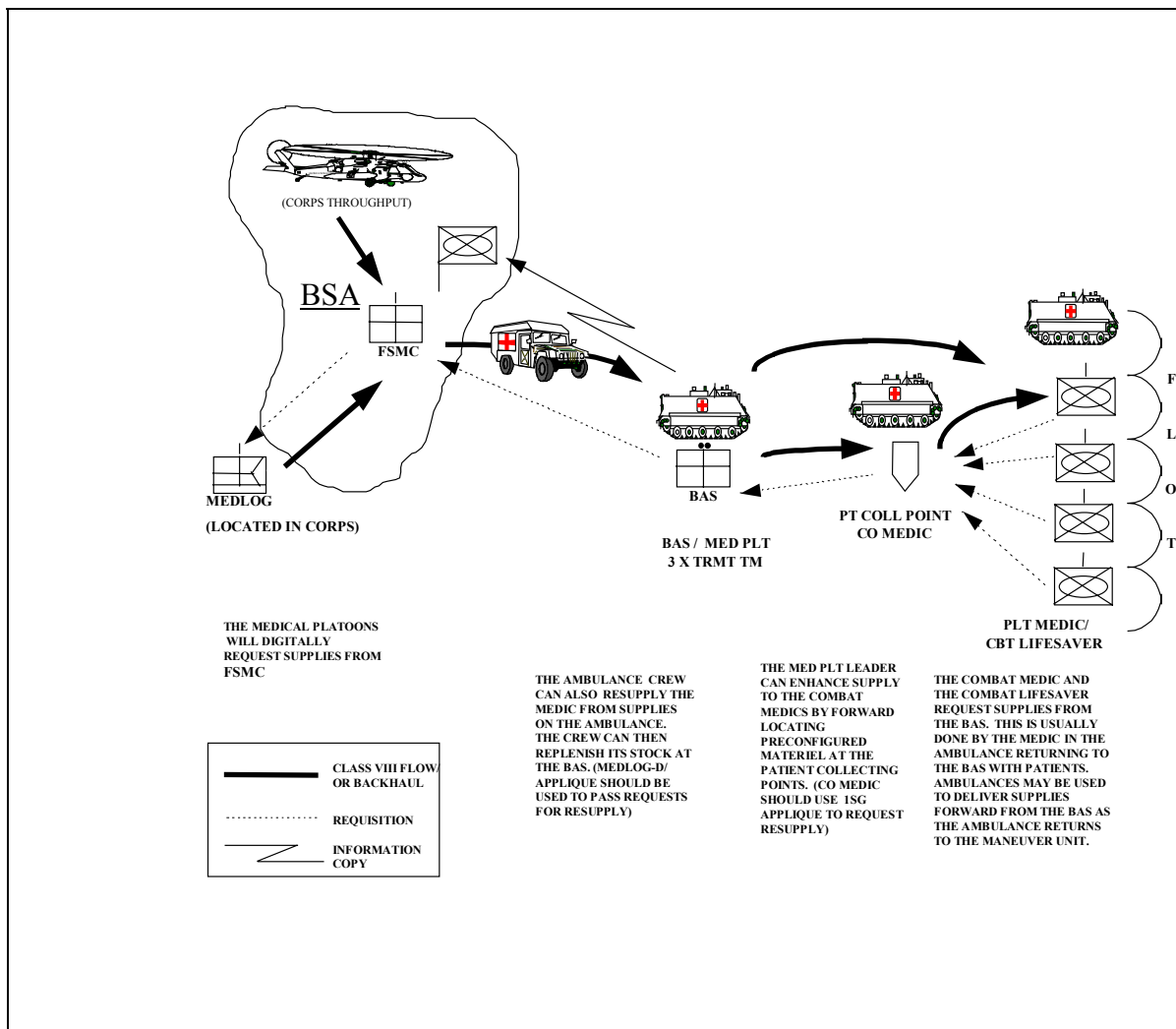


Figure 9-12. Overview of Class VIII resupply at Echelon I

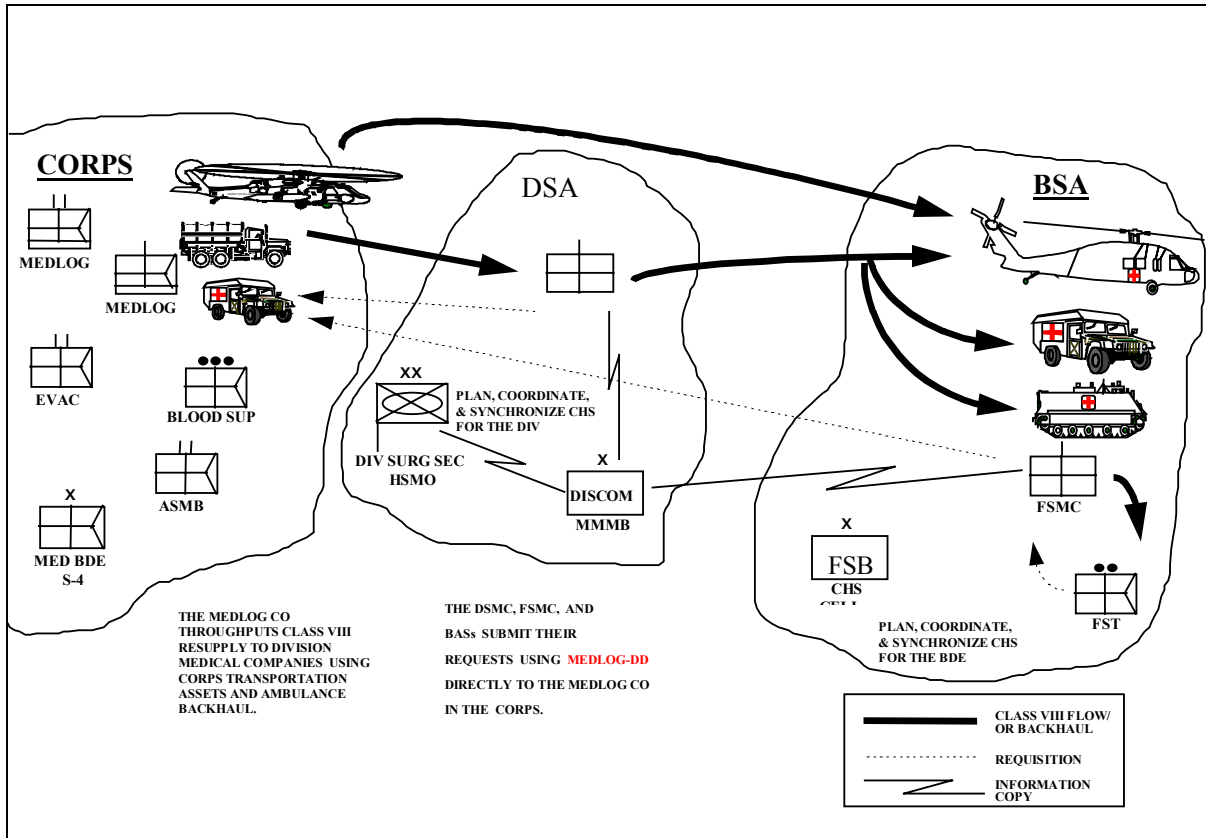


Figure9-13. Overview of Class VIII resupply at Echelon II

### Assemblage Management Reporting Under USR

9-97. Unit status reporting (USR) of medical equipment sets (MESSs) in the division will be created using the MEDLOG-D USR feeder report. This is not a classified report. It calculates percent fill of sets according to AR 220-1 and AR 40-61 and does not create a roll-up of equipment on hand calculations. Minus the potency or dated items while units are not deployed, 70 percent fill of the combined expendable, durable, and non-expendable items within a set constitute an on-hand set for accountability purposes. Medical equipment must be maintained at an acceptable degree of readiness above 70 percent as determined by the division surgeon and unit commander.

9-98. Division medical units/elements will prepare a requisition plan to immediately replenish all potency, dated, and other items that are not being maintained and missing items from sets. Units will coordinate with the supporting MEDLOG company prior to implementation of the plan.

9-99. Transmission of Class VIII requisitions and status reports data will be accomplished by one of a number of ways. The baseline method will always be by disk and hard copy. The preferred method will be by radio or MSE transmission if signal

capabilities allow. At the battalion level, units will attempt to transmit requisition and report data using SINCGARS systems improvement program (SIP) or enhanced position location reporting system (EPLRS) linked to the hyperlink or modem capability of MEDLOG-D. Given the line of site limitations of FM radio, this attempt is best accomplished in synchronization with previously coordinated retransmission. Within the BSA and higher, transmission of data will be by either MSE or amplitude modulation (AM) radio if allowed. Note that if MSE is used, the unit must accomplish prior coordination with the division G-6 to obtain a net encryption system or other encryption hardware system in order to send data.

### **Division Blood Management**

9-100. Blood requirements for the division are determined by the division surgeon. Only packed liquid red blood cells are expected to be available to the division. Blood products are shipped to Army MTFs in the division by the blood support detachment of the MEDLOG battalion. The DSS (HSMO) coordinates with the blood support detachment for division blood requirements. Shipment of blood from the corps to the division is coordinated by the blood support detachment with the corps movement control center (CMCC). It is then transported to the requesting MTF by dedicated medical vehicles (air and ground). The blood support detachment notifies the DISCOM MMB when blood is shipped. Emergency resupply can be accomplished by air ambulances from the medical battalion, evacuation or by medical personnel on nonstandard medical transports.

9-101. Blood support is a combination of four systems (medical, technical, operational, and logistical). Blood support must be considered separate from laboratory support. In the long term, theater blood management is based on resupply from the CONUS donor bases (Armed Services Whole Blood Processing Laboratories [ASWBPLs]). At the corps level, storage and transportation refrigerators allow the blood support detachment to provide blood as far forward as the FSMCs of the division. See FMs 8-10, 8-10-9, 8-55, and TM 8-227-12 for definitive information on blood management. Also refer to Technical Manual 8-227-12, Armed Services Blood Program Joint Blood Program Handbook, January 1998

### **Medical Support To The DASB**

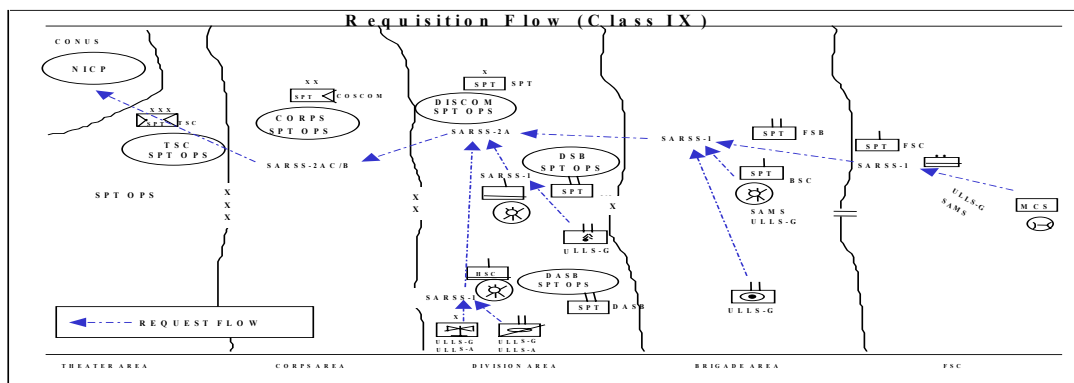
9-102. The DASB has no organic medical support. The DSB DSMC supports those DASB and other units in the division rear with a treatment team. Units operating in the forward areas may be supported by FSB, FSMC on an area basis. The division cavalry squadron and the division artillery units have organic level 1 medical personnel.

## CLASS IX

9-103. Class IX and PLL/combat spares for the CO/TM are received, stored, and issued by the Class IX element of the MCS, FSC. An operator identifies a fault and requests assistance from the CRT via FBCB2. The CRT will diagnose the fault and identify the required Class IX supplies. The DSU supporting the brigade troops is the HDC. The ASL for the brigade is maintained by the Class IX section in the HDC. The PLL for the HDC of the FSB, FSMC of the FSB, HHC brigade, engineer battalion, and the brigade cavalry troop may be managed by the MCS of the BSC. The PLL for the HHC of the FSB, FSMC of the FSB, HHC brigade, engineer battalion, and the BCT may be maintained by the MCS of the BSC. The Class IX supply section of the QM company, DSB, provides direct support to division troops. This section receives, stores, and issues Class IX (ground and missile) supplies. This section also maintains the division troop's ASL, and operates the reparable exchange service. The Class IX supply section of the HSC, DASB provides direct support to AB units and the division cavalry squadron. The section also maintains the aviation brigade/division cavalry's ground ASL, and operates the reparable exchange for ground equipment.

### Class IX Requests

9-104. An operator identifies a fault, annotates the fault and notifies the CRT. The CRT will diagnose the fault, identify the repair part required, forward the request to the maintenance control section (MCS) of the FSC, the MCS will either issue the part if it is on hand or it will pass the requisition on to the Class IX section supply platoon of the HDC via ULLS-G or SAMS, and if the part is on hand in the Class IX section of the HDC it is released. If the requested repair part is not on hand, the Class IX section will process the requests via SARSS-1 and forwards to the DMMC SARSS-2AD. The FSB's HDC maintains the brigade's ASL. The MCS in the BSC and the FSCs maintain the brigade's combat spares. The supply and transportation platoon, HDC will process the ULLS-G and



SAMS class IX requisitions via SARSS-1 for brigade troops and the MCSs. The QM company of the DSB will process the ULLS-G and SAMS class IX requisitions via SARSS-1 for division troops. The HSC of the DASB will process the ULLS-G request data via SARSS-1 for the aviation brigade and division cavalry squadron. Figure 9-14 shows the requisition flow of Class IX within the division.

### **Class IX Resupply**

9-105. Upon receipt of a requisition, the DISCOM/COSCOM SARSS-2A will conduct a subordinate search of all SSAs to locate the requested repair part. Once SARSS-2A identifies the location of the repair part, a MRO is processed to the lowest level SSA. The COSCOM's CSG units will throughput Class IX supplies to the QM company of the DSB, the HSC of the DASB, the S&T platoon of the HDC, and when possible the supply section of the FSC. The QM company and S&T platoon will conduct supply point distribution for division and brigade troops. The HSC of the DASB will conduct supply point distribution for AB and the division cavalry squadron. The S&T platoon of the HDC provides unit distribution to the FSC in support of the maneuver companies. COSCOM units will transport Class IX (A) supplies to the supply platoon of the AMC in the DASB. Class IX supply operations is shown in Figure 9-10.

### **FIELD SERVICES**

9-106. Field services, such as showers, laundry and textile renovation, are provided by the corps field services companies. The unit makes requests for field services to the DSB, DASB, and FSB support operations section. The requesting support operations section will make the appropriate coordination with DISCOM.

Field service support requires close coordination with those within and outside the division. The division support operations, DSB support operations, FSB support operations, DASB support operations, and commanders of the S&S and field services companies of the corps are all involved in providing field services to the division.

### **MORTUARY AFFAIRS**

9-107. All commanders are responsible for unit level search, recovery, and evacuation of remains to a MACP. A well-organized mortuary affairs program in the division helps to ensure the following:

- Prompt and effective recovery of all remains from the division area of responsibility.
- Prompt and accurate identification of the remains.

- Prompt recovery, inventory, and security of personal effects found on remains.
- Evacuation of remains, with their personal effects secured to them out of the division area to the corps mortuary affairs collection point (MACP).
- Prompt, accurate, and complete administrative recording and reporting.
- Prompt and adequate care for deceased allied and threat personnel IAW current United Nations (UN) agreements.
- Reverent handling of remains and adequate ceremonies and services for deceased.
- Emergency burials, when required.

9-108. Upon deployment and transition to the concurrent return program, a forward collection platoon will be detached from the corps mortuary affairs company and deployed forward sending a forward collection section to each of the three maneuver brigades and one to the DSA. The division commander has the flexibility and based on METT-TC may deploy the sections as the mission dictates. The MA collection sections each consist of one 92M30, one 92M20, and five 92M10. Unit MA responsibilities are detailed in Joint Publication 4-06, Joint Tactics, Techniques, and Procedures for Mortuary Affairs in Joint Operations.

9-109. The DSB is responsible for coordinating mortuary affairs (MA) activities within the DSA. The DSB has one MA NCO soldier in the DSB support operations section. The MA NCO's responsibilities include:

- Advising the DSB commander on MA issues.
- Training the division troops and DSB units and personnel on performing search and recovery, tentative identification, and evacuation of remains to the mortuary affairs collection point (MACP).
- Establishing the MACP within the DSA.
- Advising on emergency burial policy and the security and disposition of remains and personal effects.
- Planning and coordinating escort of remains.
- Maintaining files, reports, and a situation map on MA support activities.

9-110. Individual units are responsible for initial search, recovery, identification, and evacuation of remains to the MACP. The MACP located at the division rear provides DS in the receipt, temporary storage, processing, tentative identification, and evacuation of remains and their accompanying personal effects to a MACP located in the corps. When tasked, the MACP provides DS to divisional maneuver units, by providing technical assistance during post-combat search and recovery missions, interments or MA decontamination collection point missions. The MACP receives



remains from supported units (located within the DSA) and from maneuver units operating forward of the BSA when these collection points are backlogged with remains. Each unit has the responsibility to initiate tentative identification and coordinate for evacuation of remains to nearest MACP.

9-111. The MA NCO assigned to the DSB support operations section selects and recommends to the DSB commander the best location for providing MA support within the DSA. Sites are screened from passing troops and access to the site will be the responsibility of the NCOIC at the MACP. Collection points should be located near medical evacuation lines or the ATP. They are usually located near the MSR. Once the site has been approved, administrative orders are published detailing the location of the MACP.

9-112. Vehicles bring supplies (except Class I) to the DSA evacuate remains to the DSA collection point as a backhaul mission or by throughput to the corps collection company or theater mortuary evacuation point (TMEP). The recommended method of evacuation of remains is air evacuation (fixed or rotary wing) in coordination with the DSB support operations and G3 Air. The G3 approves, requests, and tasks the aviation brigade to perform the mission. Applying the throughput concept, remains may be evacuated directly to the rear (TMEP) for shipment to the POE mortuary. This method of evacuation allows for expeditious processing and minimizes advanced stages of decomposition of remains. For morale purposes and respect for the deceased, remains should always be covered and screened from sight during transportation.

## **MANNING THE FORCE**

9-113. Manning is the process of recording, reporting, verifying and processing personnel strength and casualty information at the unit level. PSSCS is a progression from the Task Force XXI experiment.

9-114. Proper and effective manning is essential to the operational success of any military mission. Manning the force involves the uninterrupted flow of soldiers from mobilization and deployment through redeployment and demobilization. The manning process includes the tasks of predicting personnel requirements, resourcing units with personnel assets in accordance with the commander's guidance, monitoring the personnel strength posture, assessing unit combat power, and adjusting personnel resources to provide the optimum combination of manpower and equipment to maximize combat power. Manning the force impacts force ratio evaluations and all logistical requirements. To optimize and sustain the commander's lethality, survivability, and high OPTEMPO requirements, the personnel operator must place the right soldier, at the right place and time. This process combines anticipation,

movement and skillful positioning of personnel assets. The Force XXI commander must integrate manning information with other combat power factors in a near real-time to execute combat operations successfully.

9-115. The DSB S1 is the staff officer for the DSB commander on all matters concerning human resources. Manning in the DSB remains the process of getting the right soldier at the right place and time with the right capabilities. Manning the force encompasses the tasks that current doctrine associates with personnel readiness management, replacement management, and casualty management. In information age operations the commander must also, have digitized manning information integrated with other decision support data in order to execute combat operations successfully. Enabling Force XXI technologies include the tactical personnel system, , the personnel module of CSSCS, and the FBCB2/PERSITREP. Systems described in the manning the force automation architecture (including SIDPERS3) also provide information to man the force.

9-116. The lethality and digitization capabilities associated with the DISCOM and the 21st century battlefield require that manning be divided into discrete tasks. These tasks are iterative and do not follow a prescribed order or sequence. PSS organizations are provided the minimum assets necessary to conduct the tasks required at their echelon.

9-117. Predicting is the process of anticipating the number, grade, and skill of personnel resources required to sustain the BOS of the DISCOM as they execute the operational patterns that destroy the enemy's will to fight. The S1 must complete a loss estimate based on threat and friendly force capabilities. This estimate provides planning parameters for replacements, medical facility/support requirements and graves MA affairs assets. In the DISCOM the personnel operator will use the digitized capabilities within the personnel module of CSSCS to anticipate casualties. This module, TPS (tactical personnel system), will produce a gross loss estimate then arrange them by grade and MOS to anticipate replacement requirements.

9-118. Resourcing is the process of bringing units to their required strength according to the commander's priorities. Although it occurs at every echelon of command, resourcing is the primary focus of the national provider. The DA DCSPER executes the task at the national level to structure, acquire, train, distribute, and separate the force. Individual replacements move to the central receiving center under the direction of the DCSPER and CONUS MACOMs to resource the force projection theater. At all levels, personnel operators provide commanders combat power visibility by properly identifying the status of available personnel resources. The S1 then recommends the allocation of available resources to meet current and future requirements. The DISCOM cannot

resource itself and must be provided assets from division to accomplish this task.

9-119. The FXXI division and its units will be multi-compo units. Multi-compo units have both active (AC) (compo 1), and reserve (RC) (compo 2 [Army National Guard] and/or [United States Army Reserve] (compo 3) personnel and/or units as part of its MTOE. This is accomplished in one or more of the following manners:

- Units of one component missioned to support higher headquarters units of another component.
- AC and RC soldiers assigned by paragraph and line to the same unit.
- The three types of reservist assigned to the FXXI unit are;
- Members of troop program unit (TPU), traditional drilling reservist.
- Reserve associate support program (RASP), USAR soldiers recruited for a specific TPU, brought on active duty for two years, sent to initial and advanced individual training, attached to division for remainder of their two year active duty tour, than return to their USAR unit in TPU status.
- Active guard and reserve (AGR), USAR or ARNG soldiers on extended active duty.

9-120. Monitoring is the process of gathering unit strength data on a real time basis through digitized systems and communications. With digitization, we will eliminate the requirement for unique personnel reporting systems by having the capability to absorb personnel information from tactical communications. The task of digitized strength monitoring begins with establishing the strength baseline. S1s, under the direction of the G1, manifest all deploying personnel using. Inbound or prepositioned asset information is available through information systems of the manning the Force automation architecture and/or the JPAS. It is transmitted to personnel operators performing manning tasks at the strategic and/or operational level and provided to the division. The deployed database and personnel asset visibility establishes the strength baseline. The DISCOM S1 maintains unit status by getting updates through ABCS.

9-121. Assessing is the process of comparing current and projected unit strength data to personnel capabilities required to maintain OPTEMPO and achieve operational success. It starts by determining the personnel required to maintain BOS combat power IAW the commander's priorities and intent. The S1 matches current assets with projected losses and replacements and recommends the method to properly resource units.

9-122. Adjusting is the process of packaging, positioning and dispatching replacements to deliver them when and where needed. The G1 notifies the DMC of movement requirements as commanders direct the proper adjustment of personnel assets to

accomplish pending missions. Personnel operators both in one division and at EAD, in coordination with logisticians match personnel and equipment during the adjustment process by providing unit, squad, crew, team, or individual replacements according to the commander's operational requirements and the needs of the BOS. Movement time and distance factors influence the positioning of personnel replacement units which hold and process replacements until they are dispatched to the gaining unit. The Force XXI division G1 does not have the resources to accomplish the adjustment task and may direct the dispatch of replacements directly from EAD to the gaining unit. In this case he synchronizes the adjustment task by sending teams from his operations cell to the EAD PSS unit where replacements are positioned as well as to the gaining units. If the commander desires to provide replacements indirectly to the gaining unit by holding them at the division level, the personnel group or personnel command must attach a replacement unit to the division. The G1 then uses his operations cell to directly manage the packaging, positioning, and dispatching of replacements.

9-123. When soldiers deploy to an area of operations, the battalion S1 manifests soldiers using ID card bar-codes and the tactical personnel system (TPS) to create the deployed database. Once that the S1 establishes that baseline, unit leadership reports changes to the baseline through the PERSITREP. As the S1 updates the duty status changes, all subsequent reports and queries reflect the changes. This reduces the need for the 1SG to send up reoccurring personnel status reports.

9-124. Upon receipt of a mission, the S1 completes a loss estimate based on the various courses of action proposed to the S3. When the commander selects a course of action, the S1 completes a loss estimate using the appropriate casualty estimator. This prediction allows the S1 to requisition replacements to preposition on the battlefield as operations commence. The S1 can reinforce the main effort units using the prepositioned replacements.

9-125. Personnel service support is the management and execution of personnel services, chaplain activities, command information services, and legal service support. In the DISCOM, the S1 is responsible for coordinating and managing PSS. At the commander's discretion, the S1 may be delegated responsibility to serve as the organization public affairs officer. The S1 develops the administration SOP for the battalion. The S1 with the S4, prepares the administration and logistics portion of the battalion tactical SOP. S1 participates in the OPORD process and develops administrative annex materials. S1 ensures personnel service support is fully coordinated with other staff elements. S1 pays particular attention to the areas where close coordination is vital to the S1 section mission. These areas include MA, transportation, and Health Service Support. The S1 directs the activities of the Battalion S1 section.

9-126. The S1 manages personnel services in the DISCOM. Personnel services, that include family and community support may also be provided by the installation Directorate of Personnel and Community Support at the division home station. Personnel services on the force projection battlefield provide postal operations; personnel information (records) management; morale, welfare recreation; and essential services including identification, awards, evaluations, promotions, transfers, discharges, reenlistment, leaves, line-of-duty investigations, and band operations. Other personnel services include voting and safety.

## Chapter 10

# Defense Of The DSA

### OVERVIEW AND PURPOSE

10-1. The CSS organizations are normally the units least capable of self-defense against a combat force. They are also often the targets of enemy action. Time and effort used to defend themselves degrade their ability to perform their primary support mission. Key support elements from the DSB are designated to evacuate the DSA to allow minimum support to the division troops should the enemy confront the DSA. The DSB should develop a displacement plan. However, all units must be able to defend against Level I activities (sniper or terrorist activities). They should be able to impede Level II attacks until assistance arrives. Assistance may come from an MP unit as a response force or a tactical combat force (TCF) located in the rear. No CSS unit can sustain a defense against a determined Level II or III attack, but it should plan and train to protect itself until a TCF arrives to repel the enemy attack.

10-2. The DSB units must defend themselves against attempts to disrupt their operations. They must be able to minimize destruction and to reinforce their units. The DSB units must also be able to gain time until response forces arrive. Units form base defense perimeters to defend against the threat. If enemy forces exceed base and base cluster defense capabilities, response forces are used. These forces will provide the initial force to close with and to destroy the enemy. If and enemy incursion exceeds the capability of response forces, tactical combat forces must be committed to neutralize the threat.

10-3. Responsiveness is a key to defeating enemy incursions in the rear area. Responsiveness requires the immediate reaction and rapid deployment of sufficient combat power and area damage control resources. These two forces destroy the enemy and ensure minimal damage to the area. Responsiveness is achieved through:

- Effective command relationships and supervision.
- Reliable communications.
- Accurate intelligence.
- Centralized planning and decentralized execution.
- Organic mobility and fire power of response force.
- Training and rehearsals.
- Prior assessment of the capabilities of bases and facilities to withstand enemy attack. This assessment is based on a unit's

degree of exposure and that unit's importance to the division's ability to sustain operations. This mission-essential vulnerability analysis assists the DSB commander. With this analysis, the commander is able to allocate resources to protect personnel, supplies, and facilities in consonance with their importance to the mission.

## **PLANNING AND EXECUTING DEFENSE OF THE DSA (BASE CLUSTER)**

### **COMMAND, CONTROL, COMMUNICATION, COMPUTERS, INTELLIGENCE, SURVEILLANCE, RECONNAISSANCE (C4ISR)**

10-4. The DSB commander is responsible for DSA security and its protection. As such he has control of all elements in the DSA for defense and positioning. Normally, the DSA is a base cluster with the DSB commander as the base cluster commander. The major elements in the DSA (ASMC, DSMC, signal field trains etc...) become unit bases. The senior individual in each base is the base commander. The DSB SOP will cover as many defense procedures as possible. Each base will be given specific responsibilities in the OPORD. Guidance for these responsibilities is given in this chapter.

10-5. The S2/S3 section of the DSB TOC is the base cluster operations center. Alternate BCOCs should also be designated. Possibilities include the DSMC and the DSMC in the DSA. In urban terrain, the DSB S2/S3 may have to establish subordinate base clusters and BCOCs within the DSA. One of these may be designated the alternate BCOC.

10-6. Each base will send a representative to the BCOC staff meetings or shift change briefings. In addition, the BCOC will issue a situation report on a regular basis, twice daily if possible. The report will provide intelligence updates, reporting requirements, and impending DSA movement orders.

### **BASE CLUSTER OPERATION CENTER (BCOC)**

10-7. The DSB commander is responsible for integrating base defense plans into a base cluster defense plan. As discussed, this requires development of a rear operations communications system and coordination with field artillery, engineer, ADA, and MP units. As part of the terrain management function, the DSB S2/S3 assigns a defensive position and a sector to each base in the DSA. Bases on likely avenues of enemy approach are given a smaller sector. The S2/S3 ensures each base's sector of fire overlaps the adjacent base's sector. He does this by personally coordinating with base commanders, and confirming that tenant units are tied in at their respective boundaries. Infiltration routes for Level I threats, and main avenues of approach are covered by planning for fires, obstacles, patrols, OPs, or sensors. The DSB S2/S3 must carefully coordinate this planning with each base to avoid having troops engage friendly forces.

10-8. The DSA defense plan must be integrated into the plan for the entire division rear. This requires the BCOC to coordinate with the DISCOM S3 and ROC for the overall plan. It must also coordinate directly with other BCOCs in the division rear to plan mutually supporting fires and to prevent firing upon each other.

10-9. The S2/S3 keeps a sketch of the defensive plan. It shows base sectors of fire, locations of mines and obstacles, planned indirect fire coverage, OPs, patrol routes, and positions of automatic and anti-armor weapons.

10-10. These weapons will include those in the DSA for repair. If the firing system is operable, these weapons should be included in the DSA defensive scheme, and mechanics should work on them in their fighting positions.

10-11. Whenever possible, units should occupy the same location within the DSA relative to the other units every time the DSA moves. They should build a habitual relationship with the units on all sides of them. This will expedite coordination of sectors of fire. Since night vision devices are likely to be scarce, illumination plans must also be included in the overall DSA security plan. Details on sector defense planning are in FM 19-4.

10-12. In addition, the BCOC must plan for a quick reaction force (QRF) from assets in the DSB. This QRF will be called upon when a base's defenses cannot defeat the threat and MPs and combat forces from the division are not immediately available. As a minimum, the reaction force should include personnel equipped with machine guns, grenade launchers, rifles, FM radios, and vehicles. The DSB S2/S3 must carefully equip the reaction force. Removal of scarce assets such as machine guns from the defensive perimeter when the reaction force is assembled must be considered and integrated into the defense plan. During periods of increased readiness, the reaction force should be assembled for immediate response. It must be well-rehearsed and able to react precisely and immediately. Rally points, battle positions, and detailed procedures must be planned and practiced in advance. See the section on QRF in this chapter under MANEUVER.

10-13. The BCOC must ensure that all base commanders understand the different threat levels and the associated actions. The brigade staff must also be aware that the DSB is neither staffed nor equipped to continue support operations at normal levels while responding to increased levels of threat. Support will be degraded. How much it is degraded will depend on the level of the threat.

10-14. Level I threats are those which can be defeated by base or base cluster self-defense measures. They normally involve the activities of agents, saboteurs, and terrorists. Typical actions the BCOC will require in such situations include manning OPs fully, increasing guards and spot-checking vehicles, tightening base security, alerting defensive perimeter personnel, and increasing



protection of key facilities. The degradation of support will depend on the actions directed by the individual BCOC in specific conditions. However, as a general planning guide, the DSB can estimate that the 75 percent of available assets will be engaged in support operations, while 25 percent defend.

10-15. Level II threats are those beyond base or base cluster self-defense capabilities. They can, however, be defeated by response forces, normally MPs with supporting fires. They normally involve:

- Diversionary and sabotage operations by unconventional forces.
- Raid, ambush, and reconnaissance operations by small combat units.
- Special or unconventional wartime missions.

10-16. The BCOC would likely require strictly controlled access to all areas, reinforced perimeter defense, OPs prepared to withdraw, and the reaction force alerted.

10-17. A tactical combat force is required to defeat a Level III threat. Level III threats normally involve:

- Airborne operations.
- Heliborne operations.
- Amphibious operations.
- Penetration by enemy forces from the main battle area.
- Ground force deliberate operations (for example, operational maneuver groups with linkup of smaller airborne and assault units).
- Infiltration operations.
- The OPs will be withdrawn, QRF forces committed, the DISCOM S3 and ROC notified, and support operations ceased. Artillery or air strikes normally precede such a threat.

10-18. The BCOC determines the level of threat and issues prearranged alerts to all bases. The BCOC also determines the probability of an air attack and issues air defense warnings.

10-19. The BCOC should also have planned in advance emergency move procedures. If the DSB is under imminent danger from a Level II or III threat, the BCOC will call for an emergency move of key DSA assets. Key elements should be identified in advance and prepared to move to a predesignated site with minimum notice. The commander designates key DSB elements as required. These will likely include C2, ATP, Class III, emergency medical treatment, and maintenance elements. Emergency destruction of equipment and supplies (excluding class VIII) is performed to avoid enemy capture. Priority items for destruction will probably include COMSEC items, fuel, ammunition, vehicles, communications equipment, and weapons.

10-20. Other duties of the BCOC are to identify primary and secondary entry points into the DSA and designating preplanned landing zones for division rear reaction forces to use when required. The BCOC will also conduct regular (preferably daily) meetings or shift change briefings with base representatives to update the defensive plan. Below in Figure 10-1 is an example of an execution matrix, to assist the BCOC. To use this matrix the BCOC synchronizes the DSA actions in each category with the advance of the enemy forces. For every action of the enemy we have a reaction. It is like the playbook for the defense of the DSA. This matrix can be included with the support synch matrix to ensure everyone is on the same sheet of music.

WHEN ENEMY REACHES PHASE LINE	C2	ARTY	ADA	MOB/ CO-MOB/ SURVIV	QRF	MP	TCF	CONVOYS	BASES
ALPHA									
BRAVO									
CHARLIE									
DELTA									
ECHO									
FOXTROT									
GOLF									
HOTEL									
INDIA									
JULIETT									
KILO									
LIMA									
MIKE									
NOVEMBER									

Figure 10-1. DSA Execution Matrix

## COMMUNICATIONS

10-21. Communications for DSA security will be conducted by wire, radio, signals, and personal contact. The primary means will be wire. Each base will be required to establish a wire linkup to the BCOC. The BCOC will operate a switchboard 24 hours a day. Other elements located in the DSA are responsible for laying wire from their CPs to the BCOC. The ADA and field artillery units in the DSA will have direct wire communications with the BCOC to provide early warning of enemy aircraft and to facilitate calls for fire.

10-22. Ideally, the DSB would also operate a separate rear operations radio net. If wire or BCOC FM communications are lost, units will monitor the DSB command net that will serve as the BCOC radio net. If communications by these means are lost, the tenant activities are responsible for sending a messenger to the BCOC to provide coordination.

10-23. In addition, units in the DSA cannot rely on wire and FM communications to relay alert status. Too much time would pass

before every soldier received the message. The DSB should establish readily recognizable signals that are easy to initiate. For example, the warning for an NBC attack could be a pyrotechnic signal that could be relayed quickly with voice, hand and arm, or horn signals. Similar signals should be specified in the SOP for air and ground attacks or to change frequencies. Detailed information and instructions would follow by radio, wire, or messenger. The all-clear signal would only be passed via command channels.

## **MANEUVER**

10-24. The only specific asset the DSB commander may have that is trained for and has the primary mission of rear area operations is the military police platoon. For details in planning for MP operations see FM 3-19.4 (19-4). With their ability to shoot, move, and communicate, MPs on the battlefield provide the commander both technical and tactical advantages. Commanders can rely on MPs to help keep enemy activity in the rear area from delaying his reinforcing units and disrupting C2.

10-25. MP elements are task-organized to accomplish their missions. Size and composition of a tasked element depend on mission needs and the tactical situation. MP teams have the experience, initiative, and ability to operate independently or as part of a larger unit.

10-26. Three-man teams are the building blocks of MP units. Each MP team has a vehicle, a crew-served weapon (an M60 machine gun, M2 .50 cal MG, or a MK-19 grenade machine gun), and a vehicle-mounted radio. The team leader observes and maintains communications. A second MP drives, and the third MP is the gunner and alternate driver. They are all capable of calling for indirect fire support and using light antitank weapons. The team is equipped with night-vision devices to detect NBC contamination and with equipment for secured radio communications. The MP teams fight mounted or dismounted to suit the tactical situation.

10-27. In the rear area, MPs are a critical part of the DISCOM and DSB commander's on-the-ground intelligence-gathering assets. They are the rear area scouts. MP teams are mobile over large geographical areas. As part of their battlefield circulation and control (BCC) mission, MPs routinely travel the battlefield road networks. As part of their area security mission, MPs routinely move off-road for area reconnaissance and other area security operations. They help find the enemy and identify his strengths and weaknesses. The MPs collect and disseminate vital information to help commanders see the battlefield. Information about conditions in the rear area and the presence and nature of the enemy helps a commander know when and where to concentrate combat power. The MP's mobility and communication assets allow them to detect and monitor activity throughout their broad AOs and report their findings quickly. Swiftly changing

combat situations make timely and accurate information about the location of units, road conditions, and enemy activity imperative.

10-28. In the rear area, the MPs are a flexible economy-of-force organization that can significantly multiply the commander's combat power. MPs do this without increasing the commander's total force or diverting his combat resources from more critical operations. Because of their mobility and dispersion in the rear area, MPs are likely to be the first forces on the scene of a threat insertion in the rear area. If this occurs, MPs fight to preserve the security of the area. The MPs encountering enemy forces engage them with individual and crew-served weapons. They destroy enemy elements within their capability. Organized in small tactical elements, their experienced use of initiative, their mobility and firepower, and their communications ability enable the MPs to operate independently as well as fight as part of a larger force. As squads or platoons defending a base or countering small enemy incursions, MPs generate substantial short-term combat power for the tactical commander. Though MP elements are highly mobile and are equipped for and capable of limited combat missions, the commander should carefully consider mission priorities for these valuable assets because of their small size.

10-29. The MP platoon carries out four basic missions in support of the commander and the rear operations mission. These are:

- Battlefield circulation and control. Expediting forward and lateral movement of combat resources to ensure a way is open to move reinforcing troops, fuel, food, and ammunition across the battlefield.
- Area security. Helping the commander to provide security and protection in the rear area.
- EPW operations. Collecting, evacuating, and interning EPW to relieve the tactical commander of the responsibility.
- Law and order operations. Conducting these when necessary to extend the combat commander's discipline and control.

10-30. Any one of the above missions can easily require the entire MP platoon and more; therefore, it is important that the factors of METT-TC be considered when using the platoon. It is best to keep MPs mobile, acting as the eyes and ears of the commander. During offensive operations, the MPs will most likely be employed in BCC and EPW missions. In the defense, they will be employed in BCC as area security.

## **Movement**

10-31. Maintaining security of the MSR for swift and safe movement of units and resupplies is critical to combat mission success. To avoid locking too many MPs into this mission, the DSB must use the gun trucks (with caliber .50 weapons) and combat vehicles that are returning forward with supplies as

security. If that is not possible, a good practice is to use no more than 50 percent of MP assets on BCC unless there is a major movement of forces.

## **CONVOY DEFENSE TECHNIQUES**

10-32. The convoy commander must ensure that his troops are trained in convoy defense techniques. The payoff is reduced vulnerability to hostile action and successful mission accomplishment. The damage a convoy incurs when attacked depends on the adequacy of convoy defense training. It also depends on the adequacy of the briefing that convoy personnel receive before the operation.

10-33. Some elements of convoy defense training are routine. The key is to train to react rapidly to any situation. Successful accomplishment of your mission and your life depend on it. This section covers a broad range of convoy defense techniques to be employed against a variety of threats.

### **Air Attack**

10-34. The air threat varies from UAV, cruise missiles, and armed helicopters to high-performance aircraft. Convoys face the greatest danger of an air attack while moving along open roads or during halts where there is little or no overhead cover.

10-35. An air attack is a type of ambush. Accordingly, many of the procedures used during a ground ambush also apply to the air attack. For example, the convoy commander must:

- Prescribe alarm signals (unit SOP) (see FM 44-3 for more information on alarms).
- Give instructions for actions to take when under attack.
- Prescribe actions to take in the absence of orders.
- Ensure that defense procedures are rehearsed.
- Review the procedures with convoy personnel before the convoy moves out.

10-36. The convoy commander should remember that enemy pilots will seek out and try to surprise the convoy. They will fly at a low, terrain masking altitude. If they attack from higher than 350 meters, small arms fire will have no effect against them, but air defense weapons can be used against them effectively. Enemy pilots will also fly at high speed to make air defense weapons and small arms fire less effective.

### **Active Defense**

10-37. The amount of fire a logistical convoy can bring to bear on attacking aircraft is extremely limited. It is limited to the number of vehicles with mounted machine guns and the individual weapons of operators and passengers. Although the convoy is not totally

defenseless, it is no match for a skilled pilot in a modern ground attack jet aircraft. The convoy's capability to defend itself is slightly better against the slower and sometimes more vulnerable ground attack helicopter. At best, the convoy without air defense protection is extremely limited in its ability to defend against air attack.

10-38. The key to effective small arms fire against aircraft is volume. Put up a large volume of fire with small caliber weapons. Volume small arms fire comes from knowing the effectiveness of small arms fire on low-flying aircraft. Training ensures accuracy and builds confidence.

10-39. **Firing positions.** Except for the prone position, the riflemen's basic firing stances stay the same (Figure 10-2). Firing at aircraft from the prone position means the firer is lying on his back, aiming his rifle into the air. Maximum use of cover and concealment is essential. A crew served weapons gunner should fire from a protected position if possible. He needs to get the weapon up in the air. He can hold it up or use a support for his arms and the weapon. In a real emergency, another soldier can act as a hasty firing support.

10-40. **Tips for small arms defense.** The following are tips for small arms defense:

- Shoot any attacking aircraft or unauthorized UAV.
- Fire at the nose of an aircraft; fire at the fuselage of a hovering helicopter or slightly above the nose of a moving helicopter.
- Fire in volume and everybody shoots.
- Lead aircraft crossing your position (M16 and M60 lead jets the length of one football field).
- Take cover if time allows.
- Support your weapon if possible.
- Lie on your back if caught in the open.
- Aim mounted machine guns slightly above the aircraft nose for head-on targets.
- Control small arms fire so attacking aircraft flies throughout it.

### Passive Defense

10-41. For a logistical convoy, normally without significant air defense firepower, passive measures are most effective. The key is to prevent attacks by hostile aircraft.

10-42. **Dispersion.** The formation used by the convoy is a type of passive defense. The convoy commander must decide whether to use an open or closed column. The distance between vehicles must not be fixed. It should vary from time to time during a march. Factors influencing selection of the best vehicle distance include:

- Mission.

- Cover and concealment along the route.
- Length of the road march.
- Type of road surface.
- Types of vehicles.
- Nature of cargo.
- Enemy threat (ground and air).
- Available defense support.
- Small arms potential.

10-43. **Open column.** Open column convoys generally maintain an 80 to 100 meter distance between vehicles. This formation offers an advantage of fewer vehicles damaged by air-to-ground rockets, cannons, or cluster bomb units. However, open columns make control more difficult for the convoy commander when it is necessary to give orders to stop, continue, disperse and seek concealment, or engage aircraft. The column may be more susceptible to attack. It is exposed for a longer period and, if attacked, its defense is less effective since its small arms fire is less concentrated.



Figure 10-2. Firing positions

10-44.. **Close column.** Close columns maintain a distance of less than 80 meters between vehicles. This formation has none of the disadvantages noted for the open column formation. However, presenting a bunched up target could be an overriding disadvantage. Where an air attack is likely, it may be wise for the convoy commander to move close column convoys only at night.

10-45. **Camouflage and concealment.** Camouflage and concealment techniques can make it more difficult for the enemy to spot the convoy. Not much can be done to change the shape of a



vehicle moving down the road, but the type of cargo can be disguised or concealed by covering it with a tarpaulin. Bulk fuel transporters (tankers) are usually priority targets. Rigging tarps and bows over the cargo compartment conceals the nature of the cargo from the enemy pilot. The following are other effective passive measures:

- The operator should look for a bush, tree, or some other means of concealment to break the shape as seen from the air (Figure 10-2).
- Smooth surfaces and objects, such as windshields, headlights, and mirrors, will reflect light and attract the pilot's attention. Camouflage or cover all shiny items before the convoy moves out.
- If vehicles are not already painted in a pattern to blend with the terrain and to break the outline, mud can be used to achieve this effect.

10-46. **Air guard duties.** Assign air guard duties to specific individuals throughout the convoy, and give each specific search areas. If the road march lasts more than an hour, soldiers should take shifts at air guard duty. Scanning for a long period dulls the ability to spot aircraft. Seeing the enemy first tips the odds in favor of the convoy, giving it time to react. See FM 44-3 for search and scan procedures.

10-47. **Communications security.** Today's communications equipment can be very useful for controlling convoys, but it can also help enemy pilots find you. Use the radio only when necessary and be brief. Enhanced situational awareness with new digital systems such as MCS, MTS, and FBCB2 also can be very useful for monitoring and controlling convoys.

## Passive Reactions

10-48. When aircraft are spotted or early warning is received, the convoy commander has three options: stop in place, continue to march, or disperse quickly to concealed positions (Figure 10-3).

10-49. If the convoy commander chooses to halt the convoy, the vehicles simply pull to the shoulder of the road in a herringbone pattern. This technique has several advantages:

- It is harder for the enemy pilot to see the convoy when it is halted than when it continues to move.
- It is easy to continue the march after the attack.
- The volume and density of organic weapons will be higher than if the convoy disperses.
- A disadvantage to this option is that a convoy stopped on the open road makes a good target and an enemy attack has a better chance of causing greater damage to the unit.

10-50. The mission and/or terrain may dictate that the march continue. If this is the case, convoy speed should be increased. Continuing the march offers the advantage of presenting a moving target, making it more difficult for the enemy to hit. However, detection is easier and volume and density of small arms fire are reduced.

10-51. A simple technique to disperse vehicles is to establish a method in the SOP that, in the event of an attack, odd-numbered vehicles go to the left and even-numbered vehicles go to the right. The key to dispersion is not to make two straight lines out of what was one long line and the vehicles must be staggered (Figure 10-4). This should not be much of a problem if the drivers have been trained to go to trees, bushes, folds in the ground, and so forth, that will give concealment. Once the convoy is dispersed, all personnel, except for vehicular-mounted weapon gunners, dismount and take up firing positions.

10-52. Advantages of this option are that it is more difficult for the enemy pilot to detect the vehicles and get multiple hits. However, this method has several disadvantages:

- It is easier for the enemy pilot to spot the convoy as it begins to disperse.
- The volume and density of small arms fire are reduced.
- It takes longer to reorganize the convoy after the attack.

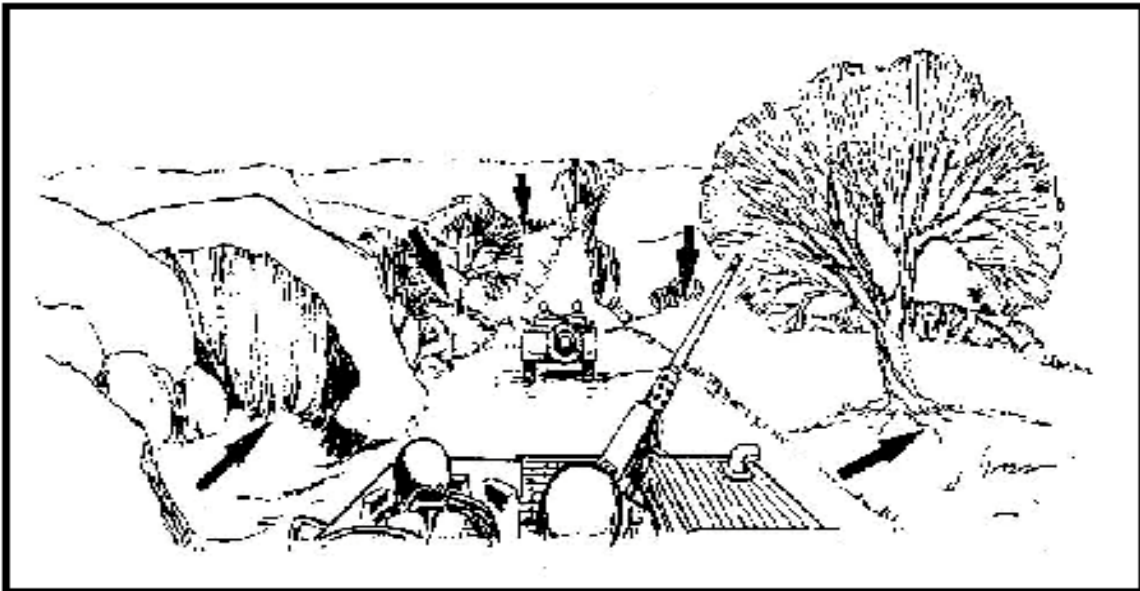


Figure 10-3. Dispersing vehicles seek cover for protection against air observation



Figure 10-4. Vehicles moving to dispersed positions on road shoulders

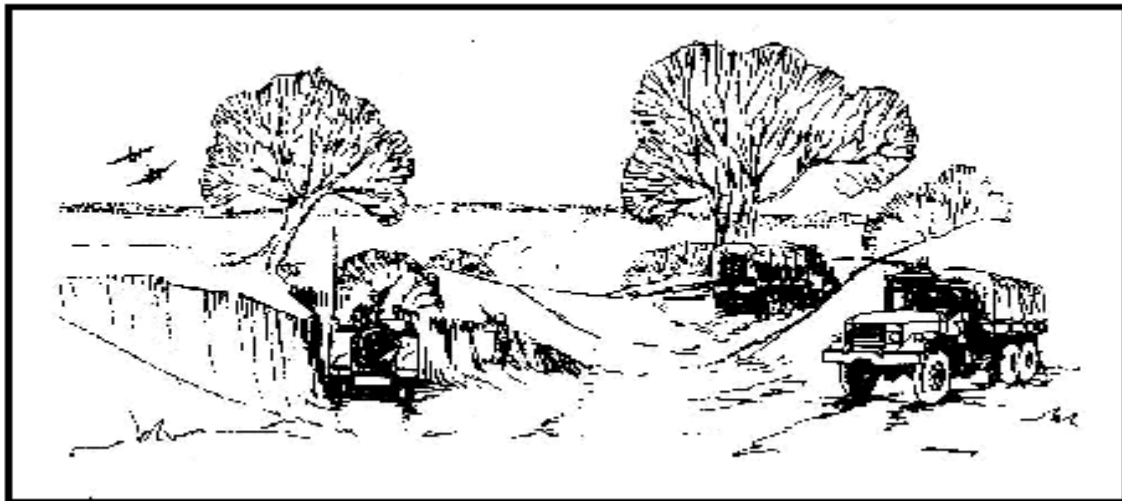


Figure 10-5. Dispersed vehicles in concealed positions

### Artillery Or Indirect Fire

10-53. Enemy artillery units or indirect fire weapons may be used to destroy logistical convoys or to harass and interdict the forward movement of supplies and personnel. Artillery fires are either preplanned fires or fires called in and adjusted on a target of opportunity by a forward observer. Of the two, the adjusted fires present the most complex problem as the artillery barrages can be adjusted to follow the actions of the convoy.

10-54. **Active Defense.** Active defensive measures against artillery are extremely limited but must not be overlooked. Active measures include:

- Directing counter-battery fire if the direction and approximate distance to the enemy artillery can be estimated.
- Directing small arms fire or artillery fires against the enemy forward FO if he can be located.
- Coordinating air strikes against the enemy artillery.

10-55. **Passive Defense.** The formation in which the convoy moves can be a type of passive defense. See the discussion of open and closed convoys under passive defense for air attacks.

10-56. The convoy commander has three options when confronted with incoming artillery rounds: halt in place, continue to march, or disperse quickly to concealed positions. Regardless of the option selected, the actions to be taken and the signal directing the action should be covered in the unit SOP. The primary consideration is the immediate departure from the impact area.

10-57. The convoy should only be halted when the artillery concentration is ahead of the convoy. The convoy commander should look for an alternate route around the impact area and the convoy should remain prepared to move out rapidly.

10-58. The mission or terrain may require the convoy to continue. If this is the case, increase speed and spread out to the maximum extent the terrain will allow. Casualties can be reduced by avoiding the impact area, increasing speed, wearing protective equipment, using the vehicle for protection, and increasing dispersion.

## Sniper Fire

10-59. Take extreme caution when sniper fire is received to ensure that any return fire does not harm friendly troops or civilians in the area. The best actions are passive. Ensure all personnel wear Kevlar helmets and available body armor at all times. All vehicles should move through the area without stopping. Escort personnel should notify the march element commander by giving a prearranged signal, like a smoke grenade thrown in the direction of fire, and attempt to locate and destroy the sniper by long-range fire if in a free-fire zone. Prevent convoy personnel from random firing by designating personnel to return fire. 10-60. The convoy commander may order additional fire or supporting forces into the area to destroy, capture, or drive off the sniper. Convoy personnel should be aware that a heavy volume of fire is frequently used by the enemy to slow down a convoy before an ambush. Remember all details so the incident can be reported to higher headquarters.

## Ambush

10-61. This paragraph provides guidance in developing and employing counterambush tactics and techniques. The very nature of an ambush, a surprise attack from a concealed position, places an ambushed unit at a disadvantage. Combat situations may prevent a convoy from taking all the measures necessary to avoid being ambushed. Therefore, a convoy must take all possible

measures to reduce its vulnerability. These are passive measures supplemented by active measures taken to destroy or escape from an ambush. For information on the types of ambushes, see FM 21-75.

10-62. No single defensive measure, or combination of measures, will prevent or effectively counter all ambushes in a situation. The effectiveness of counterambush measures is directly related to the state of training of troops and the leadership ability of the leaders.

10-63. The best defense is to avoid being ambushed. Take the following actions to avoid an ambush:

- Select the best route for your convoy.
- Make a map (digital) reconnaissance.
- Make a ground reconnaissance.
- Make an aerial reconnaissance.
- Obtain current intelligence information (ASAS and UAV).
- Use OPSEC to deny the enemy foreknowledge of the convoy.
- Do not present a profitable target.
- Never schedule routine times or routes.

10-64. Take the following actions to reduce the effectiveness of ambushes:

- Harden vehicles.
- Cover loads.
- Space prime targets throughout the convoy.
- Wear protective clothing.
- Use assistant drivers.
- Carry troops and supplies.
- Use prearranged signals to warn the convoy of an ambush.
- Use escort vehicles (military police, tanks, armored vehicles) or gun trucks.
- Thoroughly brief all convoy personnel on immediate action drills.
- Practice immediate action drills.
- Maintain the interval between vehicles.
- Move through the kill zone, if possible.
- Stop short of the ambush.
- Do not block the road.
- Rapidly respond to orders.
- Aggressively return fire.
- Counterattack with escort vehicles.
- Call for artillery support.

- Call in TACAIR support.
- Call for the reserve force.

10-67. In the event of ambush during night convoy operations under blackout drive, turn on service drive lights and increase speed to clear the ambush area. Be aware that drivers wearing night vision goggles will be temporarily blinded when service drive is turned on.

10-68. **Road Not Blocked.** Guerrillas are seldom able to contain an entire convoy in a single kill zone. This is due to the extensive road space occupied by even a platoon-size convoy and because security or lack of available forces may limit the size of the ambushing force. More often, a part of a convoy is ambushed, either the head, tail, or a section of the main body. That part of the convoy that is in the kill zone and receiving fire must exit the kill zone as quickly as possible if the road to the front is open. Vehicles disabled by enemy fire are left behind or, if blocking the road, pushed out of the way by following vehicles. Armored escort vehicles must not block convoy vehicles by halting in the traveled portion of the road to return fire.

10-69. Vehicles that have not entered the kill zone must not attempt to do so. They should stop and personnel should dismount, take up a good defensive position, and await instructions. Since escort vehicles may have left the road to attempt to overrun a hostile position, elements of the convoy should not fire on suspected enemy positions without coordinating with the escort forces.

10-70. Other actions that convoy personnel can take to neutralize the ambush force include:

- Call for artillery fire on enemy positions.
- Call for gunship or tactical air or army aviation fire on enemy positions.
- Direct gun trucks and other vehicles mounted with weapons to lay down a heavy volume of fire on the ambush force.
- Call for reaction forces.
- Direct all nondriving personnel to place a heavy volume of fire on enemy forces as rapidly as possible as vehicles move out of the kill zone.
- Vehicles must keep their distance to reduce the number of vehicles in the kill zone.

10-71. A motor transport convoy with a limited escort is seldom able to defeat a hostile force and should not attempt to do so. When part of the convoy is isolated in the kill zone, vehicles that have not entered the ambush area must not attempt to do so. They should stop, personnel should dismount and take up a good defensive position, and await instructions until supporting forces have cleared the ambush. Normally, a transport unit will not deploy to attack a hostile force unless it is necessary to prevent destruction

of the convoy element. It relies on supporting air, artillery, escorts, and reaction forces.

10-72. **Road Blocked.** When an element of a convoy is halted in the kill zone and is unable to proceed because of disabled vehicles, a damaged bridge, or other obstacle, personnel will dismount, take cover, and return a maximum volume of fire on enemy positions. When dismounting, exit the vehicle away from the direction of enemy fire. Security/escort troops from vehicles that have passed through the ambush area dismount and lay down a base of fire on the ambush position. Reaction forces should be called in as soon as the ambush attack is launched. When a security escort is provided and a combat emergency arises, the escort commander has operational control of the security element to attack and neutralize the hostile force. Normally, the security force will take action to neutralize the ambush while the convoy escapes from the kill zone. In an ambush situation, immediate reaction and aggressive leadership are essential to limit casualties and damage to vehicles, cargo, and personnel. If immediate air or artillery support is available, personnel will be restricted to a specified distance from the road to avoid casualties from friendly fire. In this situation, personnel in the kill zone establish a base of fire, while others take up defensive positions away from their vehicles and wait while supporting fire is called in on the enemy positions. Fire in the kill zone may be from only one side of the road with a small holding force on the opposite side. To contain the convoy element in the kill zone, mines and booby traps are frequently placed on the holding force side. The security escort must take care in assaulting the main ambush force as mines and booby traps are commonly used to protect its flanks.

10-73. When the enemy is dislodged, the road must be cleared and convoy movement resumed as soon as possible. Wounded personnel are evacuated using the fastest possible mode. When disabled vehicles cannot be towed, their cargo should be distributed among other vehicles if time permits. When it is not feasible to evacuate vehicles and/or cargo, they will be destroyed upon order from the convoy commander. If at all possible, radios and other critical items will be recovered before the vehicles are destroyed. Under no circumstances will they be allowed to fall into enemy hands.

10-74. **Mines and Booby Traps.** Mines and booby traps are frequently part of an ambush. Command-detonated mines are often used to start an ambush. Mines will also be planted along the shoulder of the road for harassment and interdiction. A booby trap system may be used against personnel in vehicles and could consist of hand grenades. Claymore mines or artillery shells may be suspended from trees and command-detonated when a vehicle passes.

10-75. The following guidelines have proven effective in decreasing damage by mines in convoy operations:

- Track the vehicle in front.
- Avoid driving on the shoulder of the road.
- Whenever possible, do not run over foreign objects, brush, or grass in the road.
- Avoid fresh earth in the road.
- Watch local national traffic and the reactions of people on foot. (They will frequently give away the location of any mines or booby traps.)
- When possible, arrange for the engineers to sweep the road immediately before the convoy is scheduled to move over it.
- Use heavy vehicles such as tanks to explode small mines when deployed in front of the convoy.
- Harden vehicles.
- Wear protective equipment.

### **Nuclear, Biological, Or Chemical Attacks.**

10-76. Chemical agents can be disseminated by artillery fire, mortar fire, rockets, missiles, aircraft spray bombs, grenades, and land mines. Always be alert because agents may already be present on the ground or in the air. Chemical agents are substances in either gaseous, liquid, or solid form. To protect against an NBC attack, you need to know how those agents may affect your body if they are used against you. Take defensive actions according to local directives and SOPs. For detailed information on defense against NBC warfare, see FMs 3-11.4 (3-4), FM 3-11.5 (3-5), and FM 3-11 (3-100).

### **Area Reconnaissance and Security**

10-77. Area Reconnaissance and Security will always be a primary mission for MPs. Use of the S2's IPB will be important in identifying critical terrain that needs to be kept under frequent or constant surveillance, such as LZs, DZs, and axis of advance. The MP's ability to find, fix, and destroy Level I and Level II threats will greatly decrease the commander's requirement to employ combat forces in the rear. The early detection of heavy Level II and Level III threats by MPs will allow them to at least delay, if not defeat, the enemy before he reaches the DSB's logistics assets. Ensure the MPs are sufficiently equipped with antitank capability. Use them aggressively as rear area scouts in counter-reconnaissance missions to keep enemy reconnaissance out of the DSA. If the enemy force is more than the MP platoon can handle, the following contingencies should be planned for:

- Re-prioritize artillery support to the rear area mission to slow the enemy until friendly combat forces make contact.



- Redirect attack helicopters or close air support to slow down or stop the enemy.
- Coordinate assets from division or corps to assist in backup for the rear operations battle.

### **QUICK REACTION FORCE**

10-78. The DSB must ensure that quick reaction forces (QRF) are identified, trained and equipped to perform their mission of reaction to threats against the DSA both at bases and the base cluster. The S2/3 NCOIC is usually the chief of the QRFs. The ready reaction forces must be well rehearsed in:

- Unit assembly.
- Friendly and enemy force recognition.
- Actions on enemy contact.
- Delaying operations.
- Call for fire (artillery, and rotary and fixed wing close air support).
- Reconnaissance and surveillance operations.
- Small unit tactics in-conjunction with the MPs and a tactical combat force.
- Individual and crew served weapons, anti-tank weapons, mines, pyrotechnics, armored vehicle weapons systems and operations, night vision device, global positioning system, familiarization and operations.
- Conduct of rehearsals.
- Anti-fratricide measures.
- Passage of lines.
- Challenge and password.
- Running password.
- Hand and light signals.
- Troop leading procedures.
- Time distance factors (enemy avenues of approach).
- EPW procedures.

10-79. The ready reaction forces must possess:

- Friendly barrier plan.
- Friendly sector sketch.
- Pre-planned fires-field artillery / mortar / attack helicopter/CAS.
- Casualty evacuation procedures.

10-80. The ready reaction forces must be briefed on:

- Specifics of mission.

- Communication procedures.
- Special requirements/rules of engagement (ROE).
- Completion of mission.
- Quick recovery & reports.
- Debriefing.

### **QRF TACTICS, TECHNIQUES, PROCEDURES (TTPS)**

10-81. The QRF provides the commander with the capability to repel a Level II attack. The base commander determines the best use of the QRF as he monitors the battle. The QRF soldiers are not integrated into the perimeter and have no conflicting defensive requirements.

10-82. The QRF checklist is listed below:

- Example of Team Composition (METT-TC driven).
  - NCOIC.
  - A/B team leaders.
  - Combat lifesaver.
  - Radio/commo operator.
  - Crew-served weapon operators (2 ea).
- Force Protection Enhancement.
  - Hardened gun trucks.
  - FLAK vests.
  - Basic load of Class V (for vehicle and soldiers).
  - Night vision devices.

### **QRF BATTLE DRILLS**

#### **Battle Drill #1: Assemble The Force**

- Threat goes to Level II, or company comes under direct attack, the QRF soldiers immediately assemble at the unit CP with gun truck fully armed and prepared to engage the threat.
- The QRF NCOIC establishes accountability and inspects soldier's ammunition load.
- The QRF takes a defensive posture around the CP until told to mount gun truck, or move out on foot.
- The QRF NCOIC takes all instructions from the company commander or ranking individual at the CP.
- The QRF deploys in accordance with commander's or ranking individual's orders.

#### **Battle Drill #2: Employment Of QRF**

- The QRF NCOIC receives deployment information and loads truck.

- The QRF moves to specified location and positions gun trucks in over watch position as directed by QRF NCOIC to provide cover from direct enemy fire to protect the force during dismount.
- Gun truck provides suppressive fire while dismounts move into position as directed by the QRF NCOIC.

### **Battle Drill #3: Engagement Of The Enemy**

- The primary mission of the QRF is to repel the enemy attack. The QRF will close with and attempt to destroy the enemy unless otherwise directed by the CP.
- The QRF reinforces existing perimeter defensive positions and provides mass fire on known enemy locations.
- The QRF NCOIC communicates situation (SALUTE Report) to CP via man pack radio and takes further instructions from the CP.
- The QRF will not breach perimeter defense unless otherwise directed.
- QRF engages enemy forces until successfully defeated.

### **Battle Drill #4: Command And Control**

- The QRF NCOIC takes charge of existing perimeter forces and dictates the flow of the battle via communication with the CP.
- The QRF NCOIC coordinates with adjacent sector NCOICs to minimize the risk of fratricide.
- Sub-element to which the QRF is deployed will take all instructions for engagement from the QRF NCOIC.
- The QRF NCOIC directs all fires and rates of fires of all available fighting systems to effectively repel the enemy attack.
- The QRF NCOIC coordinates with the CP any requirements for re-enforcements or munitions resupply via man pack radio.

### **Battle Drill #5: Consolidation And Recovery**

- Once attacking force is defeated and repelled, the QRF NCOIC conducts accountability and reports to the CP.
- The QRF cross levels ammunition and reallocates soldiers along compromised perimeter in preparation for possible enemy counter offensive.
- The QRF NCOIC assesses casualty situation and coordinates medical support with CP.
- The QRF maintains area security and control until recalled by CP to stand down.
- Once recalled by CP, QRF NCOIC conducts debrief with commander or ranking individual at CP.

- The QRF conducts PMCS, cleans and services equipment, replenishes Class V basic load prior to QRF soldiers returning to duty positions.
- The QRF NCOIC identifies any personnel and equipment replacements to CP prior to returning to duty position.

## **BASE OPERATIONS**

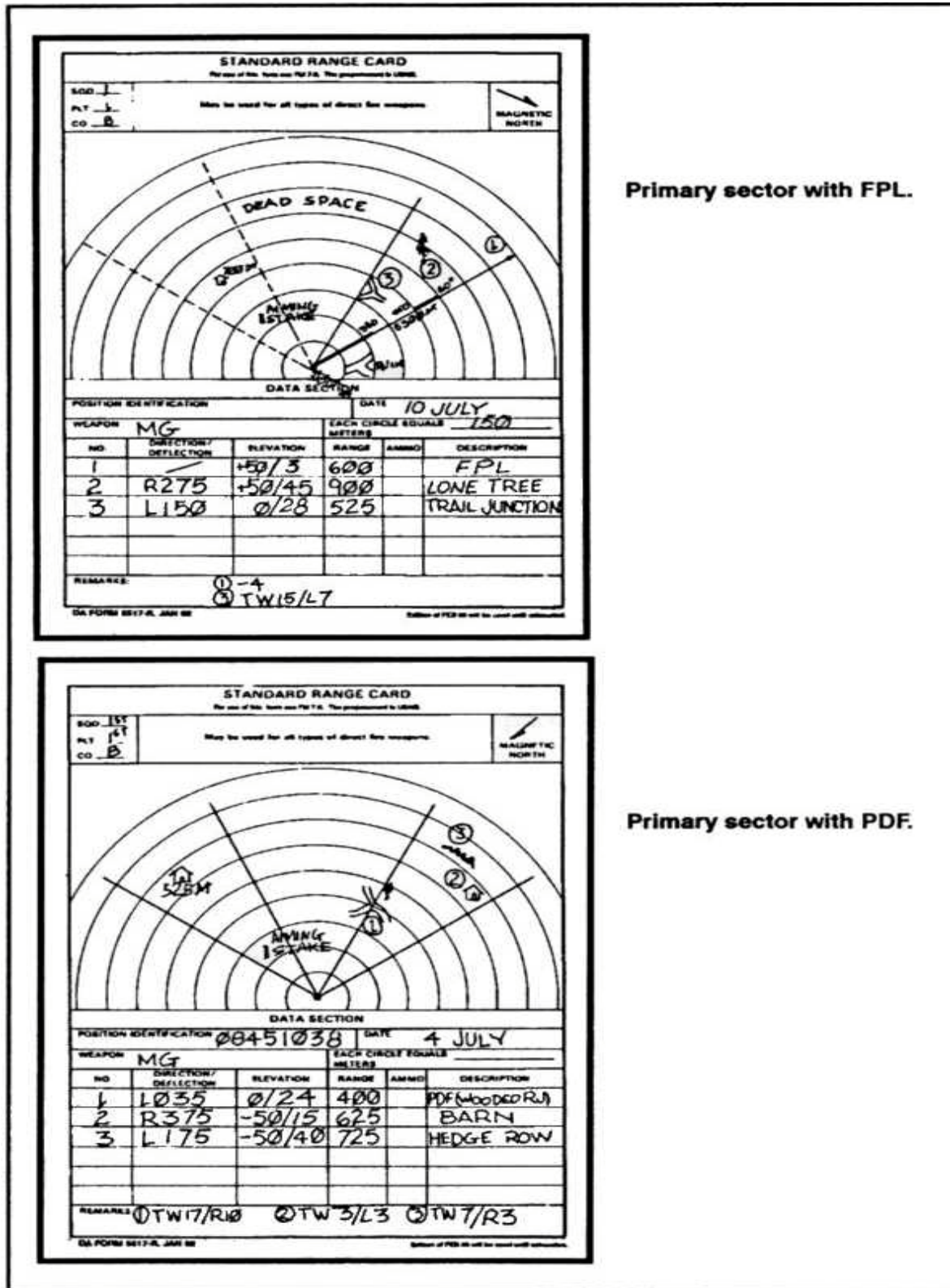
10-83. The elements in the DSA are organized into bases for self-defense. Normally, each DSB company and each field train in the DSA will constitute a base. Miscellaneous small teams will be assigned to a base by the BCOC. The base commander is responsible for preparing the base defense plan and coordinating with the BCOC. Each base must be capable of defending itself and supporting other bases against a Level I threat and delaying a Level II threat until the reaction force arrives. If a base is faced with a Level II threat, it must take action to destroy the threat and prevent the capture of critical supplies and equipment. Base commanders are responsible for the establishing the following priorities of work:

- Position antiarmor weapons, machine guns, and assign sectors of fire.
- Position other defensive assets available (weapon systems for repair).
- Establish local security and OP positions.
- Establish the CP and wire communications.
- Designate final protective line (FPLs) and final protective fire (FPFs).
- Clear fields of fire and prepare range cards and sector sketches.
- Coordinate with adjacent units, left, right, forward, and to the rear.
- Prepare primary fighting positions.
- Emplace obstacles and mines.
- Mark or improve marking for target reference points (TRP) and other fire control measures.
- Improve primary fighting positions such as overhead cover.
- Prepare alternate positions, then supplementary positions.
- Establish a sleep and rest plan.
- Reconnoiter potential enemy infiltration routes, and friendly patrol routes.
- Rehearse engagements, disengagement, and any reaction force plans.
- Continue to improve positions.

10-84. Base commanders are responsible for the establishing the following specifics:

- Coordinate with the base on each side to plan mutually supporting fires and to avoid troops engaging each other. If a problem exists in that area, the base commander will notify the BCOC.
- Assign each individual a fighting position. Positions should provide overhead cover. Positions must also allow for interlocking sectors of fire.
- Ensure proper individual fighting positions are prepared. Soldiers should use all available cover. Positions should provide frontal protection from direct fire while allowing fire to the front and oblique. Details on fighting positions are in FM 5-103.
- Deploy crew-served weapons in fighting positions with primary and secondary sectors of fire. They cover the most likely enemy avenues of approach. Instructions for preparing positions for each type of crew-served weapon are also in FM 3-34.103 (5-103). The base commander must ensure each weapon has an adequate range card. Identify target reference points to be able to direct fire against approaching ground or air enemy forces. The commander must also ensure that dead space is covered with grenade launchers or mines.
- Deploy all weapon-carrying vehicles on the base perimeter. As discussed previously, this includes combat vehicles in the DSA for repair.
- Ensure vehicles are properly positioned. Natural cover and concealment are used as much as possible. Hull defilade positions or hide positions may be used with vehicles on the perimeter whenever possible.
- Setup observation posts and listening posts. The DSB cannot constantly occupy a full perimeter and perform its mission. Early warning is imperative. Therefore, OPs are critical. OPs must provide a good view of the sector, which ideally overlaps with the adjacent OP sectors. The OPs and routes to them must provide cover and concealment. They should not be in positions that attract attention (such as isolated groups of trees) or on the very peaks of hills where positions would be silhouetted. Further guidance on OPs may be found in FM 3-19.4 (19-4) and FM 17-98.
- Establish patrols when required.
- Enforce noise and light discipline.
- Ensure camouflage is used properly, guidance can be found in FM 5-20.
- Plan and establish hasty obstacles.

- Create a quick reaction force to respond immediately against a threat within the base. Ensure the force has covered and concealed routes to each sector on the perimeter.
- Ensure soldiers know alert signals and proper responses to artillery and air attacks. Since soldiers are not continuously occupying the perimeter, they must be well trained to quickly respond to early warnings.
- Prepare sector sketches and provide to the BCOC. These will be updated at regular BCOC meetings or shift change briefings. Sketches will include major terrain features, weapon positions and sectors of fire, dead space, OP positions, obstacles and mine fields, critical pieces of equipment, supplies, or facilities, and target reference points. See Figure 10-6 for examples of range cards, Figure 10-7 for weapons characteristic within the DSB, and Figure 10-8 for an example of a defensive sector sketch. Below is a checklist of those items needed in sector sketch preparation:
  - Draw your unit sector of engagement area.
  - Draw main terrain features in sector (s) and range to each.
  - Draw subunit positions.
  - Draw subunit primary and secondary sectors of fire.
  - Draw weapon positions with primary sectors of fire for each.
  - Draw machinegun final protective lines or principal direction of fire.
  - Draw locations of CP/OP.
  - Draw TRPs and RPs in sector.
  - Draw mines/obstacles.
  - Draw indirect fire target locations/final protective fire locations.
  - Draw and label dead space.
  - Draw patrol routes.
  - Draw locations, sector of fire of other weapons in your sector.
  - Place your unit ID, date time group (DTG) prepared, and magnetic north arrow on sketch.



Primary sector with FPL.

Primary sector with PDF.

Figure 10-6. Range Card

Weapon Caliber	Effective Range/Maximum Range
M9 Pistol (9-mm)	Effective range: 50m
M16A1 Rifle (5.56-mm)	Effective range: 460m /Maximum range: 2653m
M16A2 Rifle (5.56-mm)	Effective range: 550m /Maximum range:3,534m
M203 Genade launcher (40-mm)	Effective range: 350m (area target);150m (point target) Maximum range: 400 m
M249 Squad automatic weapon (5.56 link)	Effective range: 900m /Maximum range: 3,600m
M60 Machine gun (7.62)	Effective range: 1,100m /Maximum range: 3,725m
M2 HB Machine gun (50-mm)	Effective range: 1,830m /Maximum range: 6,764m
MK19 Grenade machine gun (40-mm)	Effective range: 2,212m (area target);1500m (point target) Maximum range: 2,212m
M136 HE Antitank weapon (AT-4)(84-mm)	Effective range: 300m /Maximum range: 2,100m

Figure 10-7. Weapons Characteristics Within The DSB



**DEFENSE SECTOR SKETCH**

UNIT: \_\_\_\_\_ LOCATION: \_\_\_\_\_ AS OF: \_\_\_\_\_

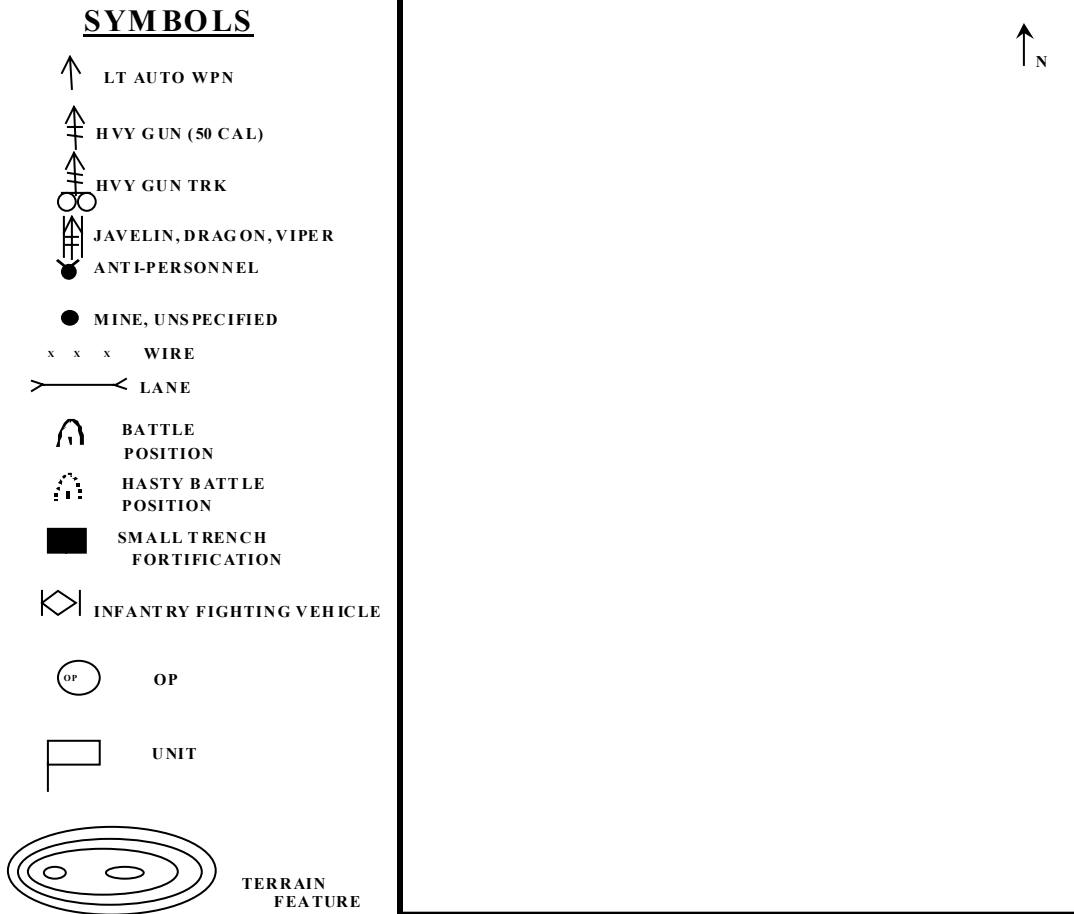


Figure 10-8. Defensive Sector Sketch

**DEFENSE OF SUPPLY POINTS**

10-85. Whenever engineer assets are available, berms or deep-cut protective positions must be dug to protect fuel tankers and drums. Natural terrain concealment and camouflage nets are also used. Class I, II, and IV items are protected in deep-cut trenches if time allows, but construction of trenches for those items is a low priority. Traffic control must include measures to conceal movement at, to, and from supply points. At water points, control of spills and drainage is required to avoid standing pools of water, which reflect light. Proper fighting positions for individual and crew served weapons must be dug and integrated into the base defense. These include fighting positions for vehicles with mounted crew served weapons.

## DEFENSE OF MAINTENANCE FACILITIES

10-86. In the company areas, individual positions are prepared near billeting areas and on the periphery of workstations. Proper fighting positions, bunkers, or other shelters are constructed next to key shop facilities for quick protection from artillery and air attacks. Use engineer assets when available to speed this process. These include fighting positions for vehicles with mounted crew served weapons or broken armored vehicles capable of firing their primary weapons systems. Ammunition should be acquired for these weapons systems and cached near the fighting positions.

## INTELLIGENCE

### INTELLIGENCE PREPARATION OF THE BATTLEFIELD (IPB)

10-87. IPB is a systematic, continuous process of analyzing the threat and environment in a specific geographic area. It is designed to support staff estimates and military decision making. By applying the IPB process, the commander can selectively apply and maximize his combat power at critical points in time and space on the battlefield. IPB facilitates:

- Determining the threat's likely COA.
- Describing the environment your unit is operating within and the effects of the environment on your unit.

10-88. The IPB consists of four steps:

- Define the battlefield environment.
- Describe the battlefield's effects.
- Evaluate the threat.
- Determine threat COAs.

10-89. The IPB process begins prior to and continues during the command's initial planning for an operation and is continuously updated during the operation. In **step 1**, the DSB S2:

- Identifies characteristics of the battlefield which will influence friendly and threat operations.
- Establishes the limits of the area of interest (AI).
- Identifies gaps in current intelligence holdings.

10-90. Identifying for further analysis specific features of the environment or activities within it, and the physical space where they exist, that may influence available COAs or the commander's decisions. This focuses the command's initial intelligence collection efforts and the remaining steps of the IPB process. To focus the remainder of the IPB process, the S2 identifies characteristics of the battlefield which require in-depth evaluation of their effects on friendly and threat operations, such as terrain, weather, logistical infrastructure, and demographics. Generally, the S-2 focuses more attention on areas within the command's area of operations (AO)

and battle space than for the more broad areas of interest (AI). The AI is the geographical area from which information and intelligence are required to permit planning or successful conduct of the command's operation. Because the commander and staff need time to process information and to plan and synchronize operations, the command's AI is generally larger than its AO and battle space. The limits of the AI include the characteristics of the battlefield environment identified as exerting an influence on available COAs or command decisions. Additionally the AI is based on the amount of time estimated to complete the command's mission and the location and nature of the characteristics of the battlefield, which will influence the operation. During the planning process, the DSB S2 confers with the DISCOM S3 and ROC on recommendations for the command's battle space during development of friendly COAs. Defining the significant characteristics of the battlefield environment also aids in identifying gaps in current intelligence holdings and the specific intelligence required to fill them. Similarly, the S2 identifies gaps in the command's knowledge of the threat and the current threat situation. Once approved by the commander, the specific intelligence required to fill gaps in the command's knowledge of the battlefield environment and threat situation becomes the command's initial intelligence requirements. This effort, if successfully accomplished will result in saving time and effort by focusing only on those areas and features which will influence COAs and command decisions. If not properly executed, the DSB S2 will waste time and effort collecting and evaluating intelligence on features of the battlefield environment that will not influence success of the command's mission.

10-91. **Step 2** evaluates the effects of the environment with which both sides must contend. The DSB S2 identifies the limitations and opportunities the environment offers on the potential operations of friendly and threat forces. This evaluation focuses on the general capabilities of each force until COAs are developed in later steps of the IPB process. This assessment of the environment always includes an examination of terrain and weather but may also include discussions of the characteristics of geography and infrastructure and their effects on friendly and threat operations. Characteristics of geography include general characteristics of the terrain and weather, as well as such factors as politics, civilian press, local population, and demographics. An area's infrastructure consists of the facilities, equipment, and framework needed for the functioning of systems, cities, or regions. Products developed in this step might include, but are not limited to:

- Population status overlay.
- Overlays that depict the military aspects and effects of terrain.
- Weather analysis matrix.

- Integrated products such as modified combined obstacle overlays (MCOOs).

10-92. Regardless of the subject or means of presentation, the S2 ensures that these products focus on the effects of the battlefield environment.

10-93. The best terrain analysis is based on a reconnaissance of the AO and AI. Identify gaps in knowledge of the terrain which a map analysis cannot satisfy. Use the gaps you identify as guide for reconnaissance planning. Because of time constraints, focus reconnaissance on the areas of most importance to the commander and his mission. For example, when conducting terrain analysis for a signal unit you might focus on identifying locations from which the unit's assets can best support the force commander while also identifying the best locations for the threat's EW assets that might target friendly signal systems. If engineer terrain support is unavailable, evaluate the terrain through a map analysis supplemented by reconnaissance. DMA produces specialized maps, overlays, and databases to aid in map based evaluations. Specialized DMA products address such factors as:

- Cross-country mobility.
- Transportation systems (road and bridge information).
- Vegetation type and distribution.
- Surface drainage and configuration.
- Surface materials (soils).
- Ground water.
- Obstacles.

10-94. Ensure that the terrain analysis includes the effects of weather on the military aspects of the terrain. Consider the existing situation as well as conditions forecasted to occur during mission execution.

10-95. Also consider that terrain analysis is a continuous process. Changes in the battlefield environment may change the evaluations of its effects that result from terrain analysis. For example:

- If built-up areas are reduced to rubble or lines of communication (LOCs) are destroyed by battle, you must reevaluate the mobility characteristics of the AO.
- Similarly, if weather conditions change you must reevaluate the terrain's effect on military operations. Terrain analysis must always consider the effects of weather.

10-96. Terrain analysis consists of an evaluation of the military aspects of the battlefield's terrain to determine its effects on military operations. The military aspects of terrain are:

- Observation and fields of fire - Observation is the ability to see the threat either visually or through the use of surveillance

devices. Factors that limit or deny observation include concealment and cover.

- Concealment and cover - Concealment is protection from observation. It can be provided by woods, underbrush, snowdrifts, tall grass, and cultivated vegetation. Cover is protection from the effects of direct and indirect fires. It can be provided by ditches, caves, river banks, folds in the ground, shell craters, buildings, walls, and embankments.
- Obstacles - Obstacles are any natural or manmade terrain features that stop, impede, or divert military movement. Examples of obstacles to ground mobility are buildings, steep slopes, rivers, lakes, forests, deserts, swamps, jungles, cities, minefield, trenches, and military wire obstacles.
- Key terrain - Key terrain is any locality or area the seizure, retention, or control of which affords a marked advantage to either combatant. An example of key terrain is a bridge over an unfordable river which gives access to the opposite shore without requiring an assault crossing. Another example is a level clearing in rough terrain which is the only accessible landing field for airmobile operations.
- Avenues of approach (AA) - An AA is an air or ground route of an attacking force of a given size leading to its objective or to key terrain in its path. The identification of AAs is important because all COAs which involve maneuver depend upon available AAs. During offensive operations, the evaluation of AAs leads to a recommendation on the best AAs to the command's objective and identification of avenues available to the threat for withdrawal or the movement of reserves. During the defense, identify AAs that support the threat's offensive capabilities and avenues that support the movement and commitment of friendly reserves.
- Weather - affects mobility and the functioning of virtually all items of equipment, as well as the performance of personnel. Terrain and weather are considered concurrently. Again, the DSB depends on the S2 channels to pass weather analysis information from the division weather team. The five aspects of weather that affect planning are temperature and humidity, precipitation, wind, clouds, and visibility.

10-97. Very high temperatures cause heat injuries and increased engine wear and failure. Very low temperatures increase cold weather injuries, damage to engines and cooling systems, lubrication problems, and fuel requirements. Cooler temperatures and humidity cause fog.

10-98. Precipitation affects mobility, visibility, and effectiveness of personnel and equipment. It also affects the quality of some stored material. Snow, even in small amounts, reduces the effectiveness of mines. DSB planners should consider precipitation of more than 0.1 inch per hour or 2 inches in 12 hours critical. Six inches of

snow accumulation or drifts higher than 2 feet will have severe effects on mobility.

10-99. Wind usually favors the upwind force by blowing dust, smoke, sand, rain, or snow on the downwind force. It affects employment of NBC munitions, smoke, and conventional weapons.

10-100. Clouds affect air operations. This includes logistics air missions, but also our own close air support, as well as the enemy's ability to conduct airborne or air assault operations in the DSA.

10-101. Though poor visibility limits employment of airborne forces, agents and special purpose force operations often rely on it to reduce the effectiveness of our rear area security. Poor visibility hinders control and reduces effectiveness of reconnaissance, surveillance, and target acquisition.

10-102. Consider all of these factors when analyzing terrain, but always focus on the ones of most relevance to the specific situation at hand and the needs of the commander. Evaluate them in any order that best supports your analysis.

10-103. Remember that the terrain analysis is not the end product of the IPB process. Rather, it is the means to determine which friendly COAs can best exploit the opportunities the terrain provides and how the terrain affects the threat's available COAs.

10-104. In **step 3** the DSB S2 NCO analyzes the command's intelligence holdings to determine how the threat normally organizes for combat and conducts operations under similar circumstances. When facing a well-known threat, the S2 can rely on his historical databases and well developed threat models. When operating against a new or less well known threat, he may need to develop his intelligence databases and threat models concurrently.

10-105. The S2's evaluation is portrayed in a threat model that includes doctrinal templates, which depict how the threat operates when unconstrained by the effects of the battlefield environment. Although they usually emphasize graphic depictions (doctrinal templates), threat models sometimes emphasize matrices or simple narratives.

10-106. Threat evaluation is a detailed study of the enemy forces. It considers their organization, tactical doctrine, equipment, and support systems. The DSB's interest for security purposes is in rear area threat evaluation. The DSB S2/S3 prepares a doctrinal template to reflect the enemy's air assault, airborne, operational maneuver group, and special purpose force employment doctrine. Other rear area threats (insurgents, guerrillas, terrorists, agents, and potential civil unrest) cannot be depicted in a doctrinal template. For these threats, an unconventional warfare situation map and population status overlay are prepared. The situation map shows probable operating areas, headquarters, encampments, and movement routes for unconventional forces.

The rear area population status overlay shows areas with a high potential for civil unrest or with concentrations of enemy sympathizers. The overlay also shows where psychological operations would and would not be effective.

10-107. Once the threat evaluation is complete, this information is integrated with weather and terrain factors to determine how the threat is likely to operate in our rear areas. Again, the DISCOM S2 will evaluate the threat and advise the DISCOM S3. The DSB commander must ensure threat integration is coordinated with the DISCOM. Due to the limited resources available to the DSB commander to defeat the threat, he must identify specific areas of interest. These may include:

- Landing zones and drop zones.
- Key road junctions.
- Forest paths.
- Small groups of individuals attempting to move through or evade detection in the DSA.
- Areas with insurgency sites.
- Guerrilla/insurgency sites.
- Terrorist operating or headquarters areas.
- Target areas of interest are also identified along high-speed avenues of approach into the DSA.
- Detailed information on IPB is in FM 34-130.

10-108. **Step 4** integrates the results of the previous steps into a meaningful conclusion. Given what the threat normally prefers to do, and the effects of the specific environment in which he is operating now, what are his likely objectives and the COAs available to him? In step 4, the S2 develops enemy COA models that depict the threat's available COAs. He also prepares event templates and matrices that focus intelligence collection on identifying which COA the threat will execute. The enemy COA models are the products that the staff will use to portray the threat in the decision making and targeting processes. The S2 cannot produce these models, effectively predicting the threat COAs, unless he has:

- Adequately analyzed the friendly mission throughout the time duration of the operation; identified the physical limits of the AO and AI; and identified every characteristic of the battlefield environment that might affect the operation. Identified the opportunities and constraints the battlefield environment offers to threat and friendly forces.
- Thoroughly considered what the threat is capable of and what he prefers to do in like situations if unconstrained by the battlefield environment.

10-109. In short, the enemy COA models which drive the decision making process are valid only if the S2 NCO establishes a good foundation during the in the first three steps of the IPB process.

10-110. Like all other Army forces, the DSB must perform intelligence preparation of the battlefield (IPB). The sustainment planning considerations described in Chapter 8 are based on the DSB's knowledge of the enemy, (for example, his projected use of chemical munitions affects the DSB's stockage of MOPP gear) the weather, (fog may make aerial resupply impossible), and the terrain (lack of adequate road nets may mandate evacuation by air). Related to but distinct from the support, implications of IPB are the rear operations considerations. The DSB commander along with his staff, must analyze the terrain and weather and integrate this information with knowledge of the enemy. This enables the commander to identify probable target areas and activities. He can then predict probable courses of action to plan security operations.

## **RECONNAISSANCE AND SURVEILLANCE (R & S) PLANNING**

10-111. Reconnaissance is an active mission concerned with enemy, terrain, and/or weather. It seeks out enemy positions, obstacles, and routes. Reconnaissance missions include:

- Zone recon is conducted within a specific zone. The zone is defined by boundaries.
- Area recon is conducted to obtain information concerning a specific location and the area immediately around it.
- Route recon is conducted to obtain information on the route and terrain from which the enemy could influence movement along that route.

10-112. Surveillance is passive. It implies observing a specified area or areas from a fixed concealed position. Listening posts/observation posts (OPs) can provide 24-hour surveillance. OPs must be covered by indirect or direct fire.

10-113. R&S tasking matrix is a product used to display taskings, requests and coordinations necessary to answer the commander's priority information requirements (PIR). The matrix is made up of:

- Named area of interest (NAI). Geographical area where information that will satisfy a specific information requirement can be collected.
- Location. Grid coordinates or terrain features that identify the NAI.
- Start/Stop. Beginning and end times for the R&S mission.
- Specific information requirement. The exact information required during the R&S mission. Derived by the S2 from the commander's PIR. Issued in the form of a question. (Example: Is the bridge intact?)



- Unit or asset. Each unit or asset capable of collecting the necessary information will be marked with an X. Each unit tasked to collect at a specific NAI will be marked with a circled X.
- Report requirement. Describes specific reporting requirements. (Example: report every hour using SALUTE format). Figure 10-9 is an example of a R & S tasking matrix.

RECONNAISSANCE AND SURVEILLANCE (R&S) TASKING MATRIX										
NAI	LOCATION	Specific Information Requirement	H D C	B S C	F S B	D A S B	D S B	D I S C O M		Reporting Requirement

Figure 10-9. Reconnaissance and Surveillance (R&S) Tasking Matrix

**SOURCES OF INFORMATION**

10-114. The DSB's responsibility for security makes it imperative that the DSB TOC and DISCOM staff maintains a close relationship. Intelligence information possessed by the DISCOM with implications for security must be available to the DSB S2/S3. In addition, he receives information from DISCOM S2 channels. However, intelligence gathering should not be restricted to these sources. Local authorities, dislocated civilians, and local civilians are valuable intelligence sources. Information may also be obtained from base commanders within the DSA, military police, truckers, customers, elements of the MI battalion in the DSA, and any other elements moving into the area. In addition, information should flow laterally as well as vertically. For instance, while TMT company personnel must pass information like task force casualty estimates to the DSB S2/S3, they should also notify other DSB companies simultaneously whenever possible.

## TERRAIN

10-115. The concept of OCOKA is used to analyze terrain. OCOKA refers to observation and fields of fire, concealment and cover obstacles, key terrain, and avenues of approach. The DSB commander will rely heavily on information from the DISCOM S2 for terrain analysis. The division is supported by a direct support terrain team that provides information to the G2 for IPB. The G2 passes it to the brigades and DISCOM HQ.

10-116. Line of sight is required in the DSA for radios, ground and air observers' vision, air defense target acquisition, and fields of fire for the DSA's direct fire weapons.

10-117. Concealment is protection from air and ground observation. Cover is protection from effects of fire. These considerations are closely related to observation and fields of fire. The DSB S2/S3 must determine what possibilities the terrain offers to both friendly and enemy forces. This analysis is vital to elements in the DSA in view of the limited weapons available and numerous personnel and items of equipment in the area. In built-up areas, DSA elements are likely to occupy buildings to maximize cover and concealment. Buildings significantly reduce heat signature. However, this technique is not effective in all areas of the world. Planners must take into account the soundness of buildings, availability of basements, and adequacy of the surrounding road net to accommodate traffic for CSS and self-defense operations.

10-118. Obstacles are natural and man-made features that stop, impede, or divert movement. Since one of the DSB's functions is to ensure freedom of movement for friendly forces in the rear, the DSB must be familiar with all existing obstacles and what the effects of removing, overcoming, or bypassing them would be. Weather effects on trafficability also act as obstacles.

10-119. Any feature that provides a tactical advantage is key terrain. Whether a particular feature is key or not varies with the tactical situation. However, features which may be key terrain features include bridges, fording sites, high ground, choke points, and road junctions. Not only must DSA elements optimize use of these features when available, but also they must recognize the enemy will frequently concentrate its efforts on these areas.

10-120. Avenues of approach are ground and air routes by which a force may reach an objective or key terrain feature. Considerations for avenues of approach in the rear are their capabilities to support movement of CS and CSS elements with their supported units and to allow rapid enemy movement into our rear. Commanders must avoid obvious armor and helicopter avenues of approach.

## WEATHER

10-121. Weather affects mobility and the functioning of virtually all items of equipment, as well as the performance of personnel.

Terrain and weather are considered concurrently. Again, the DSB depends on the G2/S2 channels to pass weather analysis information from the division weather team. The five aspects of weather that affect planning are temperature and humidity, precipitation, wind, clouds, and visibility.

10-122. Very high temperatures cause heat injuries and increased engine wear and failure. Very low temperatures increase cold weather injuries, damage to engines and cooling systems, lubrication problems, and fuel requirements. Cooler temperatures and humidity cause fog.

10-123. Precipitation affects mobility, visibility, and effectiveness of personnel and equipment. It also affects the quality of some stored material. Snow, even in small amounts, reduces the effectiveness of mines. DSB planners should consider precipitation of more than 0.1 inch per hour or 2 inches in 12 hours critical. Six inches of snow accumulation or drifts higher than 2 feet will have severe effects on mobility.

10-124. Wind usually favors the upwind force by blowing dust, smoke, sand, rain, or snow on the downwind force. It affects employment of NBC munitions, smoke, and conventional weapons.

10-125. Clouds affect air operations. This includes logistics air missions, but also our own close air support, as well as the enemy's ability to conduct airborne or air assault operations in the DSA.

10-126. Though poor visibility limits employment of airborne forces, agents and special purpose force operations often rely on it to reduce the effectiveness of our rear area security. Poor visibility hinders control and reduces effectiveness of reconnaissance, surveillance, and target acquisition.

## **THREAT EVALUATION**

10-127. Threat evaluation is a detailed study of the enemy forces. It considers their organization, tactical doctrine, equipment, and support systems. The DSB's interest for security purposes is in rear area threat evaluation. The DSB S2/S3 prepares a doctrinal template to reflect the enemy's air assault, airborne, operational maneuver group, and special purpose force employment doctrine. Other rear area threats (insurgents, guerrillas, terrorists, agents, and potential civil unrest) cannot be depicted in a doctrinal template. For these threats, an unconventional warfare situation map and population status overlay are prepared. The situation map shows probable operating areas, headquarters, encampments, and movement routes for unconventional forces. The rear area population status overlay shows areas with a high potential for civil unrest or with concentrations of enemy sympathizers. The overlay also shows where psychological operations would and would not be effective.

## **THREAT INTEGRATION**

10-128. Once the threat evaluation is complete, this information is integrated with weather and terrain factors to determine how the threat is likely to operate in our rear areas. Again, the brigade S2 will evaluate the threat and advise the brigade S3. He will perform threat integration for the entire rear area; the DSB commander must ensure threat integration for the DSA is coordinated with the brigade. Due to the limited resources available to the DSB commander to defeat the threat, he must identify specific areas of interest. These may include:

- Landing zones and drop zones.
- Key road junctions.
- Forest paths.
- Small groups of individuals attempting to move through or evade detection in the DSA.
- Areas with insurgency sites.
- Guerrilla/insurgency sites.
- Terrorist operating or headquarters areas.
- Target areas of interest are also identified along high-speed avenues of approach into the DSA.
- Detailed information on IPB is in FM 34-10.

## **INTERNAL SECURITY**

10-129. An effective base defense system must accomplish the following four tasks:

- Security of the base. The base and base cluster commanders must establish the necessary defensive measures to ensure the security of their units. Each commander must apply METT-T analysis to determine requirements.
- Detection. Detection is the early warning of enemy infiltration attempts. Detection devices include day and night observation devices as well as communications, intelligence, radar, and sensor equipment. Chemical and radiological monitoring must also be used. Warning systems and procedures must be established and understood by all personnel. If an attack is unlikely, few people are involved in defensive operations. However, personnel will always man OPs and access points. If a threat is probable, defensive requirements will disrupt support operations. Alarms should be used to notify all personnel of alert postures. Warning devices include sirens, pyrotechnic and horns. The MPs may provide the base and base cluster commander's link for detection, early warning, and deployment against enemy attacks in the rear. Information gathered by MP elements dispersed throughout the rear area helps apprise commanders of enemy activity near bases. When the ROC determines the need, MPs respond to bases under attack.

- Delay. The defense system must be able to hinder the threat's progress to permit defense forces to react. Obstacles covered by direct or indirect fires slow or canalize movement. The ROC can, with division G3 approval, authorize mine emplacement in the division rear. However, ROC must ensure a proposed minefield is coordinated with adjacent, higher, and subordinate units. It must also ensure limitations to friendly maneuver units are minimized and all requirements for reporting, marking, and recording are met.
- Destruction. DSB units should place machine guns and lightweight antiarmor weapons to cover obstacles and avenues of approaches. Grenade launchers mounted on vehicles are effective fire suppression systems that can be quickly dispatched to threatened areas. Weapons systems evacuated to the DSA and BSA for repair should be used to prevent a breach of the perimeter. The equipment to be repaired weapon systems should be integrated into the defense plan.

10-130. Internal security of the DSA involves all soldiers. The ability to identify the threat and timely reporting to the TOC is the key to survivability in the DSA. The DSB TSOP covers, as a minimum, procedures for the following internal security measures:

- Recon and surveillance plan.
- Guard post operations.
- Observation post (OP) operations.
- Foot patrols.
- Levels of alert (THREATCON).
- Operational security (OPSEC).
- Counterintelligence.
- Standard signals for DSA response.
- Essential elements of information.
- Enemy prisoners of war.
- STAND – TO.
- Ready reaction force.
- Movement of unit/personnel in the DSA.

**DISMOUNT POINT**

10-131. The following checklist is for outgoing vehicles to ensure that our soldiers are prepared for missions. Supervisors will ensure soldiers departing on missions retain this checklist to show gate guards.

- \_\_\_\_\_ ORGANIZATIONAL MAINTENANCE PMCS CERTIFICATION
- \_\_\_\_\_ FULL FUEL TANK
- \_\_\_\_\_ TWO FULL 5-GAL FUEL CANS SECURED
- \_\_\_\_\_ TWO FULL 5-GAL WATER CANS SECURED
- \_\_\_\_\_ A CASE OF EMERGENCY MREs ON BOARD
- \_\_\_\_\_ TWO QUARTS OF ENGINE OIL ON HAND
- \_\_\_\_\_ ONE QUART TRANSMISSION FLUID ON HAND
- \_\_\_\_\_ TA-50 TO INCLUDE SLEEPING BAGS ON HAND
- \_\_\_\_\_ INDIVIDUAL WEAPONS, MAGAZINES, AMMO ON HAND
- \_\_\_\_\_ CALL SIGNS AND FREQUENCIES FOR TWO DAYS
- \_\_\_\_\_ CHALLENGE AND PASSWORDS FOR TWO DAYS

**CHALLENGE    PASSWORD**

**1<sup>st</sup> Day**        \_\_\_\_\_        \_\_\_\_\_

**2<sup>nd</sup> Day**        \_\_\_\_\_        \_\_\_\_\_

- \_\_\_\_\_ COMMS CHECK WITH CP CONDUCTED
- \_\_\_\_\_ LATEST ROAD CONDITIONS PROVIDED
- CIRCLE ONE:    GREEN    AMBER    RED    BLACK**
- \_\_\_\_\_ LATEST ROAD INTELLIGENCE
- \_\_\_\_\_ ROUTE TO TRAVEL/DESTINATION

ROUTE: \_\_\_\_\_

DESTINATION: \_\_\_\_\_

\_\_\_\_\_ SECURITY OF LOAD CHECKED

\_\_\_\_\_ VEHICLE/TRAILER BUMPER NUMBERS

\_\_\_\_\_ CAMOUFLAGE SYSTEM ON BOARD

\_\_\_\_\_ MAP ON BOARD

\_\_\_\_\_ SEAT BELTS USED

\_\_\_\_\_ CP AWARE OF VEHICLE DEPARTURE

\_\_\_\_\_ DATE **TIME GROUP OF DEPARTURE** \_\_\_\_\_

**OTHER DEFENSIVE MEASURES**

10-132. The DSB commander has additional assets available to him for the defense of the DSA. Weapons systems evacuated to the DSA for repair should be used to prevent a breach of the perimeter. The equipment to be repaired weapon systems should be integrated into the defense plan.

10-133. Planning and coordinating support with combat support units in the DSA and the DISCOM HQ, is essential for integrating all resources into an effective defensive plan. At a minimum the following operations are planned:

- Fire support.
- Air defense.
- Engineer
- Military police.
- Close air support.

10-134. Despite the best planning efforts, situations may arise in which resources will not be available to meet requirements as outlined in doctrine and support plans. Improvisation, innovation, and creativity may be necessary to provide continuous support to the division troops.

**FIELD ARTILLERY SUPPORT**

10-135. The BCOC will develop the fire planning required to implement the execution of fire support for the DSA. The DSB S2/S3 will coordinate fires with the DSA FSO designated by the field artillery battalion commander. Together, they will plan targets for the DSA defense and help establish preplanned engagement

areas for artillery and close air support. These fires will be coordinated with the brigade fire support coordinator, through the service battery or directly from the BCOC to the main CP. Targets are placed in the AFATDS systems for both DISCOM and division implementation. Artillery (and ADA) overlays must include displaced civilian camps, routes, and information on arts, monuments, and archives.

10-136. Calls for fire from the bases are made to the BCOC via field phones. If phones are not available, FM radio will be used. As previously mentioned, a direct line will link the BCOC and FA service battery CP. Calls will be made in accordance with procedures detailed in FM 3-09.30 (6-30). An aerial fire support officer may be on call to adjust fires as necessary. TC 25-4-1 gives details on planning and conducting fire coordination exercises.

### **AIR DEFENSE ARTILLERY SUPPORT**

10-137. The DSA must be protected from enemy air strikes. ADA assets likely to be available in the DSA are Stingers/Avengers if the DSA is one of the main defensive priorities. The DSB S2/S3 will coordinate with the Stinger/Avenger section chief for DSA defensive fires. Assets are positioned to cover anticipated air avenues of approach. The DSB S2/S3 posts locations of the systems and air corridors covered on his sector sketch. The ADA based in the DSA will run a line to the BCOC. This will ensure early warning of all inbound aircraft. In addition, although not located in the DSA, the Patriot defensive umbrella should encompass the DSA. ADA operations are discussed in FM 44-3.

### **ENGINEER SUPPORT**

10-138. When engineer assets are located in the DSA, they will be made available to the BCOC for survivability and countermobility operations. Therefore, the DSB S2/S3 must be prepared to take advantage of assets as they become available. Along with an engineer designated by the brigade engineer, he will plan barriers and minefield according to guidelines and principles presented in FM 3-34 ( 5-100) and FM 5-102.

### **MILITARY POLICE OPERATIONS**

10-139. A direct support military police platoon is usually operating from the DSA. The battlefield missions performed by this platoon may include battlefield circulation control, area security, operation of the EPW point, and law enforcement.

10-140. Battlefield circulation control is performed along MSR and in and around the DSA. MPs use traffic control points, mobile patrols, and temporary road signs to accomplish this mission. Coordination between MPs and the DSB TOC is essential to ensure movement in the area is controlled. Displaced civilian control and coordination with the local government must be included in planning.



10-141. The area security mission of the MPs is vital to rear operations. MPs employed in the brigade rear provide a light, mobile force that can move, shoot, and communicate. Their mobility makes it possible for them to detect the threat as they aggressively patrol road nets and key terrain features throughout the rear area. Their organic communications enable them to advise the rear CP, base clusters, bases, and moving units of impending enemy activity. MPs may also be used for convoy security and to protect static positions as required. However, when used in this manner, missions, which capitalize on MP mobility, are degraded.

10-142. The MPs conduct collection, evacuation, and internment operations to support their EPW mission. The EPW point holds EPWs captured by brigade units until they can be evacuated to the division central collection point. FM 3-19.40 (19-40) covers EPW operations in detail.

10-143. Law and order operations are only performed when the commander requires them and the tactical situation permits. This mission is usually the lowest priority during war.

# Glossary

**1SG** First Sergeant

## A

**AA** Assembly Area

**AAFES** Army and Air Force Exchange Service

**AAIS** Army Automation Information System

**AB** Aviation Brigade

**ABE** Assistant Brigade Engineer

**ABCS** Army Battle Command Systems

**ACK** Acknowledge

**AD** Air Defense

**ADA** Air Defense Artillery

**ADACP** Alcohol and Drug Abuse Prevention Control

**ADC** Area Damage Control/Assistant Division Commander

**ADO** Air Defense Officer

**ADP** Automated Data Processing

**AFFS** Army Field Feeding System

**AFSP** Army Food Service Program

**AGR** Active Guard and Reserve

**AI** Area of Interest/Authorized Items

**AIMI** Aviation Intensively Managed Items

<b>AIS</b>	Automated Information System
<b>AIT</b>	Automatic Identification Technology
<b>ALOC</b>	Administration and Logistics Center
<b>AM</b>	Amplitude Modulation
<b>AMC</b>	Aviation Maintenance Company/Army Materiel Command/Air Mobility Command
<b>AMC-LSE</b>	Army Materiel Command-Logistics Support Element
<b>AMO</b>	Automation Office
<b>AMSS</b>	Army Materiel Status System
<b>AO</b>	Area of Operations
<b>AOAP</b>	Army Oil Analysis Program
<b>AOE</b>	Army of Excellence
<b>AOR</b>	Area of Responsibility
<b>APO</b>	Advance Planning and Optimization
<b>AR</b>	Army Regulation/Armor
<b>ARNG</b>	Army National Guard
<b>ASA</b>	Aviation Support Area
<b>ASAS</b>	All Source Analysis System
<b>ASAS-RWS</b>	All Source Analysis System-Remote Work Station
<b>ASCC/ARFOR</b>	Army Service Component Commander/Army Forces Commander
<b>ASL</b>	Authorized Stockage List
<b>ASMC</b>	Area Support Maintenance Company
<b>ASP</b>	Ammunition Supply Point
<b>ASWBL</b>	Armed Services Whole Blood Processing Laboratory
<b>ATCCS</b>	Army Tactical Command and Control System
<b>ATM</b>	Advanced Trauma Management

<b>ATP</b>	Ammunition Transfer Point
<b>AUEL</b>	Automated Unit Equipment List
<b>AVIM</b>	Aviation Intermediate Maintenance
<b>AVUM</b>	Aviation Unit Maintenance
<b>AXP</b>	Ambulance Exchange Point
<b>B</b>	
<b>B</b>	Bulk
<b>BAS</b>	Battalion Aid Station
<b>BCC</b>	Battlefield Circulation and Control
<b>BCOC</b>	Base Cluster Operations Center
<b>BCT</b>	Brigade Cavalry Troop
<b>BD</b>	Battlefield Distribution
<b>BDA</b>	Battle Damage Assessment
<b>BDAR</b>	Battle Damage Assessment and Repair
<b>BDE</b>	Brigade
<b>BDR</b>	Battle Damage Repair
<b>BF</b>	Battle Fatigue
<b>BFSA</b>	Brigade Forward Support Area
<b>BFVS</b>	Bradley Fighting Vehicle System
<b>BII</b>	Basic Issue Items
<b>BIT</b>	Built-In Test
<b>BITE</b>	Built-In Test Equipment
<b>BLAST</b>	Blocked Asynchronous Transmission
<b>BN</b>	Battalion
<b>BOS</b>	Battlefield Operating System

<b>BRIL</b>	Baseline Resource Item List
<b>BSA</b>	Brigade Support Area
<b>BSC</b>	Brigade Support Company
<b>BSS</b>	Brigade Surgeon Section
C	
<b>C2</b>	Command and Control
<b>C3</b>	Command, Control, and Communications
<b>C4ISR</b>	Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance
<b>CA</b>	Civil Affairs
<b>CASI/NES</b>	CSS Automated Information Management Interface/Network Encryption System
<b>CANTCO</b>	Can't Comply
<b>CAS</b>	Close Air Support
<b>CCI</b>	Controlled Cryptographic Items
<b>CCIR</b>	Commander's Critical Information Requirements
<b>CCL</b>	Combat Configured Load
<b>CDR</b>	Commander
<b>CD-ROM</b>	Compact Disc-Read Only Memory
<b>CE</b>	Communications-Electronics
<b>CEB</b>	Clothing Exchange and Bath
<b>CFS</b>	Call for Support
<b>CHE</b>	Container Handling Equipment
<b>CHL</b>	Combat Health Logistics
<b>CHS</b>	Combat Health Support
<b>CHU</b>	Container Handling Unit

<b>CMCC</b>	Corps Movement Control Center
<b>CMMC</b>	Corps Materiel Management Center
<b>CMT</b>	Combat Medical Team, Contact Maintenance Truck
<b>CNR</b>	Combat Net Radios
<b>CO</b>	Company
<b>COAs</b>	Courses of Actions
<b>COE</b>	Common Operating Environment
<b>COMSEC</b>	Communications Security
<b>C of S</b>	Chief of Staff
<b>CONOPS</b>	Continuity of Operations/Contingency Operations
<b>CONUS</b>	Continental United States
<b>COSCOM</b>	Corps Support Command
<b>COTS</b>	Commercial Off the Shelf
<b>CP</b>	Command Post
<b>CRC</b>	Central Reporting Center/Control and Reporting Center
<b>CROP</b>	Containerized Roll-In/Roll-out Platform
<b>CULT</b>	Common Use Land Transportation

D

<b>DA</b>	Department of the Army
<b>DA DCSPER</b>	Department of the Army Deputy Chief of Staff for Personnel
<b>DAMMS-R</b>	Department of the Army Movement Management System-Revised
<b>DAO</b>	Division Ammunition Officer
<b>DA PAM</b>	Department of the Army Pamphlet
<b>DASB</b>	Division Aviation Support Battalion
<b>DISCOM</b>	Division Support Command

<b>DIT</b>	Digital Interactive Training
<b>DIVARTY</b>	Division Artillery
<b>DMAIN</b>	Division Main
<b>DMC</b>	Distribution Management Center
<b>DMLSS</b>	Division Medical Logistics Standard Support
<b>DMMC</b>	Division Materiel Management Center
<b>DMOC</b>	Division Medical Operations Center
<b>DNBI</b>	Disease, Non-battle Injury
<b>DNVT</b>	Digital, Non-secure Voice Telephone
<b>DOD</b>	Department of Defense
<b>DODAAC</b>	Department of Defense Activity Address Code
<b>DODAC</b>	Department of Defense Ammunition Code
<b>DODIC</b>	Department of Defense Identification Code
<b>DPD</b>	Deployed Personnel Database
<b>DS</b>	Direct Support
<b>DSA</b>	Division Support Area
<b>DSB</b>	Division Support Battalion
<b>DSESTS</b>	Direct Support Electrical System Test Set
<b>DSS</b>	Division Surgeon Section
<b>DSMC</b>	Division Support Medical Company
<b>DSVT</b>	Digital, Secure Voice Telephone
<b>DTG</b>	Date Time Group
<b>DTO</b>	Division Transportation Officer
<b>DTSS</b>	Digital Topographic Support System
<b>DVE</b>	Driver Vision Enhancer

**DZ** Drop Zone

E

**EAB** Echelons Above Brigade

**EAC** Echelons Above Corps

**EAD** Echelons Above Division

**ECB** Echelons Corps and Below

**ECCM** Electronic Counter-Counter Measures

**EEFI** Essential Elements of Friendly Information

**EEI** Essential Elements of Information

**EMT** Emergency Medical Treatment

**EO** Equal Opportunity

**EOD** Explosive Ordnance Disposal

**EOH** Equipment on Hand

**EPLRS** Enhanced Position Location Reporting System

**EPW** Enemy Prisoner of War

**ESE** Engineer Support Element

**EST** Engineer Support Team

**ETA** Estimated Time of Arrival

**ETM** Electronic Tech Manual

**EW** Electronic Warfare

F

**FA** Field Artillery

**FAAD** Forward Area Air Defense

**FARP** Forward Arming and Refueling Point

**FAS** Forward Aid Station



<b>FBCB2</b>	Force XXI Battle Command Brigade & Below System
<b>FDRP</b>	First Destination Reporting Point
<b>F &amp; E</b>	Fuel & Electrical
<b>FFIR</b>	Friendly Forces Information Requirement
<b>FLE</b>	Forward Logistics Element
<b>FM</b>	Field Manual, Frequency Modulation
<b>FMC</b>	Fully Mission Capable
<b>FPF</b>	Final Protective Fires
<b>FPL</b>	Final Protective Line
<b>FRAGO</b>	Fragmentary Order
<b>FRCP</b>	Flatrack Collection Point
<b>FRS</b>	Forward Repair System
<b>FS</b>	Fire Support
<b>FSB</b>	Forward Support Battalion
<b>FSC</b>	Forward Support Company
<b>FSMC</b>	Forward Support Medical Company
<b>FSO</b>	Fire Support Officer
<b>FSSP</b>	Fuel System Supply Point
<b>FST</b>	Forward Surgical Team
<b>FUPP</b>	Full-Up Power Pack

G

<b>GCCS-A</b>	Global Command and Control System-A
<b>GCSS-ARMY</b>	Global Combat Support System-Army
<b>GMC</b>	Ground Maintenance Company
<b>GMLR</b>	Guided Missile & Large Rockets

<b>GOTS</b>	Government off the Shelf
<b>GPS</b>	Global Positioning System
<b>GS</b>	General Support
<b>GSE</b>	Ground Support Equipment
<b>GTN</b>	Global Traffic Network

H

<b>HAVECO</b>	Have Complied
<b>HAZMAT</b>	Hazardous Materiel
<b>HCP</b>	Health Care Package
<b>HDC</b>	Headquarters and Distribution Company
<b>HE</b>	High Explosive
<b>HEMTT</b>	Heavy Expanded Mobility Tactical Truck
<b>HERCULES</b>	Heavy Equipment Recovery Combat Utility Lift and Evacuation System
<b>HET</b>	Heavy Equipment Transporter
<b>HF</b>	High Frequency
<b>HHC</b>	Headquarters and Headquarters Company
<b>HHH</b>	Headquarters and Headquarters Detachment
<b>HMMWV</b>	High Mobility Multipurpose Wheeled Vehicle
<b>HNS</b>	Host Nation Support
<b>HQ</b>	Headquarters
<b>HSC</b>	Headquarters and Supply Company
<b>HSMO</b>	Health Service Materiel Officer
<b>HSSO</b>	Health Service Support Officer
<b>HTAR</b>	Hot Tactical Aircraft Refueling System
<b>hvy</b>	Heavy

**HZ** Hertz

I

**IAW** In Accordance With

**IETM** Interactive Electronic Technical Manual

**IEW** Intelligence and Electronic Warfare

**IFTE** Integrated Family of Test Equipment

**IFV** Infantry Fighting Vehicle

**IHFR** Improved High Frequency Radio

**INMARSAT** International Maritime Satellite Telephone

**INTSUM** Intelligence Summary

**IPB** Intelligence Preparation of the Battlefield

**ISO** International Standardization Organization

**ITO** Installation Transportation Office

**ITV** In Transit Visibility

J

**JP-8** Jet Propulsion Fuel, Type 8

K

**KCLFF** Kitchen Combat Level Field Feeding

**KHZ** Kilohertz

**KIA** Killed In Action

**KW** Kilowatt

L

**LAN** Local Area Network

**LAR** Logistical Assistance Representative

**LMCS** Land Missile Combat System

<b>LEN</b>	Large Extension Node
<b>LHS</b>	Load Handling System
<b>LIN</b>	Line Item Number
<b>LMTV</b>	Light/Medium Tactical Vehicles
<b>LNO</b>	Liaison Officer
<b>LOC</b>	Line of Communication
<b>LOD</b>	Line Of Duty
<b>LOGCAP</b>	Logistics Civil Augmentation Program
<b>LOGPAC</b>	Logistics Package
<b>LOGSA</b>	Logistics Situation Awareness/Logistics Support Agency
<b>LOGSITREP</b>	Logistics Situation Report
<b>LOS</b>	Line of Sight
<b>LPB</b>	Logistics Preparation of the Battlefield
<b>LPXMED</b>	Logistics Processor External-Medical Module
<b>LRP</b>	Logistics Release Point
<b>LRU</b>	Line Replaceable Unit
<b>LTF</b>	Logistics Task Force
<b>LTO</b>	Logistics Task Order
<b>LZ</b>	Landing Zone
	<b>M</b>
<b>MA</b>	Mortuary Affairs
<b>MACOM</b>	Major Command
<b>MACP</b>	Mortuary Affairs Collection Point
<b>MAS</b>	Main Aid Station
<b>MC</b>	Movement Control

<b>MC4</b>	Medical Communications for Combat Casualty Care
<b>MCL</b>	Mission Configured Load
<b>MCM</b>	Multi-Capable Maintainer
<b>MCO</b>	Movement Control Office
<b>MCOO</b>	Modified Combined Obstacle Overlay
<b>MCS</b>	Maintenance Control Section, Maneuver Control System, Master Control Station, Maintenance Control Supervisor
<b>MCSR</b>	Mission Condition Status Report
<b>MCT</b>	Movement Control Team
<b>MEDEVAC</b>	Medical Evacuation
<b>MEDLOG-D</b>	Medical Logistics-Division
<b>MES</b>	Medical Equipment Set
<b>METL</b>	Mission Essential Task List
<b>METT-TC</b>	Mission, Enemy, Terrain, Troops, Time Available, and Civilian
<b>MH</b>	Mental Health
<b>MHE</b>	Materials Handling Equipment
<b>MHZ</b>	Megahertz
<b>MI</b>	Military Intelligence
<b>MIG</b>	Metal Inert Gas (Welding)
<b>MIA</b>	Missing In Action
<b>MILVAN</b>	Military Van
<b>MKT</b>	Mobile Kitchen Trailer
<b>MLRS</b>	Multiple Launch Rocket System
<b>MMMB</b>	Medical Materiel Management Branch
<b>MOPMS</b>	Modular Packed Mine System
<b>MOPP</b>	Mission Oriented Protection Posture

<b>MOS</b>	Military Occupation Specialty
<b>MP</b>	Military Police
<b>MPL</b>	Mandatory Parts List
<b>MRE</b>	Meal, Ready To Eat
<b>MRM</b>	Maintenance Reporting and Management
<b>MRO</b>	Materiel Release Order
<b>MSE</b>	Mobile Subscriber Equipment
<b>MSR</b>	Main Supply Route
<b>MSRT</b>	Mobile Secure Radio Telephone Terminal
<b>MST</b>	Maintenance Support Team
<b>MTF</b>	Medical Treatment Facility
<b>MTOE</b>	Modified Table of Organization and Equipment
<b>MTS</b>	Movement Tracking System
<b>MTV</b>	Medium Tactical Vehicles
<b>MWR</b>	Morale, Welfare, and Recreation
N	
<b>NAI</b>	Named Area of Interest
<b>NATO</b>	North Atlantic Treaty Organization
<b>NBC</b>	Nuclear, Biological, Chemical
<b>NC</b>	Node Center
<b>NCO</b>	Noncommissioned Officer
<b>NCS</b>	Net Control Station
<b>NGO</b>	Non-government organizations
<b>NIMA</b>	National Imagery and Mapping Agency
<b>NLT</b>	No Later Than

<b>NMC</b>	Non Mission Capable
<b>NRTS</b>	Not Repairable This Station
<b>NRT</b>	Near Real Time
<b>NSL</b>	Non-stockage List
<b>NSN</b>	National Stock Number
<b>O</b>	
<b>OCIE</b>	Organizational Clothing and Individual Equipment
<b>OCOKA</b>	Observation, Concealment and Cover, Obstacles, Key Terrain, and Avenues of Approach
<b>OEG</b>	Operational Exposure Guidance
<b>OP</b>	Observation Post
<b>OPCON</b>	Operational Control
<b>OPLAN</b>	Operation Plan
<b>OPLOGPLAN</b>	Operations Logistics Plan
<b>OPORD</b>	Operations Order
<b>OPSEC</b>	Operations Security
<b>OPTEMPO</b>	Operational Tempo
<b>ORGWON</b>	Organization Work Order Number
<b>OST</b>	Order Ship Time
<b>P</b>	
<b>P</b>	Package
<b>P &amp; A</b>	Personnel and Administration
<b>PA</b>	Physician Assistant
<b>PAM</b>	Pamphlet
<b>PARC</b>	Principle Assistant Responsible for Contracting
<b>PASR</b>	Personnel Accounting and Strength Reporting

<b>PBO</b>	Property Book Officer
<b>PDF</b>	Protective Defensive Fires
<b>PERSITREP</b>	Personnel Situation Report
<b>PIR</b>	Priority of Information Requirements
<b>PL</b>	Phase line
<b>PLL</b>	Prescribed load list
<b>PLS-E</b>	Palletized Load System-Enhanced
<b>PM</b>	Provost Marshall/Program Manager
<b>PMCS</b>	Preventive Maintenance Checks and Services
<b>PMM</b>	Preventative Medicine Measures
<b>POC</b>	Point of Contact
<b>POD</b>	Port of Debarkation
<b>POE</b>	Port of Embarkation
<b>POL</b>	Petroleum, Oils and Lubricants
<b>POM</b>	Preparation for Overseas Movement
<b>PSD</b>	Personnel Service Detachment
<b>PSG</b>	Platoon Sergeant
<b>PSS</b>	Personnel Service Support
<b>PUMA</b>	Pocket Unit Maintenance Aid
<b>PVNTMED</b>	Preventive Medicine
<b>PVO</b>	Private Volunteer Organization

**Q**

<b>QC</b>	Quality Control
<b>QM</b>	Quartermaster
<b>QRF</b>	Quick Reaction Force



## R

<b>R&amp;S</b>	Reconnaissance and Surveillance
<b>RASP</b>	Reserve Associate Support Program
<b>RC</b>	Reserve Components
<b>RDD</b>	Required Delivery Date
<b>RECON</b>	Reconnaissance
<b>ROC</b>	Rear Operations Cell
<b>RF</b>	Reaction Force/Radio Frequency
<b>RFID</b>	Radio Frequency Identification Tag
<b>ROE</b>	Rules of Engagement
<b>ROM</b>	Refuel on the Move
<b>RP</b>	Release Point
<b>RS</b>	Religious Support
<b>RSOI</b>	Reception, Staging, Onward Movement, and Integration
<b>RSR</b>	Required Supply Rate
<b>RSSP</b>	Ration Supplement/Sundries Pack
<b>RTD</b>	Return to Duty
<b>RX</b>	Reparable Exchange

## S

<b>S1</b>	Adjutant (US Army)
<b>S2</b>	Intelligence Officer (US Army)
<b>S3</b>	Operations, Plans, Security, and Training Officer (US Army)
<b>S4</b>	Supply Officer (US Army)
<b>S6</b>	Communications Officer
<b>S&amp;S</b>	Supply and Services

<b>S&amp;T</b>	Supply and Transport
<b>SA</b>	Situational Awareness
<b>SAAS-MOD</b>	Standard Army Ammunition System-Modernized
<b>SALUTE</b>	Size, Activity, Location, Unit, Time, Equipment
<b>SAMS</b>	Standard Army Maintenance System
<b>SARSS-O</b>	Standard Army Retail Supply System –Objective
<b>SATCOM</b>	Satellite Communications
<b>SCL</b>	Strategic Configured Load
<b>SEAD</b>	Suppression of Enemy Air Defense
<b>SEN</b>	Small Extension Node
<b>SHORAD</b>	Short Range Air Defense
<b>SIDPERS</b>	Standard Installation/Division Personnel System
<b>SINGARS</b>	Single-Channel Ground and Airborne Radio System
<b>SIP</b>	Systems Improvement Program
<b>SJA</b>	Staff Judge Advocate
<b>SO</b>	Special Operations
<b>SOI</b>	Signal Operation Instructions
<b>SOP</b>	Standing Operating Procedure
<b>SP</b>	Start point
<b>SMFT</b>	Semi-Trailer Mounted Fabric Tank
<b>SPBS-R</b>	Standard Property Book System-Revised
<b>SPORT</b>	Soldier Portable-System Repair Tool
<b>SPT OPS</b>	Support Operations
<b>SRC</b>	Standard Requirement Code
<b>SRP</b>	Soldier Readiness Processing

<b>SSA</b>	Supply Support Activity
<b>SST</b>	System Support Team
<b>STAMIS</b>	Standard Army Management Information System
<b>STANAG</b>	Standardization NATO Agreement
<b>STE</b>	Simplified Test Equipment
<b>STE ICE</b>	Simplified Test Equipment/Internal Combustion Engine
<b>STON</b>	Short Ton
<b>T</b>	
<b>TAA</b>	Tactical Assembly Area
<b>TACAIR</b>	Tactical Air
<b>TACCS</b>	Tactical Army Combat Service Support Computer System
<b>TACSAT</b>	Tactical Satellite
<b>TAMMIS-D</b>	Theater Army Medical Management Information System-Division
<b>TAMMS</b>	The Army Maintenance Management System
<b>TAV</b>	Total Asset Visibility
<b>TB</b>	Technical Bulletin
<b>TC</b>	Training Circular/Tank Commander
<b>TC-ACCIS</b>	Transportation Coordinator's-Automated Command and Control Information System
<b>TC-AIMS II</b>	Transportation Coordinator's- Automated Information for Movements Systems II
<b>TCF</b>	Tactical Combat Force
<b>TCMD</b>	Transportation Control and Movements Document
<b>TCN</b>	Transportation Control Number
<b>TCP</b>	Traffic Control Point
<b>TDA</b>	Table of Distribution and Allowances

<b>TDD</b>	Time Definite Delivery
<b>TED</b>	Turbine Engine Diagnostic
<b>TF</b>	Task Force
<b>TFE</b>	Tactical Field Exchange
<b>TFM</b>	Tactical Field Maintenance
<b>TFSA</b>	Task Force Support Area
<b>TI</b>	Tactical Internet
<b>TIGER</b>	Tactical Interactive Ground Equipment Repair
<b>TM</b>	Technical Manual/Team
<b>TMDE</b>	Test, Measurement, and Diagnostic Equipment
<b>TMEP</b>	Theater Mortuary Evacuation Point
<b>TMIP</b>	Theater Medical Information Program
<b>TMT</b>	Transportation Motor Transport; Treatment Team
<b>TMTC</b>	Transportation Motor Transport Company
<b>TO</b>	Task Order
<b>TOC</b>	Tactical Operations Center
<b>TOE</b>	Table of Organization and Equipment
<b>TOW</b>	Tube-launched, Optically Tracked, Wire-guided
<b>TPS</b>	Tactical Personnel System
<b>TPU</b>	Troop Program Unit
<b>TQG</b>	Tactical Quiet Generator
<b>TRADOC</b>	Training and Doctrine Command
<b>TRP</b>	Target Reference Point
<b>TSC</b>	Theater Support Command
<b>TSOP</b>	Tactical Standing Operating Procedure

<b>TTP</b>	Tactics, Techniques, and Procedures
<b>TWV</b>	Tactical Wheeled Vehicles
U	
<b>UAV</b>	Unmanned Aerial Vehicle
<b>UCL</b>	Unit Configured Load/Unit Commander's Report
<b>UGR-A</b>	Unitized Group Ration-A
<b>ULLS-(A/G/S-4)</b>	Unit Level Logistics System- (Air/Ground/Logistics)
<b>UCMJ</b>	Uniform Code of Military Justice
<b>UMCP</b>	Unit Maintenance Collection Point
<b>UMO</b>	Unit Movement Officer
<b>UMT</b>	Unit Ministry Team/Unit Maintenance Technician
<b>UN</b>	United Nations
<b>US</b>	United States
<b>USACASCOM</b>	United States Army Combined Arms Support Command
<b>USAF</b>	United States Air Force
<b>USAR</b>	United States Army Reserve
<b>UTO</b>	Unit Task Organization
V	
<b>VHF</b>	Very High Frequency
W	
<b>W</b>	Watt
<b>WIA</b>	Wounded In Action
<b>WILCO</b>	Will Comply
<b>WIN</b>	Warfighter Information Network
<b>WSM</b>	Weapon System Manager

**WSRO** Weapon System Replacement Operations

X

**XO** Executive Officer

## Bibliography

- AR 40-61. Medical Logistics Policies and Procedures.
- AR 220-1. Unit Status Reporting.
- AR 220-10. Preparation for Overseas Movement of Units.
- AR 700-138. Army Logistics Readiness and Sustainability.
- AR 710-2. Supply Policy Below the Wholesale Level.
- AR 725-50. Requisitioning, Receipt, and Issue System.
- AR 735-5. Policies and Procedures for Property Accountability.
- AR 750-1. Army Materiel Maintenance Policies.
- DA Pam 600-8. Military Personnel Management and Administrative Procedures.
- DA Pam 600-8-1. SIDPERS Unit Level Procedures.
- DA Pam 710-2-1. Using Unit Supply System (Manual Procedures).
- DA Pam 710-2-2. Supply Support Activity Supply System: Manual Procedures.
- DA Pam 738-750. The Army Maintenance Management System (TAMMS).
- FM 3-04.111 (1-111). Aviation Brigade.
- FM 3-04.112 (1-112). Attack Helicopter Battalion.
- FM 3-04.500 (1-500). Army Aviation Maintenance.
- FM 3-11.3 (3-3). Chemical and Biological Contamination Avoidance.
- FM 3-11.33 (3-3-1). Nuclear Contamination Avoidance
- FM 3-11.5 (3-5). NBC Decontamination.
- FM 3-11.100 (3-100). NBC Operations.
- FM 3-09.30 (5-100). Engineer Operations.
- FM 3-34.101 (5-101). Mobility.
- FM 3-34-102 (5-102). Countermobility.
- FM 3-34.103 (5-103). Survivability.
- FM 3-09.30 (6-30). Tactics, Techniques, and Procedures for Observed Fire Procedures.
- FM 4-02 (8-10). Health Service Support in a Theater of Operations.
- FM 4-02.20 (8-10-1). Tactics, Techniques, and Procedures for the Medical Company.
- FM 4-02.93 (8-10-5). Brigade and Division Surgeons' Handbook, Tactics, Techniques, and Procedures.
- FM 4-02.7 (8-10-7). Health Service Support in a Nuclear, Biological, and Chemical Environment.
- FM 4-02.1 (8-10-9). Combat Health Logistics in a Theater of Operations, Tactics, Techniques, and Procedures.

- FM 4-02.24 (8-10-24). Area Support Medical Battalion Tactics, Techniques, and Procedures.
- FM 4-02.55 (8-55). Planning For Health Service Support.
- FM 4-02.285 (8-285). Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries.
- FM 4-30.1 (9-6). Ammunition Service in the Theater of Operations.
- FM 10-5. Basic Doctrine Manual for Supply Storage.
- FM 4-20.2 (10-23). Basic Doctrine for Army Field Feeding and Class I Operations Management.
- FM 4-20.64 (10-64). Mortuary Affairs Operations.
- FM 4-03 (10-67). Petroleum Supply in Theaters of Operations.
- FM 10-450-4. Multiservice Helicopter Sling Load Single-Point Rigging Procedures.
- FM 6-02.50 (11-50). Combat Communications Within the Division.
- FM 1-0 (12-6). Personnel Doctrine.
- FM 1-05 (16-1). Religious Support.
- FM 3-19.4 (19-4). Military Police Battlefield Circulation Control, Area Security, and Enemy Prisoners of War Operation.
- FM 19-40/60 (19-40). Enemy Prisoners of War, Civilian Internees and Detained Persons.
- FM 3-24.3 (20-3). Camouflage.
- FM 4-25.10 (21-10). Unit Field Sanitation Team.
- FM 4-25.11 (21-11). First Aid for Soldiers.
- FM 22-9. Soldier Performance in Continuous Operations.
- FM 6-24.7 (24-7). Army Battle Command System (ABCS) Systems Management Techniques.
- FM 2-01.3 (34-130). Intelligence Preparation of the Battlefield.
- FM 44-8. Small Unit Self-Defense Against Air Attack.
- FM 4-93.30 (54-30). Corps Support Groups.
- FM 4-93.40 (54-40). Area Support Group.
- FM 4-01.3 (55-10). Movement Control in a Theater of Operations.
- FM 63-2. Division Support Command, Armored, Infantry, and Mechanized Infantry Divisions.
- FM 4-93.20 (63-20). Forward Support Battalion.
- FM 4-93.21 (63-21). Main Support Battalion.
- FM 4-93.23 (63-23). Aviation Support Battalion.
- FM 4-93.3 (63-3). Corps Support Command.
- FM 4-93.4 (63-4). Theater Support Command.
- FM 3-91.1 (71-1). The Tank and Mechanized Infantry Company Team.



- FM 3-91.2 (71-2). The Tank and Mechanized Infantry Battalion Task Force.
- FM 3-91.3 (71-3). Armored and Mechanized Infantry Brigade.
- FM 3-100.71 (71-100). Division Operations.
- FM 3-0 (100-5). Operations.
- FM 4-100.9 (100-9). Reconstitution.
- FM 4-0 (100-10). Combat Service Support.
- FM 4-100.0 (100-10-1). Theater Distribution.
- FM 4-100.2 (100-10-2). Contractors On the Battlefield.
- FM 3-100.14 (100-14). Risk Management.
- FM 3-35 (100-17). Mobilization, Deployment, Redeployment, Demobilization.
- FM 5-20 (101-5). Army Planning and Orders Production.
- FM 6-99 (101-5). Staff Organization
- FM 6-99.1 (101-5-1). Operational Terms and Symbols.
- TC 12-17. Adjutant's Call/The S1 Handbook.
- TRADOC Pam 525-5. Force XXI Operations.
- TRADOC Pam 525-50. Operational Concept for Health Support.
- TRADOC Pam 525-53. Operational Concept Combat Service Support.

# Index

## A

All Source Analysis System-Remote Work-Station (ASAS-RWS), 2-24

Ambulance Exchange Point (AXP), 7-11

Ambulance Platoon, 7-10

Ammunition Supply Point (ASP), 9-6

Ammunition Transfer Point (ATP), 9-5

Area Support Maintenance Company (ASMC), 5-1

Arming the Force, 9-3

Armorer, 3-21

Army Aircraft Support, 9-20

Army Battle Command Systems (ABCS), 8-1

Army Tactical Command and Control System (ATCCS), 2-23

Force XXI Battle Command-Brigade and Below (FBCB2), 2-18

Army Tactical Command and Control Systems (ATCCS), 2-23

All Source Analysis System-Work-Station (ASAS-RWS), 2-24

Combat Service Support Control System (CSSCS), 2-24

Maneuver Control System (MCS), 2-24

Automation Maintenance, 8-11

## B

Base Cluster Operations Center (BCOC), 10-2

Base Operations, 10-21

Baseline Resource Item List (BRIL), 2-24

Battlefield Visualization, 8-2

Battle Staff, 3-16

Blood Management, 9-34

## C

Classes of Supply, 8-9

Combat Health Support (CHS), 1-16

Combat Service Support (CSS) Force XXI CSS Imperatives and Principles, 1-4 Characteristics, 1-17 Enablers, 2-2 Support Structure, 9-1

Combat Service Support Control System (CSSCS), 2-24

Commander's Tracked Items List (CTIL), 2-25

Command, Control, Communications, Computers, Intelligence, Surveillance & Communications (C4ISR), 8-1

Commander's Critical Information System (CCIR), 8-4

Common Relevant Picture (CRP), 1-1

Configured Loads, 1-7 Mission Configured Loads (MCL), 1-9

Strategic Configured Loads (SCL), 1-8

Unit Configured Loads (UCL), 1-9

## D

Defensive Operations, 8-16

Division Ammunition Officer (DAO), 9-3

Division Support Battalion (DSB), 1-3

Division Support Command (DISCOM), 9-1

Division Support Medical Company (DSMC), 7-1

## E

Enablers, 2-2

Executive Officer, 3-5

## F

Field Services, 9-36

First Destination Reporting Point (FDRP), 9-16

Fixing the Force, 9-9

Flatrack Collection Point Operations (FRCP), 8-12

Flatrack Management Operations, 9-17

Force XXI Battle Command Brigade and Below System (FBCB2), 2-18

Fueling the Force, 9-6

## G

Global Command and Control System-Army (GCCS-A), 8-1

Global Combat Support System-Army (GCSS-Army), 2-17

## H

Headquarters and Headquarters Detachment (HDD), 3-1, 3-19

Health Service Support Officer (HSSO), 3-5

## I

Immediate Resupply, 8-15

Intelligence Preparation of the Battlefield (IPB), 10-27

In Transit Visibility (ITV), 1-1, 1-15

## J

## K

## L

Logistics Call for Support (CFS), 2-20

Logistics Preparation of the Battlefield (LPB), 8-5  
 Logistics Release Point (LRP), 8-11  
 Logistics Situation Report (LOGSITREP), 2-21  
 Logistics Task Order (LTO), 2-19

**M**

Maintenance Control Section (MCS), 5-3  
 Maneuver Control System (MCS), 2-24  
 Manning the Force, 9-38  
 Medical Maintenance Medical Branch (MMMB), 9-29  
 Medical Logistics-Division (MEDLOG-D), 2-16  
 Mental Health Section, 7-11  
 Methods of Resupply, 8-12  
 Mission Configured Loads (MCL), 1-9  
 Mortuary Affairs, 9-36  
 Moving the Force, 9-12

**N**

Nuclear, Biological, Chemical (NBC) NCO, 3-10

**O**

Offensive Operations, 8-16  
 Operational Tempo (OPTEMPO), 1-1

**P**

Personnel Situation Report (PERSITREP), 2-21  
 Preventive Medicine Section, 7-14

**Q**

Quartermaster Company, 4-1  
 Quick Reaction Force (QRF), 10-19

**R**

Rear Operation Center, 10-2

Reconnaissance and Surveillance (R & S) Planning, 10-32  
 Reserve Associate Support Program (RASP), 9-39

**S**

Situational Awareness (SA), 1-1, 2-23  
 Staff  
     Battalion Commander, 3-4  
     Command Sergeant Major (CSM), 3-6  
     Executive Officer (XO), 3-5  
     S1, 3-6  
     S2/3, 3-8  
     S4, 3-10  
     S6, 3-12  
     Staff Judge Advocate (SJA), 3-8  
     Support Operations, 3-12  
     Unit Ministry Team (UMT), 3-16

Standard Army Management Information Systems (STAMIS), 2-12  
 Dept of the Army Movement Management System-Revised (DAMMS-R), 2-13

Global Combat Support System-Army (GCSS-Army), 2-17

Medical Communication for Combat Casualty Care (MC4), 2-16

Standard Army Maintenance System (SAMS), 2-14

Standard Army Retail Supply System 1/2A (SARRS 1/2A), 2-15

Standard Property Book System-Revised (SPBS-R), 2-15

Standard Army Ammunition System-Modernized (SAAS-Mod), 2-15

Transportation Automated Command & Control Information System (TC-ACCIS), 2-13

Transportation Automated Information for Movements System II (TC-AIMSII), 2-13

Unit Level Supply System-Ground/Air/S4 (ULLS-G/A/S4), 2-14, 2-15

Strategic Configured Loads, 1-8

Supply Sergeant, 3-20

Supply Operations, 8-8

Support Operations Officer, 3-13

Sustaining the Force, 9-22

**T**

Tactical Operations Center (TOC), 3-3

Tactical Personnel System, 9-38

Techniques of Resupply, 8-12

Theater Support Command, 1-5

Total Asset Visibility (TAV), 1-1

Transportation Motor Transport Company (TMT), 6-1

Treatment (TMT) Platoon, 7-6

**U**

Unit Configured Loads (UCL), 1-9

Unit Maintenance Officer (UMO), 3-12

Unit Task Organization (UTO), 2-25

Urban Warfare CSS  
Operations, 8-17

**V**

**W**

Water Purification/Distribution,  
9-24

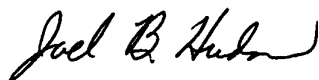
**X**

**FM 4-93.51**  
**26 MAY 2002**

By Order of the Secretary of the Army:

ERIC K. SHINSEKI  
General, United States Army  
Chief of Staff

Official:



JOEL B. HUDSON  
Administrative Assistant to the  
Secretary of the Army  
0211910

DISTRIBUTION:

*Active Army, Army National Guard, and US Army Reserve:* To be distributed in accordance with the initial distribution number 115869, requirements for FM 4-93.51.

**PIN: 079934-000**