DEPARTMENT OF THE ARMY FM 4-93.50

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

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Forward Support Battalion (Digitized)

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PREFACE

This field manual (FM) provides information on the structure and operations of the forward support battalion (FSB) digitized, the supporting, and the supported units. It is directed toward the commander and battle staff of the FSB 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 FSB. It also describes how the FSB commander and company commanders/battle staffs integrate their activities through the use of digitization on the battlefield. This includes both the logistics mission and the tactical responsibilities. The FM describes the many coordination links the FSB must maintain with supported and supporting elements.

This FM is based on doctrine in FMs 3-0 (100-5), FM 4-0 (100-10), FM 71-100, FM 71-3, FM 4-02 (8-10), FM 4-02.55 (8-55), and tactics, techniques, and procedures (TTP) developed in STs 63-2, 63-30, 63-20, and 63-10. FM 3-0 (100-5) (Operations) is the Army's capstone doctrinal manual. It outlines how the Army will conduct operations. FM 4-0 (100-10) is the Army's capstone 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 CASCOM, 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.

Chapter 1

FSB Organization And Functions

The Army's Force XXI Division represents a leap forward into the realm of 21st Century technology. The smaller Force XXI Division possesses greater lethality, quicker mobility as well as the combat service support (CSS) imperative of situational understanding (SA). 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 and substitute 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 materiel 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, brigade support, and headquarters and distribution 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 3-0 (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.

FSB ORGANIZATION AND FUNCTIONS

1-1. The multi-functional FSB provides DS to brigade level combat teams. The FSB may function in a highly dispersed manner, with some FSB elements close to the maneuver units and others near the brigade rear area. The FSB commander is the brigade commander's senior battle logistician and serves as the single CSS operator for support to the maneuver brigade. His battle staff monitors and manages sustainment operations through an array of digital information systems and other technological innovations. The FSB provides all logistical support, and ties together the entire spectrum of supplies, maintenance, and services for the maneuver brigade. The maneuver commander, however, while "unencumbered", must be involved in synchronizing the maneuver of the FSB and its subordinate companies with the inbound shipments from EAD. For the Force XXI brigade, all CSS, minus medical, for maneuver and engineer units, has been consolidated into the new FSB design. The FSB places a single smaller footprint on the battlefield through dispersion and centralization of services and support. This FSB, with centralized distribution management of CSS, frees the maneuver brigade commander from complex logistical support and task organization decisions. This provides him greater flexibility and mobility. The FSB contains forward support companies (FSCs), a brigade support company (BSC), a forward support medical company (FSMC), and a headquarters and distribution company (HDC). See Figure 1-1. The FSC provides multi-functional support, both organizational and DS, directly to a maneuver battalion task force (BN/TF). The BSC provides maintenance support, both organizational and DS, directly to the maneuver brigade. This includes the engineer battalion, brigade HHC, and the brigade recon troop (BRT), and DS only maintenance

support to the artillery battalion. It also provides limited reinforcing/back-up support to the FSCs. The FSMC provides Echelon I and II combat health support (CHS), to include sick call, advanced trauma management, limited laboratory and x-ray, dental treatment, combat stress control, preventive medicine, patient holding, and medical evacuation within the FSB support area. Corps maintenance plugs may augment the FSB in order to provide back-up support capability forward.

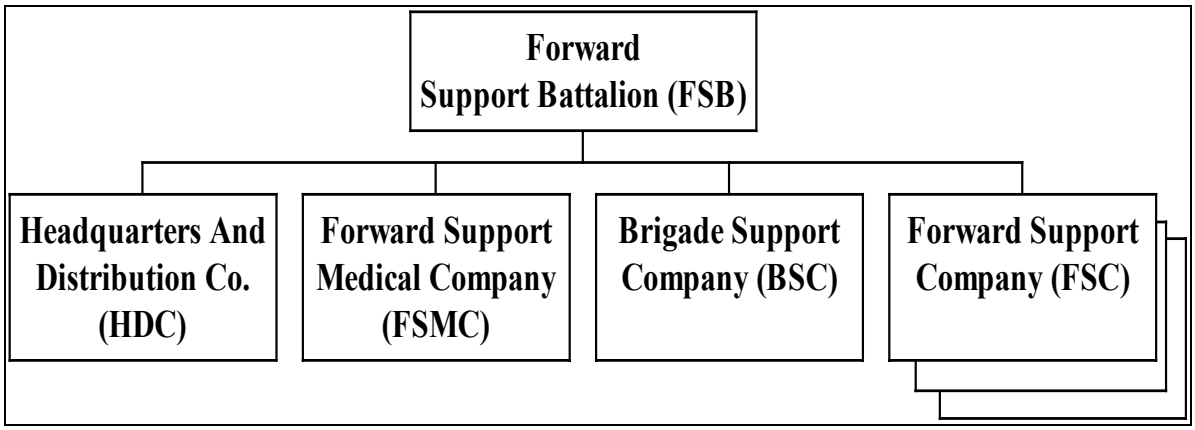


Figure 1-1. Forward Support Battalion

1-2. The maneuver brigade S4 identifies the logistics requirements for the brigade maneuver plan and provides them to the FSB commander. The use of assured communications, digitization of all CSS echelons, digitization of battlefield distribution (BD) platforms, and lastly, modular organizational structures, provides the FSB commander and brigade S4 the information dominance and digital tools needed to tailor the CSS package. Through near real-time situational understanding, the brigade battle staff is able to make timely adjustments in its support requirements. The use of enablers on the battlefield allows the FSB battle staff to anticipate changes in requirements and rapidly redirect assets or, if necessary, have a surge capability to provide seamless CSS to all levels of the maneuver brigade.

1-3. The FSB provides CSS to the supported maneuver brigade. The FSB's FSCs provide CSS (less medical) to their supported maneuver BN/TF. The FSC commander is the single CSS operator for the BN/TF. The FSC is in DS to the BN/TF, emplaced by the maneuver battalion commander and employed by the FSB commander. Support includes all classes of supply, field feeding and field maintenance (organizational/DS). The maneuver BN/TF provides Echelon I medical support to their supporting FSC. The FSCs locate, based on METT-TC, four to twelve kilometers behind

their supported maneuver BN/TF in the task force support area (TFSA). The maneuver unit company supply sergeants are located in the TFSA. They assemble their logistics packages, (LOGPACS) and then move their vehicles forward to the company logistics release point (LRP). The maneuver company first sergeant (1SG) or his representative meets the LOGPAC and guides it to the company resupply point. The FSCs co-locate a support operations cell with the maneuver BN/TF S1/S4 at the Combat Trains Command Post (CTCP) to facilitate coordination, planning, and interface. The CTCP is located one to four kilometers behind the BN/TF in the maneuver BN/TF combat trains. Based on METT-TC, the FSC has the flexibility to locate the Unit Maintenance Collection Point (UMCP), recovery, immediate resupply of Class III and V, and other assets from the TFSA in this FSC forward location. The maneuver battalions will normally collocate their Battalion Aid Stations (BAS) with the FSC forward for force protection. Combat repair teams (CRTs) from the FSCs are placed forward with each maneuver company under the operational control of the maneuver 1SG.

1-4. The BSC provides field maintenance to elements within the brigade rear, FSB units in the BSA, the engineer battalion in support of the maneuver brigade, brigade recon troop (BRT), the brigade headquarters, and limited back up and reinforcing support to the FSCs. The HDC provides all classes of supply, minus VIII for brigade units not supported by one of the FSCs. The FSB collocated with the brigade S1/S4 in the administrative and logistics operations center (ALOC) is located in the brigade support area (BSA). Figure 1-2 shows a sample Force XXI vehicle configuration in the brigade ALOC.

1-5. The FSB provides medical (Echelon II), maintenance, supply, and transportation support to the maneuver brigade. In the BSA the FSB includes the HDC, an FSB support operations center, the BSC, and the FSMC. Based on the tactical situation and CSS support requirements, the HDC/BSC may be tasked by the FSB support operations to organize a tailored forward logistics element (FLE) to push critical supplies forward to a designated unit or location, such as the brigade recon troop (BRT) or the brigade tactical operations center (TOC). Another option or tool available to the FSB to support the engineer battalion, brigade TOC, and brigade recon troop is to establish a brigade forward support area (BFSA). This places another logistical node forward of the BSA to employ modular support such as the engineer support element, forward repair platoon elements, M88 recovery capability, and critical assets such as Class III and V closer to support the maneuver brigade. Corps plugs working in the brigade area of operation can also work from the BFSA.

1-6. The FSB TOC, under the supervision of the FSB commander, anticipates, requests, coordinates, and integrates CSS for the tactical mission. The brigade S4 assists the FSB commander and his battle staff by providing in-depth analysis of the maneuver plan and the CSS requirements inherent to that plan. Figure 1-3 depicts CSS operations brigade and below. The FSB TOC has the capacity to pass CSS information using Force XXI battle command brigade and below (FBCB2), the movement tracking system (MTS), and the combat service support control system (CSSCS). The FSB TOC will receive information from the brigade TAC; brigade TOC, the BN/TF TOCs, TFSAs, and CTCPs. The CSS functionality on the FBCB2 system gives the war fighter a clear picture of the current CSS situation at his echelon of command and at subordinate levels for operational planning and execution. The FBCB2 also provides the logistician a better overall tactical view and CSS situational understanding throughout the battlefield. The FBCB2 common operating picture of the tactical and logistics picture in near real time allows the FSB to provide synchronized support to the maneuver brigade. The CSS functionality on FBCB2 provides logistical messaging, situational understanding, and task management capabilities. This functionality affects the synchronization of all logistical support between the war fighter and supporter.

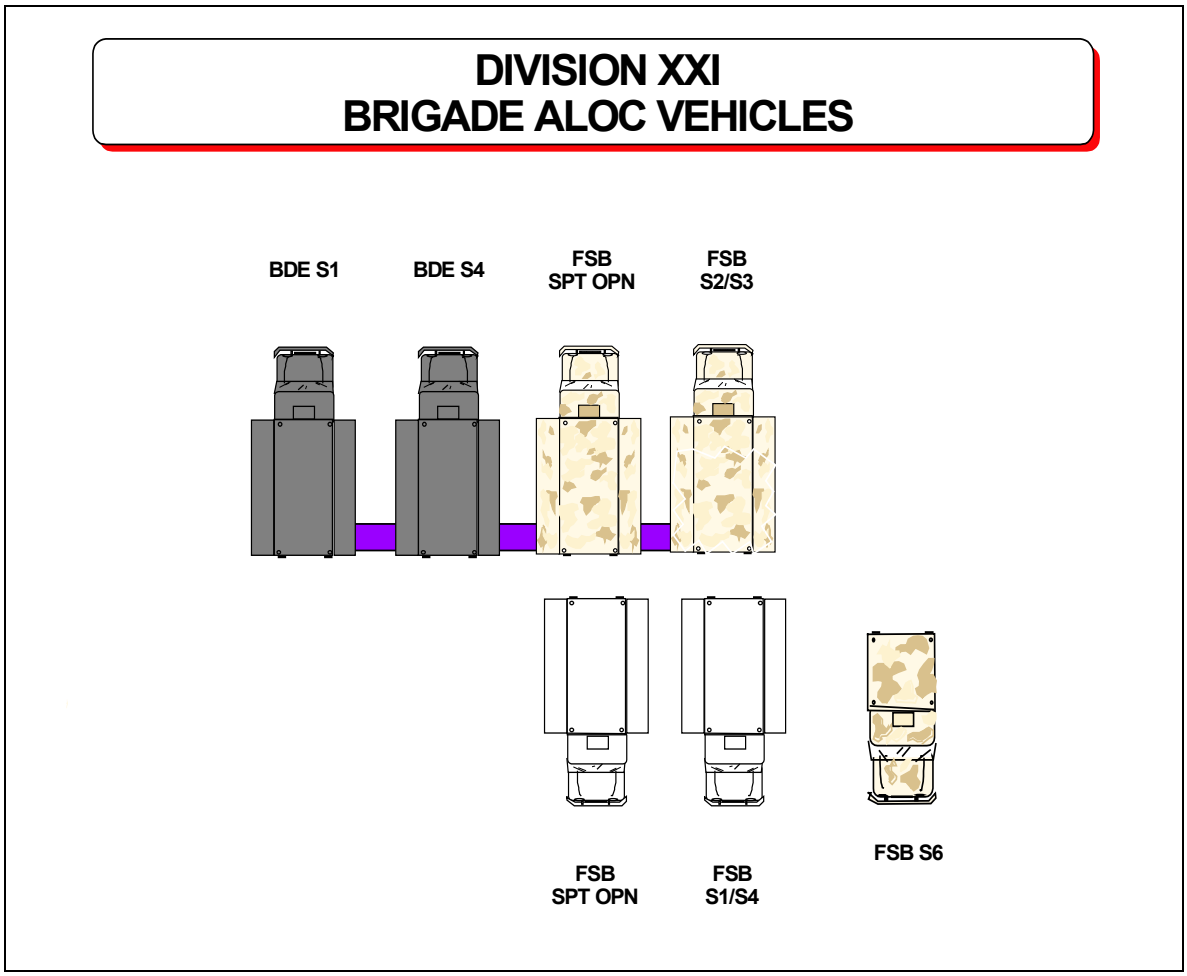


Figure 1-2. Sample Brigade ALOC Vehicle Configuration

FORCE XXI CSS IMPERATIVES AND PRINCIPLES

1-7. 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.

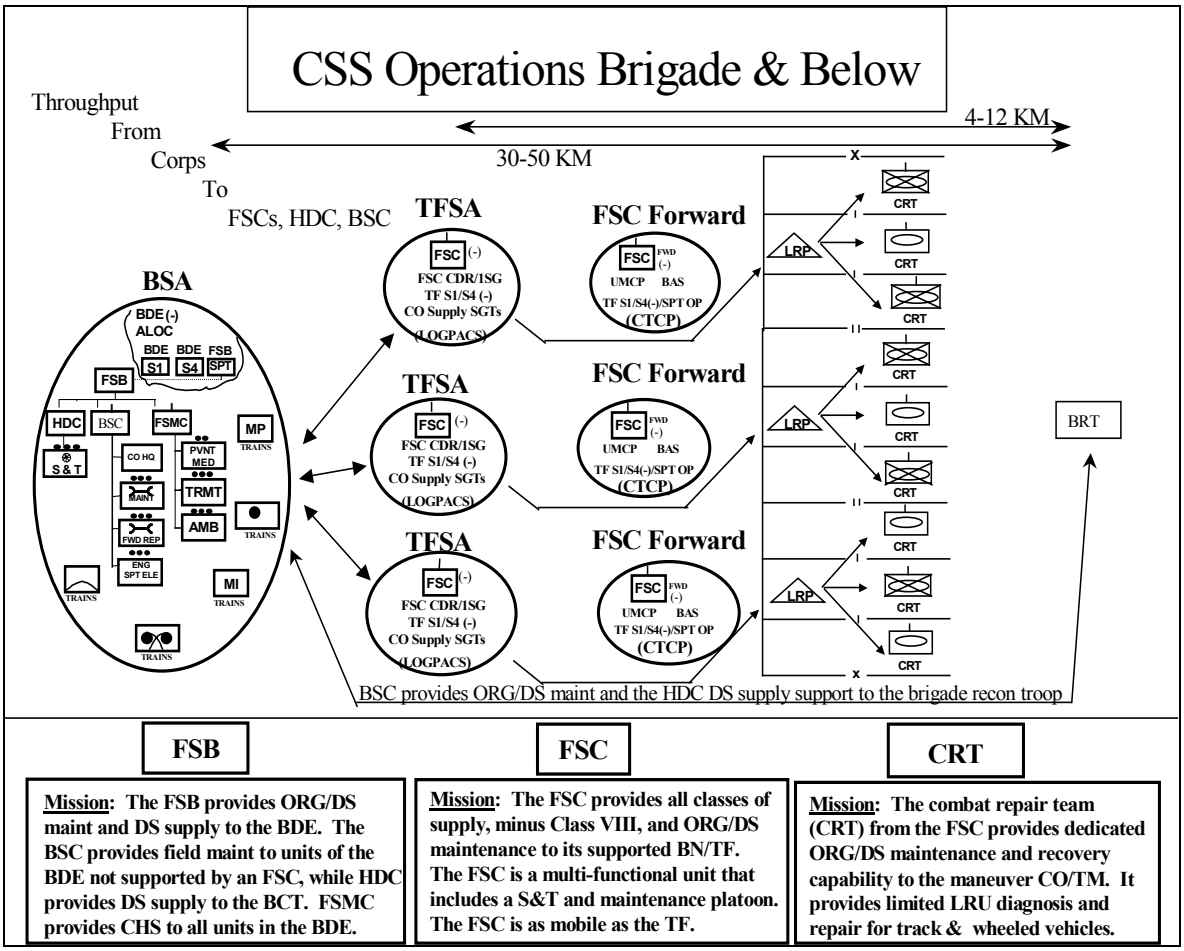


Figure 1-3. CSS Operations Brigade and Below

1-8. 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:

Echelon	Single CSS Operator
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, combat continuum.
  - Unity of command for CSS enhances CSS surge capability. Combat service support 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 materiel 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.

1-9. **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 materiel 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 reduces 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. Strategic configured loads 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. Unit configured loads 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. The TDD is directly linked to both situational understanding and an agile CSS force structure.

1-10. **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 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 materiel managers could process requests sent back to CONUS from the theater. Communications and information technology would allow this materiel 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 4-100.2 (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. To support the procurement process, finance personnel coordinate with contracting personnel, fund local purchase of goods and services, pay commercial vendors, and prevent improper or illegal payments.
    - ⇒ 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 supports the concept combining 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.

1-11. **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 to 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. Global combat support system-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)

1-12. **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.

1-13. **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.

1-14. **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 appraised 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.

1-15. **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.

1-16. **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.

1-17. **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

1-18. 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.

1-19. 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.

1-20. 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 3-0 (100-5) and FM 4-0 (100-10).

1-21. 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.

1-22. **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.

1-23. CSS 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.

1-24. Support must be **continuous**. The division requires continuous CSS to perform its mission. Any break in logistics operations can diminish its combat power. CSS 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.

1-25. **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.

1-26. CSS 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.

1-27. 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 FSB 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. At the lowest levels the FSC (as the CSS provider for the maneuver battalion) will operate as an extension of the task force structure. At the same time the FSC will be responsible to the FSB for providing support within the scope of the division plan and guidance.

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 awareness. 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.

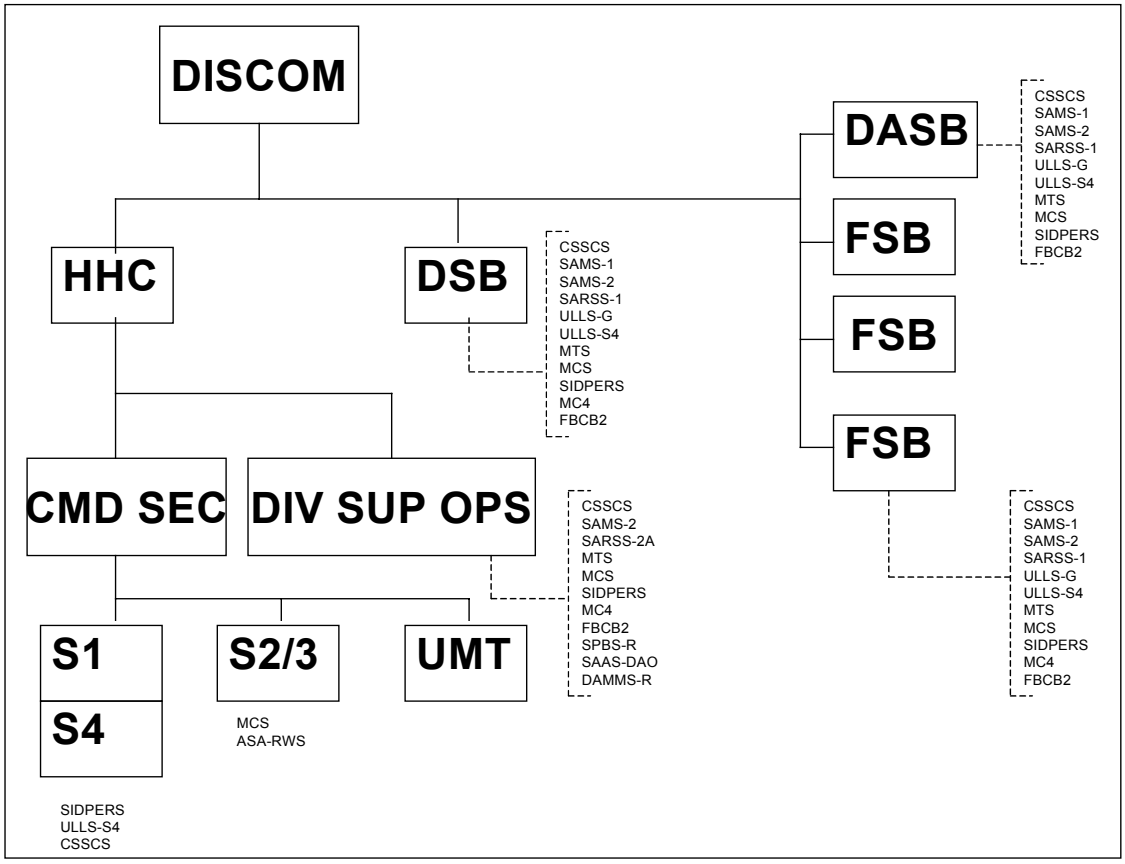


Figure 2-1. DISCOM Automation Architecture

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 down loader. 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 30KW 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. On-board 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 FBCB2, 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 awareness. 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. Battlefield 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)

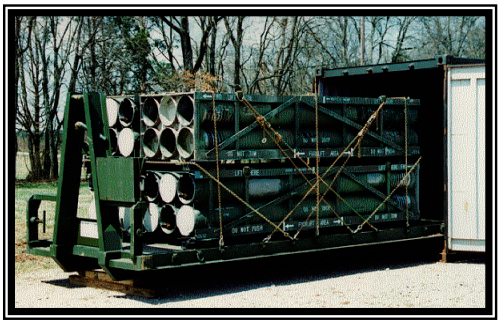
2-26. The container-handling unit (CHU) is a configuration of lifting, sliding, stowing, and locking apparatus configured onto to the palletized load system (PLS) that enables it to self-load/unload 20-foot (or equivalent) containers. With this CHU configuration, the PLS interfaces with ISO-conforming 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 snuggly 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 identification tags (RFID) 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 RFID 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 identification 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 1348) 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 identification 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 identification 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 RFID 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 RFID 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 RFID 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 system designed to provide capabilities associated with transportation movement

scheduling and management as well as transportation asset management within a theater of operations. The DAMMS-R interfaces with the Military Traffic Management Command's worldwide port systems (WPS) and the Air Mobility Command's global air transportation execution system (GATES). These interfaces aid in clearing the ports of personnel, equipment, and cargo inbound to a theater of operations. The DAMMS-R is used exclusively in the OCONUS environment, and tracks DOD cargo from the port of debarkation (POD) to final destination.

2-41. The DAMMS-R operates in the DISCOM support operation's movement control office (MCO) and in the division transportation office (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. Like DAMMS-R, the TC-ACCIS system will ultimately be replaced by 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 a Joint Services automated information system designed to function as a universal tool for the unit movements officer, ITO, and theater movement control/mode operations.

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. Automatic identification technology (AIT) hardware and software capabilities are integrated into TC-AIMS II so in-transit visibility (ITV) can be established. These AIT enablers will allow TC-AIMS II users to create RFID tags, which can be affixed/mounted on cargo and equipment. When the tags pass by fixed or mobile RFID tag readers/interrogators, the tags will be interrogated and the tag data will be sent to appropriate CONUS/Regional ITV Servers which in-turn will send the interrogated tag data to the global transportation network (GTN). The GTN in-turn updates the global command and control system (GCCS). The TC-AIMS II 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, AMC MCS, 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, AMC MCS and ASMC MCS pass the SAMS-1 information to the SAMS-2 located in the respective support operations section. The FSB, DASB and DSB support operations sections pass the information to the SAMS-2 located in the division support operations section. The SAMS-1 interfaces to ULLS-A, ULLS-G, SAMS-2, SAMS-I/TDA, SARSS-1, and SARSS-GW.

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. The SAMS-2 interfaces to ULLS-A, ULLS-G, SAMS-1, SAMS-I/TDA, LOGSA, and CSSCS.

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. The ULLS-G interfaces with SARSS-1, SARSS-GW, ULLS-S4, 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, SARSS-GW, ULLS-S4, and SAMS-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), standard army ammunition system-modified (SASS-MOD), SARSS-GW, 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 ULLS-S4, SAMS-1, SPBS-R, CSSCS, ULLS-S4, ULLS-A, ULLS-G, and SARSS-2A.

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) 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.

2-55. **SARSS-2B**. The SARSS-2B performs non-time sensitive supply management functions for catalog update, document history, demand analysis, and financial interface. The SARSS-2B is employed at the COSCOM MMC, TAACOM, TAMMC, TDA/installation, USARC, and the National Guard USP & FO.

2-56. **SARSS-Gateway**. The SARSS-Gateway is designed to make optimum use of automation and communication techniques by integrating the wholesale and retail supply systems into a single seamless supply system. The SARSS-Gateway provides for the same day processing of requests for issue; visibility of all assets within an area; status to users and lateral distribution of assets. This system includes a Gateway computer system at St. Louis, MO, and all units operating a logistics STAMIS. The SARSS-Gateway communications (SARSS GATEWAYCOMM_BLAST) links the existing five STAMIS (ULLS, DS4, SAMS-1, SAILS and SARSS-O) to the SARSS-Gateway using the defense data network (DDN) as the principal communications network.

Standard Property Book System- Revised (SPBS-R)

2-57. 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, tactical unit financial management system (TUFMIS), and CSSCS.

Standard Army Ammunition System-Modified (SAAS-MOD)

2-58. The SAAS-MOD is an automated ammunition system, which consolidates the following, three levels of operations into a single software baseline: theater support command materiel management center (TSC MMC/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. The 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 TSC MMC 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 Communication for Casualty Care (MC4)

2-59. Force XXI digitized division and brigade medical units and elements will employ the medical communications for combat casualty care (MC4) medical information system, when fielded. The MC4 system is a theater, automated CHS system which will receive, store, process, transmit, and report C2, medical surveillance, patient movement/tracking, medical treatment, medical situational understanding, and CHL data across all echelons of care. The MC4 system will begins with the individual soldier and continues throughout the health care continuum. The MC4 system will consist of three basic components: software, hardware, and telecommunications capabilities.

- Software: The joint theater medical information program (TMIP) will provide common medical software. The software provides an integrated medical information capability that will support all levels of care in a theater of operation with links to the sustaining base. Medical capabilities provided by the software will address medical C2 (including medical capability assessment, sustainability analysis, and medical intelligence); CHL (including blood product management and medical equipment maintenance management); patient evacuation; medical surveillance, and health care delivery. The MC4 system supports Army-unique requirements and any software needed to interface with Army information systems such as CSSCS, global command and control system-Army (GCSS-A), FBCB2, warrior programs, and the movement tracking system (MTS).
- Hardware: The hardware will consist of commercial off the shelf (COTS) automation equipment supporting the above software capabilities. Examples include, but are not limited to, computers, printers, and networking devices.
- Communications: 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. Telecommunications at brigade and below will be accomplished through the tactical internet; above brigade level, telecommunications will be accomplished

through the WIN architecture. At end-state, the MC4 system users will exchange data electronically via the WIN architecture.

- Echelon I combat health support. Echelon 1 CHS represents routine or emergency medical care provided by a variety of personnel. The initial first aid for a casualty can be provided by either self-aid, buddy aid or combat lifesaver. This first aid is followed by medical treatment from a trauma specialist. The trauma specialist provides emergency medical treatment and request medical evacuation of the patient to the battalion aid station (BAS). The BAS provides essential emergency care, advanced trauma management (ATM), and prepares the patient for medical evacuation back to the FSMC. All medical treatment elements in the division provide area medical support to those units without organic medical assets, that operate within the division and brigade AOs.
- Echelon II combat health support. Echelon II CHS duplicates Echelon I and expands services available by adding dental, laboratory, x-ray, and patient -holding capabilities. Emergency care and ATM including beginning resuscitation procedures are continued. Preventive medicine and mental health section are also located in Echelon II medical treatment facilities (MTFs) The MC4 system will provide the same augmentation to the C2, treatment, medical evacuation, and CHL elements that were provided at Echelon I.
- Through the use of the medical detachment telemedicine, Echelon II medical companies will have the ability to digitized medical data (x-ray, pictures) and transmits it to clinical consultants at EAD.
- Combat health logistics. The trauma specialist will utilize FBCB2 to request medical supplies from the BAS. This request will be a built-in report on the FBCB2 system. At the BAS, requests for medical supplies will be made utilizing the MC4 system. This automation will not only speed the resupply process, but will also allow the combat commander to maintain visibility of his unit's MEDLOG status, either through FBCB2 or throughout he MC4's link to CSSCS through GCSS-A.
- The FSMCs are responsible for Class VIII resupply for brigade medical elements , see Class VIII in chapter 8.
- The medical material management branch (MMMB) at the division support operations will be the Class VIII commodity manager. Using the same automated tools as the other commodity managers, the MMMB will make arrangements to fill the request through the battlefield distribution system. The MC4 system using TMIP, through its interface with GCSS-A, will automate linkage of Class VIII to the transportation system. The management of complex medical sets and Class VIII material will be automated.

GLOBAL COMBAT SUPPORT SYSTEM-ARMY (GCSS-ARMY)

2-60. 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 supply/property module that provides situational awareness (SA) and 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 FBCB2

2-61. The FBCB2 is a hardware/software suite that digitizes C2 at brigade level and below. The FBCB2 concept provides a seamless battle command capability for performance of missions throughout the operational continuum at the tactical level. The FBCB2 is the implementation of information age technology to provide increased battlefield operational capabilities.

2-62. The system, positioned on specified platforms, will perform combat, combat support (CS), and CSS functions for the planning and execution of operations. The FBCB2 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 FBCB2 provides a common battlespace picture enabling CSS providers to maintain the OPTEMPO set by maneuver commanders.

CSS FUNCTIONS

2-63. Combat service support functionality within FBCB2 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 their battlespace. It also provides enhanced capability to synchronize support to customer units. The CSS functionality on FBCB2 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 FBCB2 CSS reports include: medical unit situation report, mortuary affairs report, logistical and tactical situational awareness. Currently, FBCB2 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)

2-64. 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. The 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. The CSSCS will be fielded to the maneuver battalion level in the future.

2-65. 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.

2-66. 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 unit needing to ask for it.

LOGISTICS CALL FOR SUPPORT

2-67. 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.

2-68. 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.

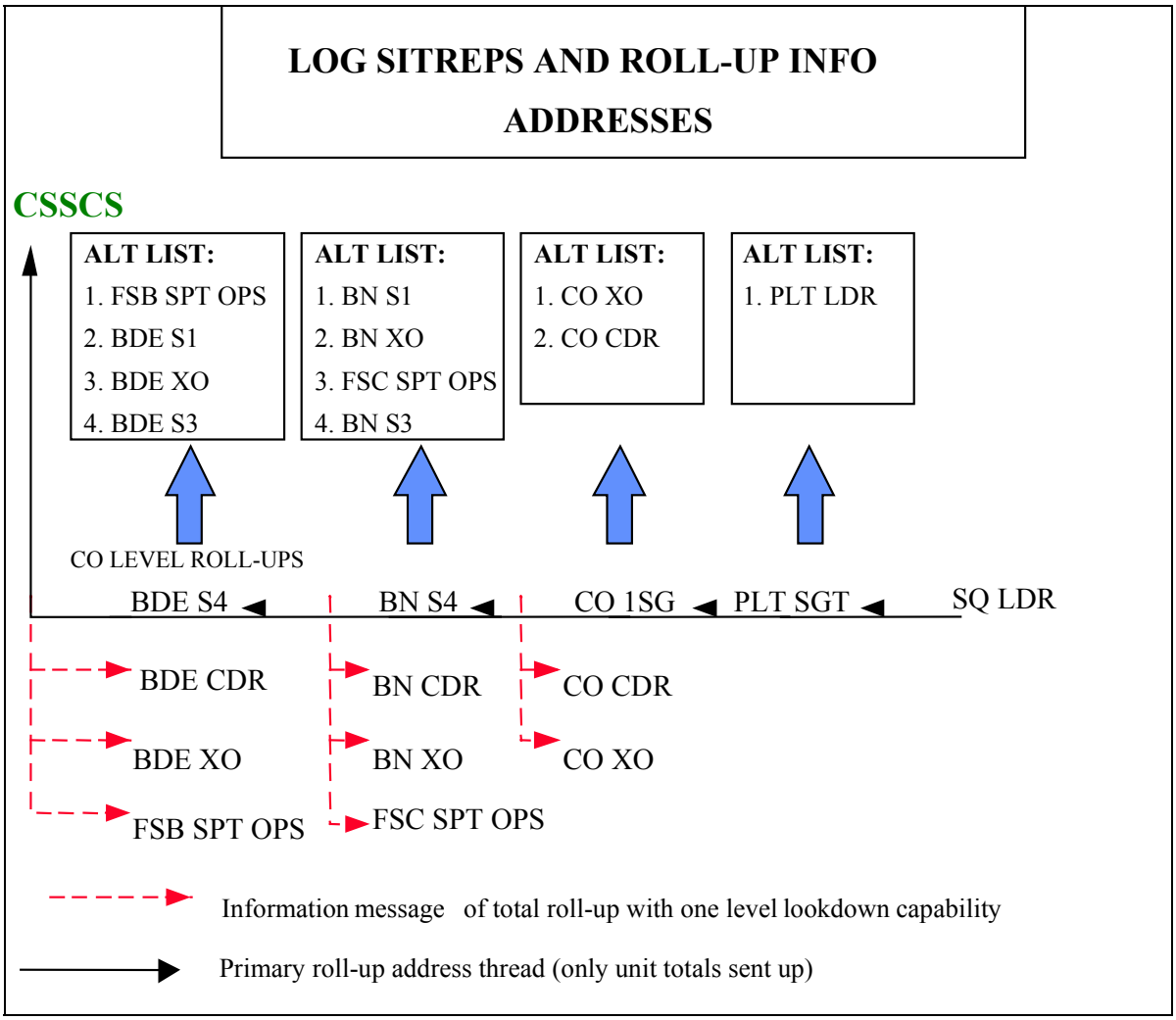


Figure 2-2. LOGSITREP Digital Report Flow

LOGISTICS TASK ORDER

2-69. Once the appropriate CSS activity receives the CFS, the CSS manager identifies the most appropriate CSS unit of action to execute the mission. The CSS manager (tasking authority) sends a LTO to the unit of action. 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

2-70. 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 more robust in future versions of the CSSCS by giving social security number level of detail.

2-71. 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.

2-72. 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.

2-73. 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 armorer 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 S1 who conducts another roll up and forwards it to the brigade S-1. 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

2-74. 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, IIIP, IIIB, 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, IIIP, IIIB, IV, V, VII, VIII, and IX. Management of supply point and field services status report icons is a responsibility of the owning unit and their respective support operations section at both the FSC and FSB.

SITUATIONAL AWARENESS

Overlays

2-75. The FBCB2 operator can gain situational awareness 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

2-76. 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 awareness 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)

2-77. 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 to interface with. 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)

2-78. The MCS is the maneuver component of ATCCS. It is the primary information system supporting the BN/TF commander and staff. The 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.

2-79. 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)

2-80. 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 awareness of enemy activity.

2-81. 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)

2-82. 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. The 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.

2-83. The 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.

2-84. 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. The 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).

2-85. 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.

2-86. The commander identifies a CSSCS plans and operations officer who is responsible for developing and coordinating the plan to establish the CSSCS nodes and network. The CSSCS plans and operations officer 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 and maintenance of CSSCS.

2-87. Some 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

2-88. 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. The CSSCS tracks unit information down to the company level.

2-89. 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.

2-90. The data is then distributed to other CSSCS nodes. The primary means of communication is MSE. The CSSCS nodes then compile 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 awareness, 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.

2-91. 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. In the future CSSCS will be fielded to the maneuver battalions. 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.

2-92. 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.

UNIT TASK ORGANIZATION

2-93. Currently CSSCS functionality allows any CSSCS node to change the UTO. Therefore, it is critical that UTO changes be controlled. Generally, responsibility for UTO changes within CSSCS should rest with the G4 in coordination with the G3. However, with responsibility and command relationships for CSS units resting with the COSCOM, the corps G4 may request that the COSCOM G4 coordinate and make changes to the CSSCS UTO, with final approving authority resting with the corps G4. Within the Army tactical command and control system (ATCCS), the maneuver control system (MCS) is the system of record for the UTO. Once combat units have been task organized within MCS, CSSCS must task organize CSS units to support the mission. When CSS units have been tasked organized, and the organization

approved by the corps G4, that information is provided to MCS, through the corps G3. The corps G3 is responsible for making changes to the MCS UTO and synchronization of the UTO within MCS.

2-94. The corps G4 is responsible for creating or changing the CSSCS UTO. There are two UTO messages created in CSSCS. The SYNCUTO message contains the complete UTO that is resident in the database where created. When it is posted, it overwrites all UTO data in the posting node. The CSS-022 message is the UTO update message that is created whenever a UTO change is made and saved and the user quits the process. When this message is received and posted to other CSSCS nodes it only writes the changes to the posting node.

2-95. If the UTO gets out of sync with the MCS UTO, reports within each of the systems (MCS and CSSCS) will not be the same, nor will they be easily reconciled. This causes confusion and creates problems for both the force commander and logistics officers, when attempting to answer questions or concerns of the commander.

2-96. Whenever the force echelon status report is calculated by CSSCS, it is based on the sum of all the unit requirements. This is called "roll-up". All CSSCS nodes must therefore use the same UTO. If CSSCS is to report the status for a force echelon, this status must be calculated based on the same underlying data at all nodes. The data for individual units and supply points must be the same, and the units must be rolled-up or summed the same way.

BASELINE RESOURCE ITEMS LIST (BRIL)

2-97. These items are contained in the CSSCS database, and allow commanders to select specific items they want CSSCS to track. However, CSSCS will only track a BRIL item if it is selected to a smaller list called the commander's tracked item list (CTIL). The BRIL is a list of items from the following:

- Class I/Water
- Class II Clothing/Equipment
- Class II Parts
- Class III POL
- Class IV (Under development)
- Class V Ammunition
- Class VI (Under development)
- Class VII Equipment
- Class VIII (Under development)
- Class IX Repair Parts
- Personnel

COMMANDERS TRACKED ITEMS LIST

2-98. The purpose of the CTIL is to list the items that the maneuver commander has determined to be the most critical to the performance of the unit's mission. These provide a view of the CSS situation. The more items that are selected to the CTIL, the more items CSSCS must track in its database. If too many items are selected, the system performance may be noticeably slower. The CSSCS sends, receives, and posts messages that include all of these items. To operate, it must calculate unit status for reports and messages, based on these CTIL items. Conversely, if the item is not selected to the CTIL, CSSCS will not track or report the item.

2-99. Only "global" and "local" CTIL items are tracked at a CSSCS node. Subordinate CTIL items are displayed as information only, and are not tracked by a higher echelon node, so they will not appear on reports for the higher echelon node.

2-100. The CSSCS reports allow several views of CTIL items. One view is "worst to best", and the other view is "alphabetical". However, if the CTIL list is large, it may become cumbersome to display all the items when attempting to brief the commander. For example, if the CTIL is large, 50 items or more, and contains multiple classes of supply, the commander may only be interested in ten (10) items. In this case, it will be necessary for you to assign an "alias" to the CTIL item. The alias can be formed by adding the numeral "1 through 10", or "a through j" in front of the CTIL nomenclature. This will cause those items to be displayed in order on the CSSCS item reports.

2-101. The CSSCS is designed as a C2 system to provide commanders with analysis and decision making capability. It will receive data feeds from the logistics STAMIS or the global combat service support-Army (GCSS-Army) system, SIDPERS (personnel), FBCB2, and TAMMIS (medical), to provide CTIL tracking and status updates.

INPUTS

2-102. The CSSCS provides for data input through electronic message, magnetic media, and manual input on CSSCS unit and supply point input forms through the CSSCS keyboard. Electronic data transfer is the routine means by which CSSCS users will receive resource data, however, in those instances where STAMIS data exchange may not be available, i.e., no STAMIS interface exists, the STAMIS device is inoperable, or when operational requirements dictate, manual data entry will be required.

- Class I and water. There is no CSSCS-STAMIS interface for Class I and water. These items are tracked at unit and supply point by manual input into CSSCS.
- Class II. The CSSCS divides and tracks Class II items as Class II clothing and equipment and Class II parts. The CSSCS receives Class II clothing and equipment data from the standard property book system-redesign (SPBS-R). It tracks this information at the unit level only. The CSSCS

receives Class II parts information from the standard army retail supply system (SARSS), and tracks this information at the supply activity level only.

- Class III. The CSSCS divides and tracks Class III items as Class III (Bulk) and Class III (Packaged). There is no CSSCS-STAMIS interface for Class III Bulk. These items are tracked at unit and supply point by manual input into CSSCS. The CSSCS receives Class III Packaged information from SARSS and tracks this information at the supply activity level only.
- Class IV. Class IV is not currently tracked within CSSCS.
- Class V. The CSSCS receives Class V information from the standard Army ammunition system (SAAS). Class V is tracked by CSSCS at unit, ammunition transfer point (ATP), ammunition supply point (ASP), corps storage areas (CSA), and theater storage area (TSA).
- Class VI. Class VI is not currently tracked within CSSCS.
- Class VII. The CSSCS receives Class VII data from SPBS-R, and tracks this information at the unit level only. Class VII maintenance information is received from the standard Army maintenance system (SAMS).
- Class VIII. Class VIII is not currently tracked within CSSCS.
- Class IX. The CSSCS receives Class IX information from SARSS, and tracks this information at the supply activity level only.
- Personnel. The CSSCS receives personnel information from the standard installation/division personnel system (SIDPERS). The CSSCS tracks this information within the categories: personnel strength report, personnel daily summary, personnel supported summary, personnel projected gains, force echelon report, and critical military occupational specialty (MOS) report. At the current time the personnel function within CSSCS is undergoing minor revisions to include social security number level of detail.
- Battle Loss. The CSSCS produces battle loss reports that list reported CTIL item losses by unit or supply point. It displays losses by class of supply in six-hour increments, for losses that were reported before the established report cutoff date and time. This is a manual report.

DATABASE RELATIONSHIP

2-103. Although asset data is collected in CSSCS by individual resource category, e.g. classes of supply and personnel, these resource categories do not stand alone in the CSSCS database. There is a database relationship that exists between certain classes of supply and personnel and must be a consideration in establishing and maintaining an accurate CSSCS database.

- Personnel to Class I and water. Since Class I and water status is calculated based on consumption factors, such as the

individual daily feeding rate, it is necessary that an accurate personnel count exist in CSSCS before the system can determine Class I and water status.

- Class VII to Class V and Class III (B). This same type of relationship exists between Class VII (equipment), Class V (ammunition), and Class III Bulk (fuel). The CSSCS cannot accurately calculate unit fuel and ammunition requirements unless the equipment, e.g., tanks, trucks, aircraft, etc., being utilized, have been entered into the database. Obviously, it would be impossible for the system to tell you what your expected daily requirement for fuel and ammunition would be if the equipment does not exist in the database. Nor, could the CSSCS calculate what your fuel and ammunition consumption rates would be, as once again, the equipment intended to consume the fuel and ammunition does not exist in the database. Thus, it is necessary to enter and establish your Class VII database prior to establishing your Class V and Class III Bulk database.
-

REPORTS

2-104. As discussed in data collection and inputs, for almost every CSSCS input, there is a corresponding report. Simply put, inputs to CSSCS, either manually through use of unit and supply point input forms, through an interface with a STAMIS, or received from other CSSCS nodes, reflect the raw numbers entered into the CSSCS database. The CSSCS uses this raw data to calculate outputs in the form of reports. Calculations within CSSCS are driven by a series of predefined logistical algorithms. These algorithms are unique to the individual resource tracked by CSSCS and include considerations such as current on-hand quantities, authorized quantities, daily requirements, consumption/usage/attrition factors, and battle losses.

2-105. After any new asset data is input to the CSSCS, the CSSCS must then recalculate these numbers to determine and identify the new current and projected unit strength, or status as it is referred to in CSSCS operations.

2-106. The CSSCS creates reports by "rolling up" unit and supply point data by force echelon and displaying in on a single report. A force echelon is defined as a brigade element or higher, i.e., division, or corps.

2-107. Reports are available for the classes of supply and personnel previously identified under data collection.

2-108. When reviewing CSSCS reports there are two important things to understand:

- Status (reflected as gumballs color coded as either green, amber, red, or black), is calculated based on requirements. In current operations, CSSCS does not take combat posture or

intensity into account when determining status or consumption rates. The capability to reflect combat posture in current operations is provided for information only. Only in the course of action analysis (logistics planning) process are these postures taken into account for affecting consumption rates.

- Subordinate units are identified to CSSCS by the CSSCS UTO only, and not by any other doctrinal UTO or garrison UTO. When units are attached, detached, OPCON, etc. in the CSSCS UTO, this dictates who is subordinate to whom. When collecting and compiling reports, CSSCS looks to the CSSCS UTO to identify who is the senior element and who are the subordinate units. If the CSSCS UTO has been changed erroneously, or a unit is misplaced in the CSSCS UTO, this will affect the force echelon's status.

2-109. Corps reports are complied by collecting all subordinate unit data, which includes division, and below.

COURSE OF ACTION ANALYSIS (COA)

2-110. The CSSCS has a requirement to provide a force level logistics planning capability to evaluate the supportability and sustainability of proposed mission courses of action. This capability is identified as course of action analysis (COA) in CSSCS and has been partially implemented. New releases of CSSCS software should be checked for improvements and fixes to COA. Users should check the validity of COA results before using them for planning.

2-111. The COA function relies on the current data in the system's operational database and the application of user defined factors and parameters to conduct its analysis. COA analysis utilizes approved attrition factors, consumption rates, and user-defined parameters, such as task organization, geographical area, combat posture and intensity, and distances to be traveled. Three COAs for a five-day period can be simultaneously assessed and compared.

2-112. The COA function produces two primary system reports to assist the decision support process. They are the COA analysis report and COA comparison report.

2-113. The COA analysis report lets you conduct an analysis for each day of the 5-day period to evaluate the projected status of Class III, V, and VII assets, and an overall daily status. The report also shows a readiness color code and a commander's evaluation for each day of the analysis. You can peel back selected fields of the report to obtain more detailed information to assist you in deciding whether to accept the system's evaluation or change the commander's evaluation.

2-114. The COA comparison report captures the data presented in the analysis reports for up to three COAs and presents them in a comparative format. As with the analysis report, you can peel back

selected fields to get more information and change the commander's evaluation.

CSSCS INTERFACES

2-115. All CSSCS nodes will be able to interface with all other CSSCS devices and are also able to interface with other ATCCS. The 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. 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.

2-116. Figure 2-3 depicts the CSSCS to BFA interfaces, and identifies the type of messages that are exchanged between these systems.

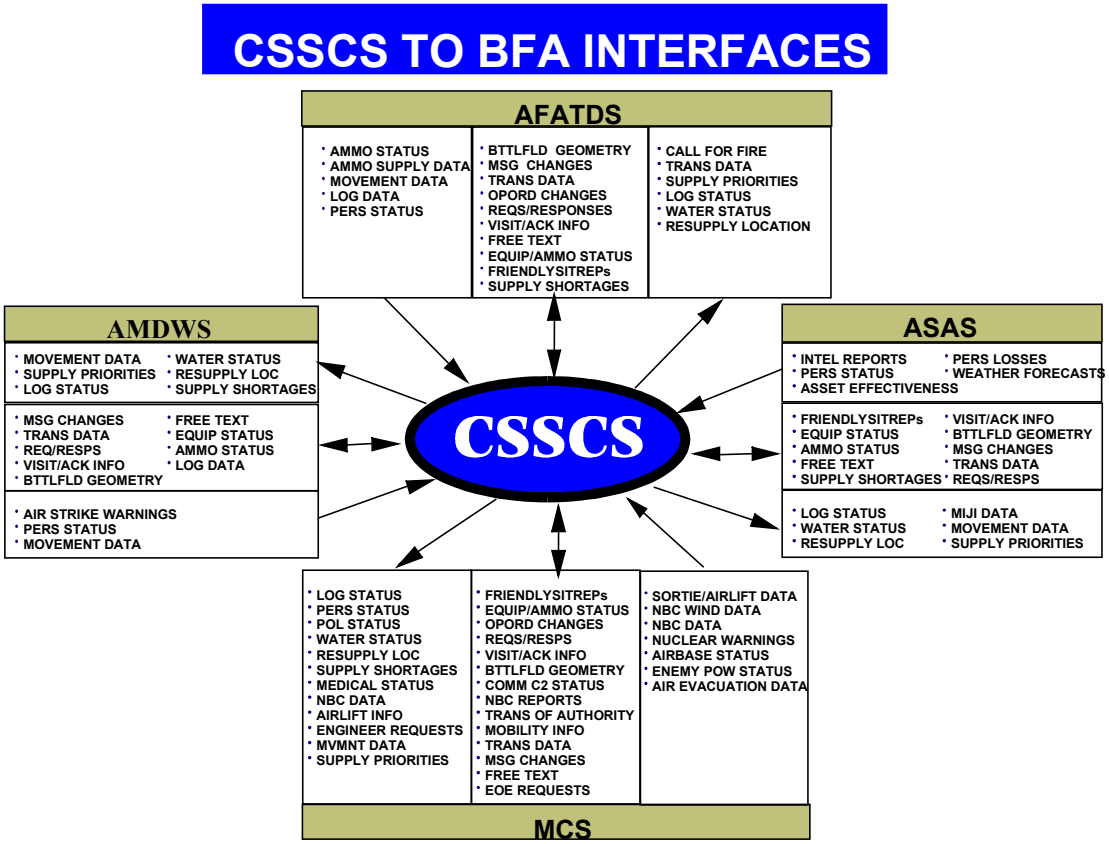


Figure 2-3. CSSCS Interfaces with Battlefield Functional Area (BFA) Systems.

2-117. 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

SAMS-2

- NATIONAL STOCK NUMBER
- STOCK NUMBER FROM CTIL
- UIC OF OWNING UNIT
- UIC OF MAINTENANCE SUPPORT UNIT
- WORK REQUEST STATUS CODE OF SELECTED CTIL ITEMS
- MAINTENANCE LEVEL AT PLACE OF REPAIR
- PROJECTED NUMBER OF HOURS TO EFFECT REPAIR

SIDPERS

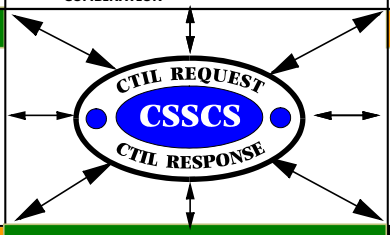
- PERSONNEL DATA SUMMARY
- NUMBER PERSONNEL AUTHORIZED
- NUMBER PERSONNEL REQUIRED
- NUMBER PERSONNEL ASSIGNED
- NUMBER PERSONNEL REASSIGNED
- NUMBER PERSONNEL GAINED
- NUMBER PERSONNEL KIA, MIA, WIA
- NUMBER PERSONNEL RETURNED TO DUTY
- NUMBER PERSONNEL AUTHORIZED, REQUIRED & ASSIGNED FOR A UNIT PER MPG/MOS COMBINATION

DAMMS-R (TC AIMS II)

- TRANSPORTATION/MOVEMENT STATUS
- TRANSPORTATION SHORTFALL
- TRANSPORTATION TASK ASSETS
- MAIN SUPPLY ROUTE STATUS
- CRITICAL CARGO MOVEMENTS SUMMARY
- TRANSPORTATION MOVEMENTS PASSBACK SUMMARY
- INBOUND TRAFFIC VOLUME SUMMARY
- UNIT MOVEMENTS SUMMARY

SPBS-R

- LIN
- LIN REQUIRED QUANTITY
- REPORTING UNIT UIC
- REPORTING UNITS MODIFIED TOE
- STOCK NUMBER
- ON HAND QUANTITY
- EFFECTIVE TIME OF REPORT



TAMMIS

- OTHER C2 DATA
- DIVISION/GROUP MEDICAL SUPPLY MANAGEMENT
- BIOMEDICAL MAINTENANCE
- OPTICAL FABRICATION

SAAS

- UIC
- AMMUNITION DAYS OF SUPPLY
- AMMUNITION SUPPLY RATE
- ONE HAND QUANTITY ROLL UP
- AMMUNITION QUANTITY

SARSS

- UIC
- DODAAC
- STOCK NUMBER
- UNIT OF ISSUE
- ON HAND QUANTITY
- TOTAL QUANTITY DUE IN AND DUE OUT

ULLS-S4

- UIC OF ULLS-S4
- UIC OF REPORTING UNIT
- METHOD OF ITEM TRACKING (LIN, DODIC, OR STOCK NUMBER)
- QUANTITY ON HAND (# ITEMS, ROUNDS OR GALLONS)
- BASIC LOAD QUANTITY
- BATTLE LOSS QUANTITY

Figure 2-4. CSSCS to STAMIS Interfaces.

Chapter 3

Headquarters And Distribution Company

ORGANIZATION AND MISSIONS

3-1. The HDC, FSB provides the C2 and administrative support for all organic and attached units of the FSB. It also provides food service and DS supply and transportation to elements within the brigade rear, the brigade recon troop, and limited back up and reinforcing support to the FSCs. The FSB headquarters provides distribution management for all classes of supply and services (except Class VI and X supplies, classified maps, and classified communications security devices). Because of its location, elements from other divisional units that support the brigade may be attached to the FSB for administrative and logistics support. The HDC has the typical battalion battle staff organization structure with a command section, S1 section, consolidated S2/3 section, S4 section, unit ministry team (UMT), S6 section, and a support operations battle staff section. It also has a company headquarters and an S&T platoon. The support operations section coordinates logistics support and provides distribution management to the maneuver brigade. Within the FSB company headquarters element is a food service section, which provides food service support for the FSB (less the FSCs), HHC brigade, the brigade recon troop, and other elements attached to the FSB. The S&T platoon provides direct support supply and transportation support to the brigade rear, limited backup support to the FSC and maintains the ASL for the brigade. See Figure 3-1 for a diagram of the FSB HDC.

3-2. The battalion HQ performs the command, control, communication, computers, intelligence, surveillance, and reconnaissance (C4ISR) functions. Generally, its mission includes the following:

- Command and control of organic and attached units.
- Command and control of all units in the BSA for security and terrain management.
- Planning, directing, and supervising support provided by the FSB to division units in the brigade area and to the brigade.

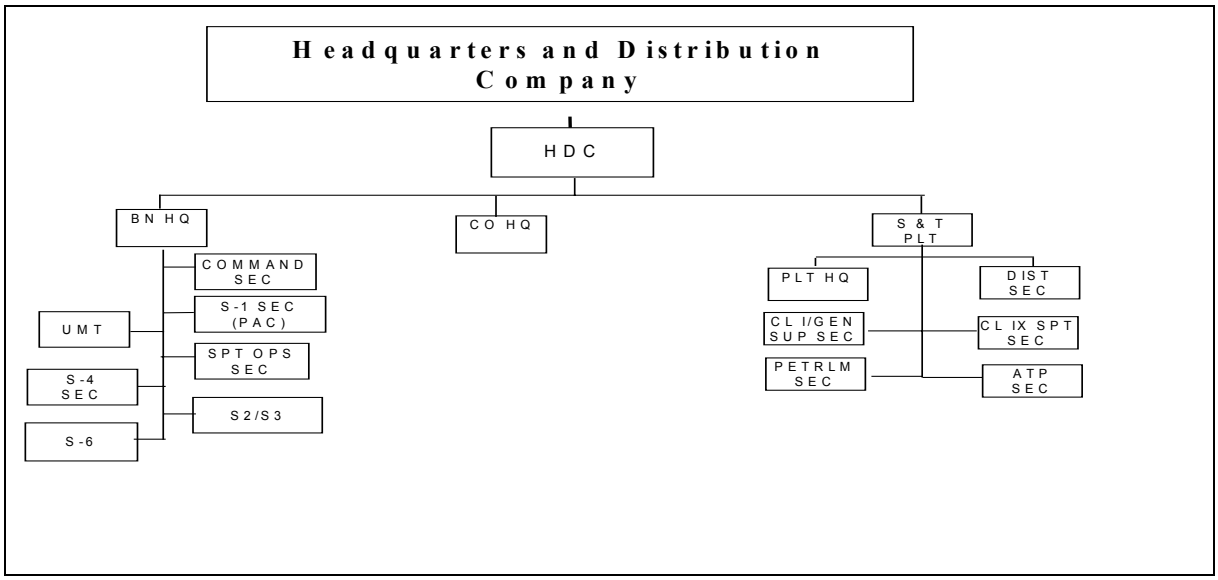


Figure 3-1. FSB Headquarters and Distribution Company

- Providing information and advice on FSB support to the commander and battle staff of the supported brigade and the DISCOM.
- Planning, directing, and supervising the administration, training, and internal logistics support for units organic and attached to the battalion.

PERSONNEL/SECTIONS

COMMAND SECTION

3-3. The command section of the FSB provides C2 for assigned and attached units and supervision for the FSB battle staff. It provides CSS operations for the brigade. It also provides information and advice on CSS to the DISCOM and supported brigade commander, and their battle staffs.

3-4. The command section consists of the FSB battalion commander, battalion executive officer (XO), command sergeant major (CSM), coordinating battle staff officers, and special staff. Battle staff officers supervise and coordinate the functions of subordinate sections. Command section battle staff officers perform duties and responsibilities common to all battle staff officers. FM 5-0 (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 subordinate's actions.

3-5. Command section battle staff officers conduct battle staff mission analysis, develop estimates and plans, and implement policies and orders. They develop a reporting and monitoring system for battle 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.

FSB Battalion Commander

3-6. The FSB battalion commander is the senior battle logistician and single CSS operator for the brigade commander. 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. The FSB commander directs all units organic or attached to the battalion in support of the brigade mission. He also has control of all elements in the BSA for security and terrain management. He provides subordinate elements with clear missions, taskings, and statement of his intent.

3-7. 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 FSB commander and battle staff advises the brigade commander on FSB support as required.

3-8. The battalion commander’s duties include the following:

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

Battalion Executive Officer (XO)

3-9. The battalion XO is the principal assistant to the battalion commander. As second in command, he must understand support operations, internal functions of the battalion, and tactical operations. He supervises the FSB battle staff and coordinates assigned missions with subordinate unit commanders. In accordance with command directives, he formulates battle staff operating policies. He also oversees the master policy file and supervises the tactical operations center (TOC).

3-10. The duties of the battalion XO include:

- Coordinates battle staff planning and response to the battalion commander's guidance.
- Disseminates time analysis limitations to all battle staff sections.
- Supervises battle staff mission analysis process.
- Assumes command of the battalion when the battalion commander is unavailable.
- Develops, approves, and monitors battle staff operating policies.
- Responsible to oversee coordination of information manager responsibilities for the battle staff.

Command Sergeant Major (CSM)

3-11. 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.

3-12. The sergeant major 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.

3-13. The duties of the command sergeant major include:

- Serves as the battalion commander's principal enlisted assistant.
- Maintains liaison with the maneuver brigade'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.
- 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.
- Demonstrates expertise in FBCB2 (call for support).
- Understands ongoing missions of his unit(s) and supported headquarters.
- Engaged in medical evacuation and mortuary affair operations.
- Identifies and helps resolve any battlefield sustainment problems.

S1 SECTION

3-14. 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 FSB. This includes personnel services, finance services, chaplain activities, command information services, medical, and legal services support. He develops the personnel support annex of the OPORD/OPLAN. He also coordinates for transportation assets in support of personnel functions. Because there is now a separate HDC company commander, the S1 no longer functions as the FSB HQ detachment commander.

3-15. The S1 functionally organizes battalion S1 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 FSB CP. 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.
- Develops 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.
- Assists 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.

3-16. Specific S1 tasks in establishing the CSSCS network and database are:

- Gather, input, and maintain personnel data in the CSSCS database.
- Develop the personnel CTIL.
- Set status thresholds for personnel.

3-17. 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.
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STAFF JUDGE ADVOCATE

3-18. The FSB does not have staff judge advocate (SJA) support within its battle 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 FSB 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 AO.
- 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.

UNIT MINISTRY TEAM

3-19. The FSB commander is responsible for the religious program in his unit. The FSB 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 FSB and to units located in the BSA. 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.

3-20. 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.

3-21. The UMT develops a RS annex for the FSB OPORD/OPLAN. This annex is based on the brigade's RS plan and the commander's intent. It addresses the priority of RS to the FSB and BSA and 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.

3-22. During operations, the UMT keeps abreast of the situation by maintaining contact with the FSB S1 and S3. Through FBCB2, the UMT can receive calls for RS directly from the individual company HQ sections and the FSB staff through the religious support call for

support FBCB2 screen. 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.

S2/S3 SECTION

3-23. The S2/S3 officer is the operations, security, and training officer. He is responsible for internal FSB operations. The S2/S3 advises and assists the FSB commander in tactical planning, coordinating, and supervising the communications, operations, training, and security functions of the battalion. The S2/S3 supervises the FSB 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).

3-24. The S2/S3 section monitors the tactical operations of the FSB, 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. As discussed in Chapter 8, it positions units within the BSA and plans BSA 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 BSA. The section ensures the BSA security plan is integrated into the overall brigade rear operations plan. Guidance appears in FM 19-4 (Military Police Team, Squad, and Platoon Combat Operations).

3-25. 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.

3-26. The S2/S3 officer supervises the operations of the plans-operations branch. His duties include the following:

- Conducts continuous logistics preparation of the battlefield.
- Develops the unit task organization in coordination with FSB support operations to correctly reflect the task organization in the existing operation order/plan.
- Considers tactical intelligence and develop OPLANs and OPORDS.
- Plans and executes operations security and NBC defense and training.
- Provides estimated times for deployment of the FSB.

- Issues warning order to all assigned or attached elements, informing them of pending operations.
- Coordinates with brigade S2/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.

3-27. The S2/S3 operations sergeant. 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.

3-28. The S2 intelligence analyst NCO develops procedures for handling and using or disposing of enemy equipment and documents. The S2 NCO informs the FSB commander on all intelligence preparation of the battlefield (IPB) information. The S2 NCO supervises the handling of enemy defectors and materiel, and monitors EPW collection point activities for the FSB. He also is responsible for obtaining classified maps required by FSB 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 FSB OPORD/OPLAN.
- Essential elements of information (EEIs) for inclusion into the OPORD.

3-29. He is also responsible for the following tasks:

- Conducts continuous logistics preparation of the battlefield.
- Coordinates tactical intelligence activities between subordinate units, and brigade 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.

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

- 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.

S4 SECTION

3-31. The FSB 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 FSB 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 FSB. He consolidates transportation requirements for FSB 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. The duties of the S4 officer include the following:

- Conducts continuous logistics preparation of the battlefield.
- Develops the internal logistics estimate.
- Keeps FSB 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.

3-35. The S4 section supervises and monitors FSB company supply activities. It coordinates with them on locations of internal supply and services activities. It processes requests for replenishing basic loads of all FSB 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 FSB 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 FSB and submits it to the support operations section. The S4 section coordinates with the S1 on unit strength and replacement data to project logistics requirements. Together they also ensure FSB replacements are issued all authorized equipment.

UNIT MAINTENANCE OFFICER (UMO)

3-36. The unit maintenance officer, (called support maintenance technician by MTOE), coordinates FSB maintenance operations. He is the FSB's field maintenance technical expert. The UMO works closely with the BSC MCS. He consolidates FSB unit maintenance reports. He provides the commander and other battle staff sections with equipment status reports. He also supervises controlled exchanges IAW the commander's priorities. He monitors FSB combat spares and coordinates recovery of FSB equipment.

3-37. The UMO uses the Army materiel status system (AMSS) module in ULLS-G to process and produce an automated mission condition status report (MCSR). The Army materiel status system replaced manual readiness reporting on the frontside DA Form 2406. The ULLS-G box is located in the MCS of the BSC. The UMO is responsible for preparing the readiness report for the FSB commander to sign.

3-38. The duties of the UMO include the following:

- Conducts continuous logistics preparation of the battlefield.
- Ensures mission essential equipment is available to accomplish mission support.
- Controls battle damage assessment and repair (BDAR), recovery, and maintenance operations internal to the FSB.
- Determines maintenance priorities for FSB equipment with battalion XO.
- Coordinates with the MCS on AMSS reporting.
- Monitors the battalion's Army oil analysis program.

S6 SECTION

3-39. The communications officer (S6) supervises communications, automation, and security (COMSEC) and controlled cryptographic items (CCI) activities. The signal specialists install, operate, and maintain communications equipment. This entails the establishment and operation of the net control station (NCS) for the FSB net. They ensure communication links with higher, adjacent, subordinate, and supported units. They plan and implement backup means of communications and ensure radio communications exist during a move between the start point

(SP) and release point (RP) point, and along the route of march. They also develop and implement a BSA security communications system to connect elements such as the dismount point, observation post (OP), logistic release point (LRP), and quick reaction force (QRF). The S6 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.

3-40. As systems administrators and system/software security managers the S6 performs 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 combat service support automation management officer (CSSAMO) to resolve applications problems with CSS STAMIS and CSSCS. The S6 is also responsible for installing and operating local area networks in support of FSB operations. He is responsible for determining requirements and exercising battle staff supervision over communications services related to FSB operations. He advises the commander, battle staff, and subordinate units on communications and automation information systems (AIS) matters.

SUPPORT OPERATIONS SECTION

3-41. This section, under the direction of the support operations officer, provides centralized, integrated, and automated command, control, and planning for all distribution management operations within the battalion. It coordinates with logistics operators in the fields of supply, maintenance, medical, mortuary affairs, and movement management for the support of all units assigned or attached in the brigade area. Its primary concern is customer support and increasing the responsiveness of support provided by subordinate units. It continually monitors the support and advises the battalion commander on the ability to support future tactical operations. With GCSS-A, CSSCS, FBCB2, and MTS the support operations section has access to more information and receives information near real time. Therefore, support operations possesses the capability to view the situational awareness and combat power in the maneuver units. This allows support operations to identify problems quicker and allocate resources more efficiently. The CSSCS gives support operations the visibility of the logistics status from the FSB back to corps. This battle staff section serves as the POC for supported units. It directs problems to appropriate technical experts within subordinate branches. The duties of the support operations officer include the following:

- Conducts continuous logistics preparation of the battlefield.
- Plans and coordinates for aerial resupply and plans for landing zones (LZs) vicinity of the BSA.

- Develops CSS synchronization matrix.
- Submits CSS forecasts to division support operations.
- Manages all flatracks throughput to and retrograding from the brigade support area.
- Coordinates and provides technical supervision for the FSB's CSS mission; which includes supply activities, maintenance support, combat health support, and coordination of transportation assets.
- Identifies tentative force structure and size to be supported.
- Coordinates the preparation of the support operations estimate on external support.
- Provides support posture and planning recommendations to the FSB commander.
- Sets up and supervises the logistics operations center.
- Coordinates with brigade S3 air for air routes for supply and medical support.
- Provides centralized coordination for units providing support to the brigade.
- Analyzes the impact of CSSCS reports.
- Advises the battalion commander on the status of logistics support.
- Coordinates logistics support for units passing through the brigade's area.
- Analyzes contingency mission support requirements.
- Revises customer lists (as required by changing requirements, workloads, and priorities) for support of tactical operations.
- Coordinates external logistics provided by subordinate units.
- Advises the battalion commander on the supportability of FSB support missions and of shortfalls that may impact on mission accomplishment.
- Serves as the single point of coordination for supported units to resolve logistics support problems.
- Plans and coordinates contingency support.
- Develops supply, service, maintenance, and transportation policies.

3-42. The support operations officer will perform functions as the CSSCS manager. 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 data.
- Develop the 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.
- Establish reporting times for subordinate direct support units.
- Set support to supported relationships to reflect which supply points support which units.
- Establish and set continuity operations (CONOPS) pairing IAW guidance from the division G4.

3-43. The duties of the support operations SGT include the following:

- Conducts continuous logistics preparation of the battlefield.
- Analyzes trends and forecasts of requirements for supplies and equipment based on priorities and procedures.
- Coordinates major end item resupply activities within the group.
- Coordinates activities internal to the support operations section.

Supply and Services Cell

3-44. The support operations supply and service officer plans and recommends the allocation of resources in coordination with the supported chain of command. This includes coordination with the S&T distribution section. He also forecast and monitors the distribution of supplies within the brigade. This information is entered into CSSCS at the brigade S4 and transferred to CSSCS at the support operations. This allows support operations to identify problems quickly and allocate resources more efficiently through CSSCS. The supply and service officer is responsible for MA activities carried out within the brigade area of operations. He is also responsible to coordinate and monitor all transportation movements of replenishment stocks and services for and within the FSB. The duties of the supply and services officer include the following:

- Conducts continuous logistics preparation of the battlefield.
- Determines petroleum and water requirements.
- Provides technical expertise on supply and distribution of petroleum and water.
- Reviews bulk fuel forecasts and adjust the forecasts after coordination with the brigade S2/S3 on the impact of tactical operations on fuel requirements.
- Secures additional fuel and water storage capacity.
- Monitors requirements for water source.
- Provides technical guidance on water treatment, storage, distribution, and quality control operations.
- Supervises of flatrack management within the brigade support area.
- Provides technical expertise on supply and field service support.
- Coordinates field services support for the brigade.
- Coordinates with division support operations section relative to requirements for evacuation of remains to CONUS.
- Supervises of the MA NCO and transportation NCO.
- Coordinates and monitors all transportation within the brigade battlespace.
- Conducts battle staff inspections to resolve problem areas and provides supply functional expertise.
- Monitors Class IX authorized stockage list (ASL) mobility requirements.
- Provides advice on management of ASL stockage.
- Provides technical guidance on stock records and materiel control and accounting functions.
- Uses summary management reports to evaluate the efficiency of supply functions.
- Analyzes data and reports to determine efficiency of operations conformance to standards and trends.
- Determines MHE requirements to support operations.
- Monitors subsistence supply, storage, and distribution operations in subordinate units.

3-45. The supply and services sections has one mortuary affairs (MA) NCO with which to coordinate all MA support within the brigade area. The FSB has no other organic MA assets. The NCO's duties include:

- Conducts continuous logistics preparation of the battlefield.

- Trains the brigade and FSB units and personnel on performing search and recovery, tentative identification, and evacuation of remains to the mortuary affairs collection point (MACP).
- Establishes the mortuary affairs collection point within the BSA.
- Advises the FSB commander on MA issues.
- Coordinates with the DISCOM for augmentation by a MA collection platoon.

3-46. Individual units are responsible for initial search, recovery, identification, and evacuation of remains to the MACP. The MACP provides temporary storage of remains and personal effects before evacuating the remains and their accompanying personal effects to a MACP in the DSA or corps. When tasked, the MACP also provides DS to units forward of the BSA by providing personnel to supervise post-combat search and recovery missions or interment.

3-47. The supply and services MA NCO recommends to the FSB commander the best location within the BSA for the MACP. 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 ammunition transfer point (ATP). They are usually located near the main supply route (MSR). Once the site has been approved, administrative orders are published detailing the location of the MACP. The FSB commander provides adequate manning to assist the MA NCO in establishing and operating the site. During this time, the corps mortuary affairs company deploys a MA platoon forward to the DSA. The MA platoon then sends a MA collection section to the FSB.

3-48. The duties of the MA NCO include the following:

- Coordinates MA operations in the brigade AO.
- Advises on emergency burial policy and the security and disposition of remains and personal effects.
- Plans and coordinates escort of remains.
- Maintains files, reports, and a situation map on MA support activities.

3-49. Vehicles bringing supplies (except Class I) to the BSA evacuate remains to the DSA collection point as a backhaul mission or by throughput to the corps collection company. The recommended method of evacuation of remains is air evacuation (fixed or rotary wing) in coordination with the FSB 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 for shipment to the port of embarkation (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.

3-50. The supply and services cell also has a role in transportation. This cell coordinates and monitors all transportation movements of replenishment stocks and services for and within the FSB. It also coordinates the transportation requirements for backhaul of equipment and supplies with the MCO in the division support operations section of the DISCOM. Delivery priorities are coordinated with the FSB support operations.

3-51. The supply and services cell has two traffic management coordinators assigned to control the movement of transportation assets in and around the FSB. The traffic management coordinators coordinate, monitor, control and supervise the movement of personnel, equipment, and cargo. Movement can be by air, rail, highway, and water. They determine the most efficient mode of transport that accomplishes mission requirements. Specific functions the traffic management coordinators will perform within the FSB are to supervise cargo documentation and movement control for all transportation modes. They develop and review movement programs (to include convoy planning) for logistical support functions within the FSB/BSA. They advise in the preparation of support plans where transportation is required. They verify the accuracy of movement control documents. They ensure allocation of transport capability is appropriate to accomplish each mission in a cost-effective manner. When transportation requirements exceed the FSB's capability, the traffic management coordinators coordinate support with the MCO in the division support operation section. They also anticipate and recommend the use of MSRs to the MCO.

3-52. The addition of new enabling technologies will allow the traffic management coordinators to track, trace, and divert transportation platforms operating inside the BSA. The traffic management coordinators are responsible for the ITV in the BSA. This will be best accomplished by the FSB movements NCO interfacing with other STAMIS to develop inbound/outbound requirements and also using the movement tracking system (MTS) and other ITV technology to get a near real-time location of transportation assets and supplies. In addition, the traffic management coordinators are able to synchronize the delivery schedule via FBCB2 with customer units to minimize the offload/upload times. With FBCB2 and the MTS control station, the traffic management coordinators are now able to give specific coordinating instructions to the vehicle operators without having to rely on manned control points. These new technologies will allow information to be transferred between the brigade S4, battalion S4, support operations sections at all levels, and the traffic management coordinators to schedule and synchronize transportation requirements within or in DS of brigade/battalion operations.

3-53. The duties of the movement NCO include the following:

- Conducts continuous logistics preparation of the battlefield.
- Overall flatrack management responsibility within the brigade support area. The movement control NCO has flatrack management and status reporting responsibility to the DISCOM movement control office.
- Prepares battalion movement plans and annexes in support of logistics or contingency plans.
- Resolves movement priority conflicts with the support operations officer and S2/S3.
- Coordinates subordinate unit movement requirements with EAB.
- Regulates MSR use requirements for unit moves.
- Operates movement tracking station.
- Coordinates movement of aerial logistical resupply.

Maintenance Cell

3-54. 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 BSC 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.

3-55. Maneuver units will transmit LOGSITREP electronically to the brigade S4. This information is entered into CSSCS at the brigade S4 and transferred to CSSCS at the support operations. This allows support operations to identify problems quickly and allocate resources more efficiently. The maintenance officer can monitor task force equipment status of units on reports CS7-007, CS7-008, and CS7-010. The CS7-007 report is the equipment-force echelon status report that provides specific data for the force echelon. It includes authorized quantity, battle loss, NMC (DS), and NMC organization. The CS7-008, equipment-item status report provides specific data for an individual piece of equipment. The CS7-010, equipment-unit status report provides specific Class VII data for the units that are not a force echelon. The FBCB2 and CSSCS also provide map graphics that portray unit locations, grid coordinates, and terrain features so support operations can track maintenance on the battlefield.

3-56. The support operations maintenance cell develops the plans and policies for reparable exchange, and Class IX operations. It

monitors shop production and job status reports in the BSC and FSCs. 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 brigade S4, it reviews backlogs on critical weapon systems. For any additional support requirements, the FSB 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.

Combat Health Support Cell

3-57. The CHS cell is staffed with a medical planner/health service support officer (HSSO) who is the FSB commander's special staff officer for CHS and a member of the FSB battle staff and a medical operations NCO who is the primary assistant to the HSSO. This cell is responsible for:

- Providing the CHS component for logistics preparation of the battlefield (LPB) for the FSB.
- Providing the combat health support (CHS) estimates and medical threat input for inclusion in the FSB commander's estimate.
- Coordinating and synchronizing FSB CHS for the supported brigade.
- Coordinating the delivery of Class VIII via LOGPACs. and with synchronizing CHS.
- Overseeing all FSB CHS planning activities to ensure such planning is synchronized laterally and vertically.
- Developing the combat health support portion of the FSB OPLAN in coordination with the FSB staff, the FSMC commander, and the DISCOM medical operations branch.

- Coordinating the placement of supporting corps medical elements attached to the FSB within the brigade support area (BSA).
- Identifying CHS support requirements for the BSA.
- Coordinating CHS taskings from the DISCOM medical operations branch with the FSB staff and the FSMC commander. Tasking may include area medical/dental, preventive medicine (PVNTMED), combat stress control, CHS reinforcement, or reconstitution support.
- Coordinating for the training and use of non-medical personnel to be used for patient decontamination in the event of an NBC or weapons of mass destruction attack. (See FM 8-10-7).
- Coordinating and synchronizing CHS requirements with the brigade surgeon's section and the DISCOM medical operations branch.
- Monitoring the status of FSB and brigade medical elements via the medical situational reporting on FBCB2.
- Monitoring the status of division medical units/elements via the medical reporting on CSSCS.
- Advising the FSB commander on CHS operations in the BSA and brigade rear.
- Situational awareness of lateral and supporting medical units.
- Submitting and forwarding status reports IAW DISCOM and brigade TSOP.

3-58. For brigade CHS operations, the CHS cell provides input to the brigade surgeon's section (BSS) for inclusion into the CHS annex of the brigade OPLAN. See FM 8-10-21 for definitive information on the BSS. The HSSO provides the DISCOM medical operations branch and the BSS information on all medical activities to include: attachment of corps medical units/elements, Class VIII resupply, medical evacuation, and priority of CHS for the BSA and brigade AO. Based on casualty estimates, the HSSO develops the CHS plan for the FSB. This CHS cell assists the BSS with the coordination and implementation of the brigade CHS plan. The CHS cell coordinates the FSB CHS plans with units in the BSA, DISCOM medical operations branch, and the BSS. The CHS cell through the support operations section provides appropriate and timely tasking to the FSMC to ensure adequacy of support. The CHS cell plans for the use of nonstandard platforms for casualty evacuation and the support operations section manages their use during mass casualty operations. See FMs 4-02.94 (8-10-6) and 8-10-26 for definitive information on medical evacuation operation.

3-59. The CHS cell coordinates and synchronizes the FSB CHS missions with the BSS. Combat health support for the brigade is planned and monitored by the BSS. The BSS is collocated with the

brigade TOC. The brigade surgeon and his staff are responsible for the technical control of all medical activities in the brigade area. The brigade surgeon is a special staff officer to the brigade commander, and works in close coordination with the brigade staff. He uses the brigade S1's casualty and loss estimates and the brigade S3's mission plan to develop a plan for CHS that will provide the most effective and efficient use of medical resources assigned or supporting the brigade. During the planning phase the BSS:

- Provides the CHS estimate and medical threat input for the commander's estimate.
- Reviews the OPLAN and contingency plans to identify potential medical hazards associated with the location and climatic conditions.
- Determines procedures, techniques, and limitations in the conduct of routine medical care, emergency medical treatment, and advanced trauma management. This includes planning and coordinating for:
  - The system of treatment and medical evacuation, including aero medical evacuation by Army ground and air ambulance.
  - Dental services.
  - Preventive medicine services.
  - Combat stress control.

3-60. The brigade surgeon is also responsible for coordinating GS and DS relationships of organic medical units and of other medical units or elements under OPCON of the brigade. See FM 8-10-21 for information on the BSS.

3-61. The MC4 system will assist the CHS cell and the BSS in performing their responsibilities through the collection, integration, and transmission of medical information. These sections will have near real-time information on the status of medical units, brigade unit medical readiness information, casualty evacuation, medical supplies, and medical treatment.

BATTLE STAFF

3-62. The FSB headquarters battle staff is the competent and confident team that allows the FSB commander to be a practitioner of battle command. The combination of the battalion and supporting staff elements form the commander's battle staff. Listed below are the battle staff roles and an example of a portion of a logistic synchronization matrix, see Figure 3-2, that assists the battle staff in the execution of their respective roles:

- Maintain situational awareness and 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 areREDCON1.	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 3-2. Synchronization Matrix

HEADQUARTERS AND DISTRIBUTION COMPANY

3-63. The company headquarters provides the company with administration, supply, and food services support for all assigned or attached personnel in the battalion. The company provides overhead and billeting support for the HDC, FSB. It is responsible for the command and control, and security of the company. The company headquarters consists of a headquarters section and a

food service section. Functions of the company headquarters are to:

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

HDC COMPANY COMMANDER

3-64. The HDC company commander is responsible to the FSB commander for the discipline, combat readiness, and training of the HDC.

3-65. He 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 HDC, FSB. Additionally, his responsibilities include leadership, discipline, tactical employment, training, administration, personnel management, supply, maintenance, communications, and sustainment activities of the company.

3-66. 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.

3-67. 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.

3-68. The company commander’s responsibility in combat is threefold. He will:

- Accomplish all missions assigned to the HDC in accordance with the FSB commander's intent.
- Preserve the fighting capability of the HDC, FSB.
- Maintain continual communications with higher, lower, and adjacent units.

FIRST SERGEANT

3-69. The 1SG is the company's senior NCO and normally is 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 company's primary internal CSS operator and helps the commander and support operations officer to plan, coordinate, and supervise all logistical activities that support the company's mission. He operates where the commander directs or where his duties require him.

3-70. The 1SG's specific duties include the following:

- Execute and supervise routine operations. The 1SG'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 1SG may observe and report on the company's base, proof fighting positions, or designing and ensuring emplacement of the defensive perimeter.
- As necessary, serves as quartering party NCOIC.
- Using FBCB2 transmit company rollup reports LOGSITREP and PERSITREP. Transmit call for support (CFS) for immediate resupply for Class III, IV, V or recovery missions suing FBCB2 (as required).
- Conduct training and ensures proficiency in individual and NCO skills and small-unit collective skills that support the company's mission essential task list (METL).
- Receive 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

3-71. 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 1SG and the support operations officer. The supply sergeant's specific responsibilities include the following:

- Control the company 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 HDC, FSB sections.

ARMORER

3-72. The armorer performs organizational maintenance on the company's small arms and is responsible for evacuating weapons as necessary to the maintenance platoon or to the brigade 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 1SG's vehicle to make him more accessible for weapons repair and maintenance in forward areas.

SUPPLY & TRANSPORTATION PLATOON

3-73. The supply and transportation platoon provides the brigade a single source for all supply (less Class VIII) and transportation operations. The supply and transportation platoon provides Class I, II, III(B), III(P), IV, V, VI, VII and IX direct support to the brigade. The supply and transportation platoon receives, stores (limited) and issues Class II, III(P), IV, and IX. It also receives and issues Class I and VI at the field ration issue point, and receives and issues Class VII as required. The platoon also maintains the Class II, III(P), IV and IX ASL for the brigade. The distribution section provides transportation support to the brigade. The distribution section also has the ability to transport potable water to the FSCs. The platoon requires augmentation from corps to provide water support. The petroleum section maintains 1/2 day of operational requirements for the maneuver brigade. The ATP section supports the brigade with Class V and operates the brigade ammunition transfer point. The platoon HQ maintains the FBCB2 and STAMIS (SARSS-1 or GCSS-A).

3-74. Duties and responsibilities of the S&T platoon leader include:

- Provide command and control of the Class I and general supply, Class V, Class IX, water, petroleum, and transportation sections of the S&T platoon.
- Manage the distribution of water and supply Classes I, II, III(B), III(P), V, VII, and IX to the brigade. Engineers are responsible for the management of Class IV once distributed to them by the S&T platoon.
- Provide water distribution to FSCs.
- Provide Class I, II, III(P), and IV direct support to brigade.
  - Conducts field ration issue point for Class I.
  - Receives, stores, and issues Class II, III(P), and IV.
  - Maintains ASL for Classes II and III(P), and receives and issues Class VII as required.
- Provide Class IX direct support to brigade.
  - Receives, stores, and issues Class IX.
  - Maintains ASL for Class IX.
  - Provides exchange for reparable items.
  - Maintains supply STAMIS (SARSS or GCSS-A).
- Provide Class III(B) direct support to FSCs and brigade units; provide retail support to brigade units without organic retail capability.
- Provide Class V supply point distribution to BN/TF maneuver units and supply point to TFSA units.
- Provide transportation support for the distribution of supplies to FSCs.
- Provide transportation DS to brigade.

3-75. The HDC S&T platoon leader has under his control the brigade's DS distribution assets. The primary focus of the S&T platoon leader in a tactical scenario is conducting resupply pushes to the FSC's distribution assets and receiving resupply from divisional or corps assets. The S&T platoon leader has the responsibility for the brigade's ASLs and supplies. Although the S&T platoon leader works for the HDC company commander, he or she receives taskings from the battalion support operations section. Within the S&T platoon, there is a warrant officer supply technician and two senior supply NCOs.

Headquarters Section

3-76. The supply and transportation platoon headquarters provides coordinated supervision of the distribution of all classes of supply coming to or passing through the HDC. The S&T platoon in the HDC is the primary provider in the BSA. The platoon is highly mobile and outfitted with equipment that allows them to keep up with the maneuver elements and operate in all weather conditions and environments.

Stock Control and Warehouse Section

3-77. This section utilizes SARSS-1 and related automated systems to provide ASL stock control, receipt, storage, and issue management. The stock control supervisor must ensure that daily start-up and closeout procedures are followed IAW ADSM 18-L1Y-AJT-ZZZ-EM (SARSS 1), ADSM 18-L1Y-AJT-ZZZ-UM (SARSS 1), and IAW the schedule of operations established by the DISCOM SPO. Automated document processing and warehousing operations will be conducted IAW AR 710-2, AR 710-2-1, this FM/TTP, ADSM 18-L1Y-AJT-ZZZ-EM (SARSS 1), ADSM 18-L1Y-AJT-ZZZ-UM (SARSS 1), and unit SOP.

3-78. The stock control and warehousing section should be collocated to facilitate on-site item management and inventory control. The stock control section will:

- Operate the SARSS-1 system.
- Maintain a current ASL listing for all supported commodities.
- Process receipts and requests for issues and turn-ins.
- Provide material release instructions to the warehouse section.
- Process turn-ins to maintenance (for reparable items).
- Perform periodic location surveys to ensure location accuracy.
- Process inventory adjustments and create necessary reports.
- Maintain coordination and provide general supervision over supporting signal assets.
- The warehouse section will:
- Establish storage and issue facility for all supported commodities.
- Perform receipt, storage and issue of all supported commodities.
- Coordinate with support operations for delivery/ pickup of issued assets and turn-ins (to maintenance and/or for disposal).
- Perform storage and inventory management activities as directed by stock control.

Class I And General Supply Section

3-79. The general supply section receives, stores, and issues Class II, III(P), IV, and VII in direct support to the brigade units. It receives and issues Class I at the field ration issue point.

Class III Section

3-80. The Class III section provides reinforcing Class III(B) DS resupply to the FSCs (one-half day supply), engineer support element, and area support to brigade units. It provides retail capability to individual vehicles of the FSB, vehicles internally to the HDC, brigade recon troop, and HHC brigade. The section also provides supply point distribution to other units within the BSA.

ATP Section

3-81. The ammunition transfer point (ATP) section provides the brigade Class V ammunition transfer capability from corps or EAB transportation assets to FSC or other unit vehicles.

Class IX Supply Section

3-82. Provides Class IX DS to brigade units. This section receives, stores, and issues Class IX and also maintains the brigade's authorized stockage list (ASL) and provides direct exchange for reparable items. This section is designated as the alternate HDC command post/support operation center.

Distribution Section

3-83. The distribution section provides direct transportation support to the brigade. This section also provides distribution support of supplies to the FSCs.

3-84. Within the distribution section is the water distribution team that provides vehicles and personnel for delivery of water forward to the FSCs and maneuver units. Corps assets set up and operate the water distribution point in the BSA, from which the HDC water distribution team can obtain water to take forward to the FSCs.

Chapter 4

Brigade Support Company

ORGANIZATION AND MISSIONS

4-1. Mission. To provide field maintenance to the brigade HHC, the brigade reconnaissance (recon) troop (BRT), the FSB forward support medical company (FSMC), the headquarters and distribution company (HDC), and itself. It also provides limited back up maintenance to the forward support companies (FSCs) and divisional units in the brigade area. The BSC also provides direct support maintenance to FA units that are part of the brigade. To provide direct and habitual combat service support to a divisional engineer battalion, less class VIII and medical support. These functions include the following:

- Field maintenance (organizational and DS).
- Management of Class IX spares (PLL & shop stock).
- Providing all classes of supply to an engineer battalion.

Figure 4-1 shows the BSC organization. The BSC depends upon the following:

- Headquarters and distribution company, FSB, for religious support, personnel administration support, and food service support.
- FSMC, FSB, for combat health support and patient evacuation.
- The support operations, FSB, for movement, maintenance, and distribution management.
- Appropriate elements of the division or corps for legal, finance, personnel, and administrative support.
- Resupply of Class IX from EAB on a daily basis unless otherwise directed by higher headquarters.
- Corps water elements for water point resupply.
- Corps elements for fuel and electrical (F&E), communications and electronic passback teams, allied trade, and mortuary affairs.

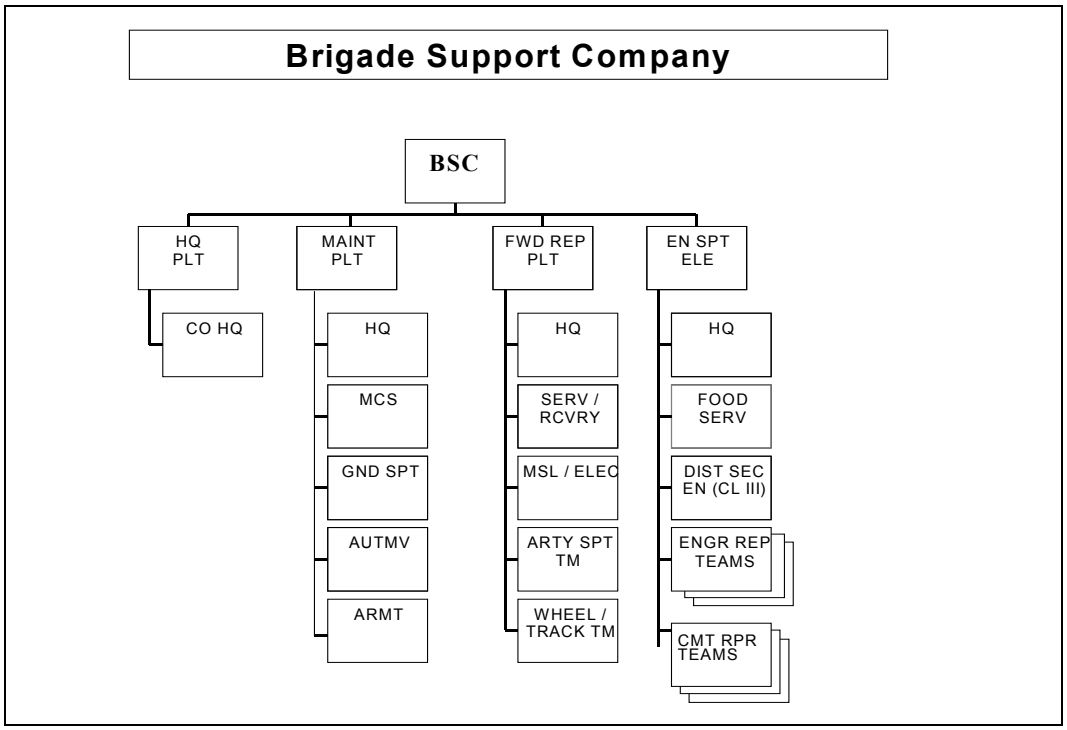


Figure 4-1. Brigade Support Company

PLATOON/SECTION FUNCTIONS

HEADQUARTERS PLATOON

Company Headquarters Section

4-2. The company headquarters section of the BSC provides command and control of assigned and attached personnel, coordinates area support within the BSA, and coordinates reinforcing support to the FSCs as required. The company headquarters directs the operations of the subordinate sections. In addition to C2 responsibilities, this section is also responsible for unit-level supply and training.

COMPANY COMMANDER

4-4. The BSC company commander is responsible to the FSB commander for the discipline, combat readiness, and training of the BSC, direct support to the supported maneuver brigade, and for the maintenance of BSC equipment.

4-5. The commander is responsible for everything the BSC does or fails to do. He must be proficient in the tactical employment of the company and its assigned and attached CSS elements. The commander must also know the capabilities and limitations of the company's personnel and equipment in performing the CSS

mission as well as those of CSS elements attached to him. Additionally, his responsibilities include leadership, discipline, tactical employment, training, administration, personnel management, supply, maintenance, communications, and sustainment activities of the company.

4-6. 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.

4-7. 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.

4-8. The company commander’s responsibility in combat is threefold. He will:

- Accomplish all missions assigned to the BSC in accordance with the FSB commander's intent and will support the brigade commander's scheme of maneuver with CSS.
- Preserve the fighting capability of the supported brigade and the BSC. Must maintain continual communications with higher, lower, and adjacent units.
- Retain connectivity of STAMISs and FBCB2 with the FSB.

COMPANY EXECUTIVE OFFICER

4-9. The company executive officer is the company's second in command and its primary internal CSS planner and coordinator. He and the company headquarters personnel serve as the company's battle staff and operate the company CP and net control station (NCS) for both radio and digital traffic. The company executive officer's other duties include the following:

- Continuous battle tracking.
- Ensure accurate, timely tactical reports are sent to the FSB TOC.
- Assume command of the company as required.
- In conjunction with the 1SG, plan and supervise the company CSS and defense effort before, during, and after the battle.
- Prepare the company OPORD for the commander and the concept of support for the brigade OPORD.

- Conduct tactical and logistical coordination with higher, adjacent, and supported units.
- As required, assist the commander in issuing orders to the company, headquarters, and attachments.
- Conduct additional missions as required. These may include serving as OIC for the quartering party, company movement officer, or company training officer.
- Assist the commander in preparations for follow-on missions.

FIRST SERGEANT

4-10. The 1SG is the company's senior NCO and normally is 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 company's primary internal CSS operator and helps the commander and support operations officer to plan, coordinate, and supervise all logistical activities that support the company's mission. He operates where the commander directs or where his duties require him.

4-11. The 1SG's specific duties include the following:

- Execute and supervise routine operations. The 1SG'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 1SG may observe and report on the company's base, proof fighting positions, or designing and ensuring emplacement of the defensive perimeter.
- Assists in planing, rehearsing, and supervising key logistical actions in support of the tactical mission. These activities include resupply of Class I, III, and V products and materials; maintenance and recovery; medical treatment and evacuation; and replacement/return to duty (RTD) processing.
- Assists and coordinates with the support operations in all critical functions.
- As necessary, serves as quartering party NCOIC.
- Using FBCB2 transmit company rollup reports LOGSITREP and PERSITREP. Transmit call for support (CFS) for immediate resupply for Class III/IV/V or recovery missions using FBCB2 (as required).

- 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

4-12. 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 1SG and the support operations officer. Normally, the supply sergeant will be positioned in the BSA where he is supervised by the executive officer. The supply sergeant's specific responsibilities include the following:

- Control the company cargo truck, resupplies the water trailer, and supervise the supply clerk/armorer.
- Monitor company team activities and/or the tactical situation; anticipate and report logistical requirements using FBCB2; and coordinate and monitor the status of the company's logistics requests.
- Coordinate and supervise the issue or delivery of supplies to the platoons or sections.
- Provide order, receipt, and issue capability for Classes I, II, III(P), IV, V, and VI through supply STAMIS (either ULLS-S4 or GCSS-A).

NBC NCO

4-13. The NBC NCO assists and advises the company commander in planning for and conducting operations in an NBC environment. He plans, conducts, coordinates, and/or supervises NBC defense training with the 1SG and covers such areas as decontamination procedures and use and maintenance of NBC-related equipment. Specific duties include the following:

- Assist the commander in developing company operational exposure guidance (OEG) in accordance with OEG from higher headquarters.
- Make recommendations to the commander on NBC survey and/or monitoring, decontamination, and smoke support requirements.

- Requisition NBC-specific equipment and supply items.
- Assist the commander in developing and implementing the company team NBC training program. The NBC NCO ensures that the training program covers the following requirements:
  - First-line supervisors provide effective sustainment training in NBC common tasks.
  - The NBC-related leader tasks are covered in sustainment training.
  - The NBC-related collective tasks are covered in overall unit training activities.
  - The NBC factors are incorporated as a condition in the performance of METL tasks.
- Inspect company elements to ensure NBC preparedness and report to the commander the findings.
- Process and disseminate information on enemy and friendly NBC capabilities and activities, including attacks.
- Advise the commander on contamination avoidance measures.
- Coordinate, monitor, and supervise decontamination operations.

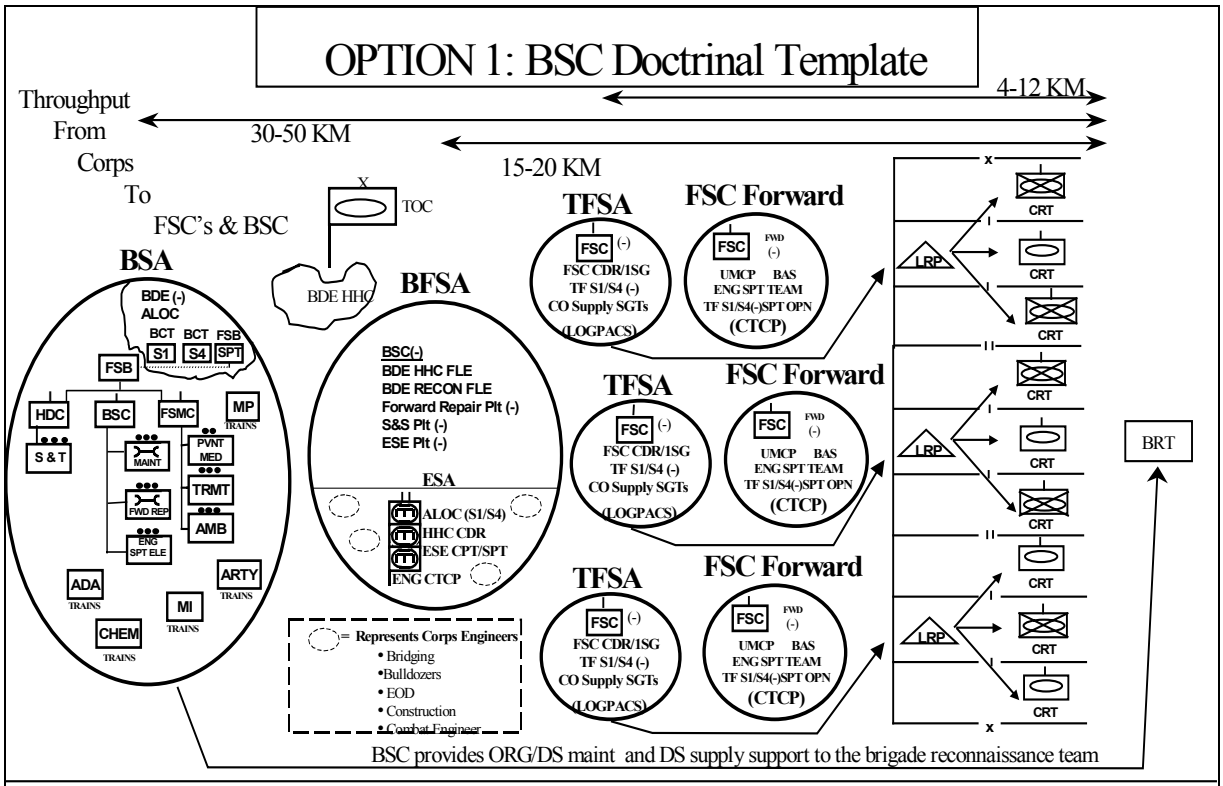
ARMORER

4-14. The armorer performs organizational maintenance on the company's small arms and is responsible for evacuating weapons as necessary to the maintenance platoon or to the brigade 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 1SG's vehicle to make him more accessible for weapons repair and maintenance in forward areas.

ENGINEER SUPPORT ELEMENT

4-15. The engineer support element (ESE) is a multi-functional unit that includes a food service section, a distribution section, and maintenance sections organized to provide habitual support to divisional engineer battalion. The new engineer support element is as mobile as the unit it supports. It is modular enough to be broken into three multi-functional engineer support teams (EST), each capable of providing habitual combat service support to an engineer company. These ESTs can co-locate or be attached to maneuver FSCs that are in support of the battalion task force that the supported engineer company is in support of. The ESE can also consolidate all of the ESTs with the ESE headquarters and form a separate engineer task force support area based on METT-TC. Listed below in Figures 4-2, 4-3, and 4-4 are three potential

support options available to the ESE in the BSC to provide CSS to the engineer battalion, METT-TC dependent.



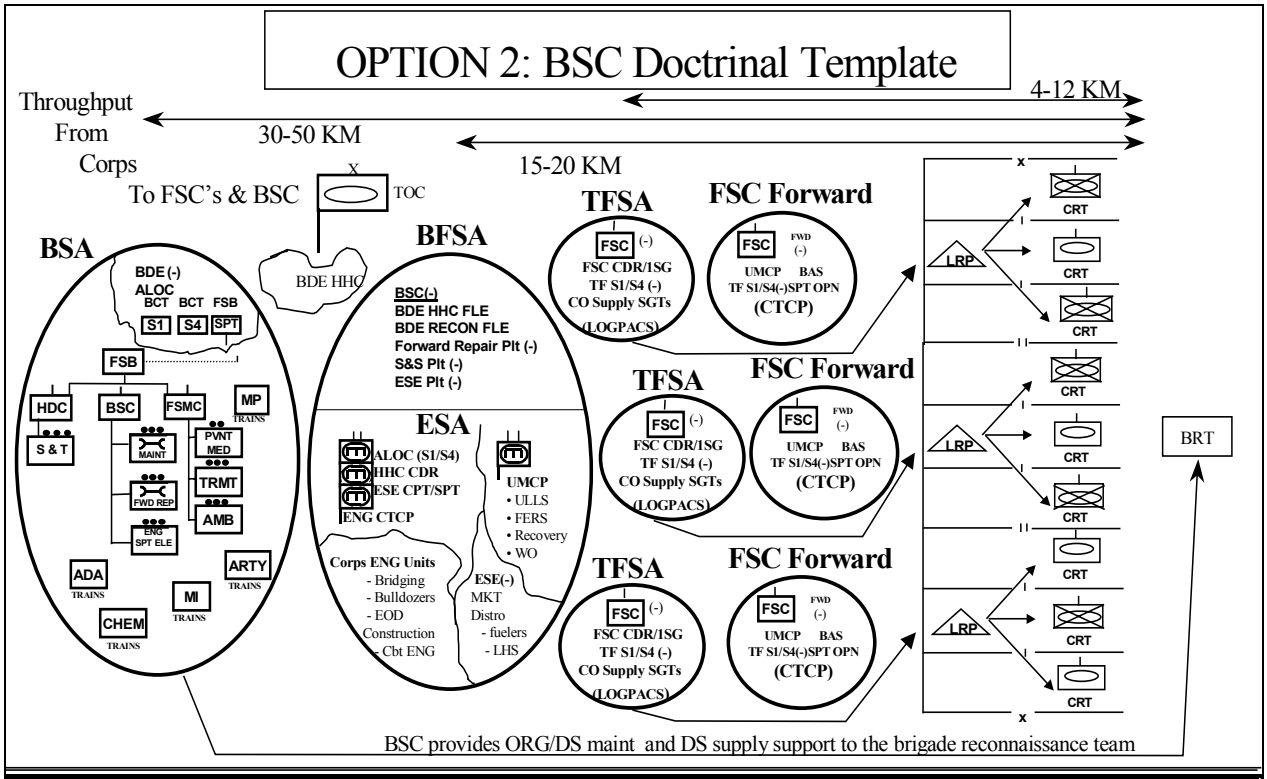
Advantages		Disadvantages
- HHC BDE & BDE Recon Spt Fwd (20-30k)	- Corps ENG units in BFSA footprint owned by FSB	- Burden on FSC CDR (more soldiers with EST)
- C2 of FSC tied to Task Force	- ESE CPT, WO, Plt Sgt to BSC as MATO or LNO	- Harder to Task Organize
- ENG Spt Forward in FSCs	- Reduces BSC Span of Control	- Loss of C2 to ENG & visibility to ENG C-O-C
- ENG Parts Pushed to FSC'c (ULL-S Box)	- LOGPACs goes forward from FSC to TF consolidated	- ENG rank heavy, complicates C2 relationship with BSC elements within BFSA
- Force Protection/Mayor of BFSA is ENG responsibility	- FSB Cdr may echelon key assets forward	- Force Protection/Mayor of BFSA is ENG Responsibility
		- ENG OR <u>may</u> suffer at TF UMCP

Figure 4-2. BSC Engineer Support, Option 1

OPTION 1: Engineer Support Teams (EST's) Forward to FSC's with Engineer Command and Control (C2) located at the Engineer Combat Trains Command Post (CTCP) located in the Engineer Support Area (ESA) within the Brigade Forward Support Area (BFSA).

- Forward Engineer Repair Section (FERS) of the Engineer Support Teams collocate at TF UMCPs.
- Engineer Support Element (ESE) HEMTT Fuelers, LHS, and cooks collocate with respective FSC to support Engineers.

- Engineer ALOC (S1/S4), ENG Bn HHC Commander, and ESE CPT/Support Operations section collocate at the Engineer CTCP to provide C2 for Engineer support effort.

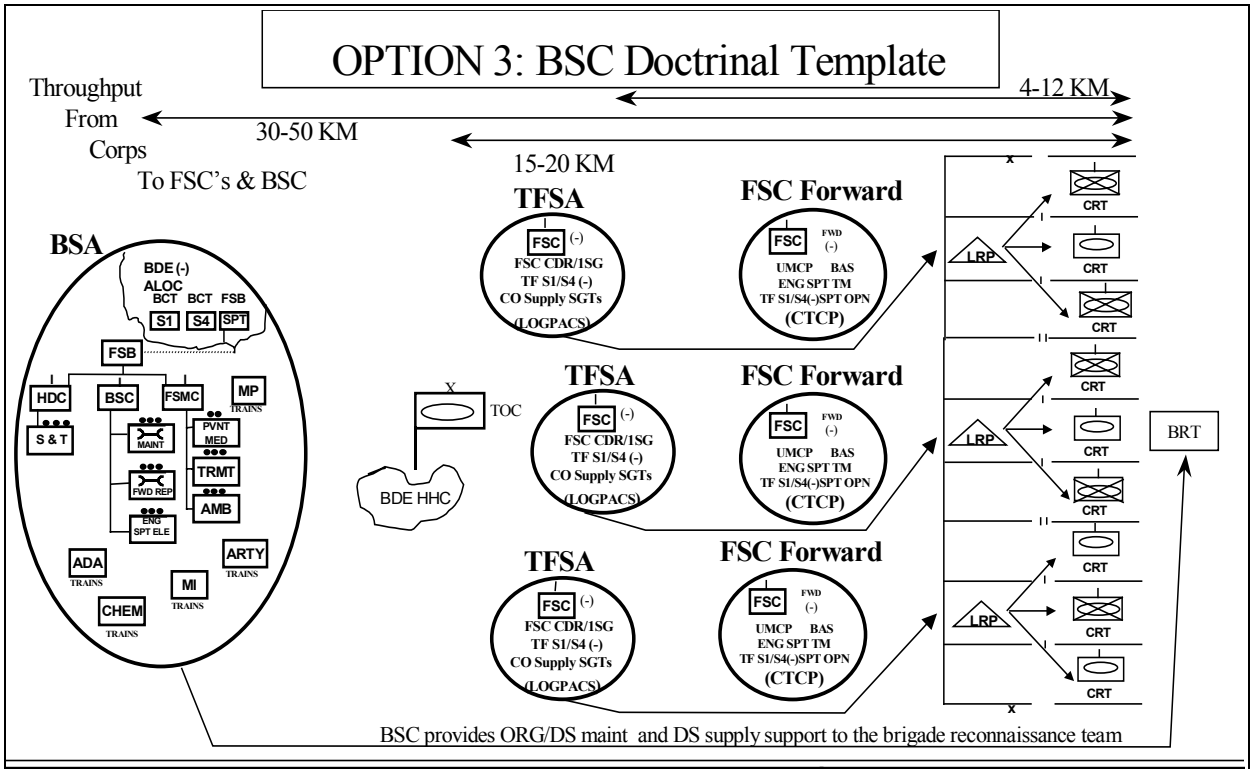


Advantages	Disadvantages
- HHC BDE & BDE Recon Spt Fwd (20-30k) - C2 of FSC tied to Task Force - ENG Spt Forward in FSCs - ENG Parts Pushed to FSC'c (ULL-S Box) - Force Protection/Mayor of BFSA is ENG responsibility - Corps ENG units in BFSA footprint owned by FSB - ESE CPT, WO, Plt Sgt to BSC as MATO or LNO - Reduces BSC Span of Control - LOGPACs goes forward from FSC to TF consolidated - FSB Cdr may echelon key assets forward	- Burden on FSC CDR (more soldiers with EST) - Harder to Task Organize - Loss of C2 to ENG & visibility to ENG C-O-C - ENG rank heavy, complicates C2 relationship with BSC elements within BFSA - Force Protection/Mayor of BFSA is ENG Responsibility - ENG OR may suffer at TF UMCP

Figure 4-3. BSC Engineer Support, Option 2

OPTION 2: The Engineer Support Element (ESE) from BSC is located in the Engineer Support Area (ESA) within the Brigade Forward Support Area (BFSA) with the CRTs forward supporting the Engineer Companies. Engineer Command and Control (C2) located at the Engineer Combat Trains Command Post (CTCP) located in the ESA within the BFSA.

- Forward Engineer Repair Sections (FERS) consolidate and collocate at the Engineer UMCP located within the ESA under C2 of ESE CPT/WO. All mechanics consolidated to work on Engineer equipment.
- ESE HEMMT Fuelers LHS's, and all cooks with MKT collocate within ESA.
- Engineer ALOC (S1/S4), Engineer BN HHC Commander, and ESE CPT/Support Operations section collocate at the Engineer CTCP to provide C2 for the Engineer Support effort.



Advantages		Disadvantages
- Not obligated to tie your ENG C2/SPT to ENG ALOC/HHC CDR/ESA - Force Protection becomes a supported unit issue - Simplifies support - Not another node on battlefield to C2, support, communications, MSRs, etc...	- Assets in two locations, forward at FSCs or in BSA supporting division rear. Can always reinforce forward as necessary.	- Burden on FSC CDR (22 soldiers) - Harder to task organize - Loss of C2 to End & visibility to ENG C-O-C. - Eng will not want/support

Figure 4-4. BSC Engineer Support, Option 3

Option 3. Engineer Support Teams (ESTs) are forward to FSCs. There is no BFSA. Engineer Support Element C2 (CPT/WO/Support Operations) has several options available as stated below. HHC BDE and BDE recon team supporting

forward logistics elements (FLE's) collocate with their supported unit for force protection.

- Forward Engineer Repair Section (FERS) collocated at TF UMCPs and Combat Repair Teams (CRTs) are located forward with Engineer Companies.
- ESE C2 has options to 1) Float within battlespace 2) Forms as a BSC MATO section to monitor and track Engineer support from BSA 3) Collocates with FSB Support Operations to monitor and track Engineer support from BSA 4) Collocates with Engineer Support Area (ESA) within BDE battlespace.
- Engineer Support Element (ESE) HEMTT Fuelers, LHSs and cooks collocate with respective FSC to support Engineers.

Element Headquarters

4-16. The headquarters section of the engineer support element provides command and control of assigned and attached personnel and supervision for the administrative functions of the other sections. This section acts as a support operations cell for the engineer battalion, which coordinates and provides technical supervision for the ESE's CSS mission. This mission includes DS supply, field maintenance, and the coordination of transportation and field services. The headquarters section collocates with the engineer BN S1/S4 representatives. This physical location on the ground where the support operations tracked vehicle co-locates with the engineer BN tracked vehicle is called the combat trains command post (CTCP). This section is responsible for conducting all of the tasks for the engineer BN that the support operations section of the FSC provides to a maneuver TF. The section has a small maintenance team that provides field maintenance to the engineer battalion headquarters. Through the direction of higher headquarters, it coordinates all training activities for assigned personnel.

Food Service Section

4-17. The food service section provides Class I support to the engineer battalion through the use of mobile kitchen trailers (MKTs) and kitchen company level field fielding (KCLFF). This section can operate as a complete mess section or it can be split into the three engineer support teams and operate out of the FSCs mess sections providing Class I support to the engineer companies. When the section is not consolidated the engineer CTCP will get its mess support from the HDC.

Distribution Section

4-18. The function of the distribution section is to provide POL and supply distribution to the engineer battalion. This section consists of HEMTT fuelers that distribute retail Class III in support of the

engineer battalion and HEMTT load handling systems (LHS) for dry cargo. The distribution section can operate as part of the section or be separated equally as a part of the three multi-functional ESTs.

Forward Engineer Repair Team (X3)

4-19. The forward engineer repair team provides dedicated field maintenance to an engineer company out of an existing UMCP, usually that of the FSC that is in support of the BN/TF supported by the engineer company. This section provides a modular base maintenance capability that can follow the engineer company where ever it goes and complete those repairs that the CRTs are unable to perform based on METT-TC.

Combat Repair Teams (X3)

4-20. The engineer battalion's first level of support comes from the ESE CRTs, which are organized to provide field maintenance (organizational and direct support maintenance levels) for all engineer platforms organic to combat engineer companies. The supported company commander and the ESE OIC set the CRT's priorities. The CRT operates under the operational control of the engineer company 1SG and is supervised by the CRT's maintenance NCOIC.

4-21. The scope and level of repairs are based on METT-TC. The CRTs perform repairs as far forward as possible returning the piece of equipment to the battle. During combat, CRTs will perform BDAR, diagnostics, and on-system replacement of LRUs. Emphasis is placed on troubleshooting, diagnosing malfunctions and fixing the equipment by component replacement. If the tactical situation permits, CRTs focus on completing jobs on site, if not the jobs are evacuated to the TF UMCP for the forward engineer repair team to complete. The CRTs carry limited on board combat spares to help facilitate repairs forward. If inoperable equipment is not repairable, due either to METT-TC or a lack of repair parts, the team uses recovery assets to assist the engineer company and may as necessary recover inoperable equipment to the UMCP or designated linkup point. The CRTs are fully integrated into the engineer unit's operational plans.

4-22. The CRT and the forward engineer repair teams work together on annual and semi-annual services to the engineer company's equipment. DS work orders are tracked by the BSC MCS. The MCS gives the CRT a block of work order numbers to track equipment repair. The CRT NCOIC uses the free text message on the CFS via FBCB2 to update the MCS on work order status. The CRT opens a DS job by completing a DA Form 2407 after the equipment is repaired.

BASE MAINTENANCE PLATOON

4-23. The base maintenance platoon provides field maintenance (organizational level and direct support level maintenance) to the HDC FSB, HHC brigade, brigade recon troop, FSMC, BSC, and backup support to the engineer battalion. This platoon also provides DS base shop commodity specific maintenance to the entire maneuver brigade. On an area basis, it provides DS maintenance to brigade units within the BSA, and limited reinforcing and back-up support to the FSCs. The maintenance control section (MCS) maintains the STAMIS management systems and serves as the focal point for all maintenance activity. The automotive maintenance section provides base shop field maintenance on wheel and track vehicles. The ground support equipment (GSE) repair section provides base shop field maintenance on all power generation and refrigeration equipment. The armament maintenance section provides base shop line replaceable units (LRUs), armament and small arms repair capability. Maintenance advances such as multi-capable maintainer, advanced diagnostics and prognostics maintenance, and the introduction of the forward repair system (FRS) enhances the platoon’s capabilities.

4-24. Using ULLS-G, the platoon provides all TAMMS functions, dispatching, and scheduled services for the HDC FSB, BSC, HHC brigade, FSMC, and the brigade recon troop. The platoon performs on and off system maintenance. It performs system diagnostics, LRU, armament, and wheeled and tracked vehicle repairs. The FSB support operations section in coordination with the supported maneuver brigade commander's intent sets its priorities. The brigade's maintenance priorities are sent through the FSBs support operations section to the base maintenance platoon MCS. The platoon performs battle damage assessment and repairs (BDAR) IAW applicable technical manuals. When authorized, the maintenance platoon uses controlled exchange and/or cannibalization in order to expedites equipment repairs. METT-TC dictates the type and level of repairs. The platoon is normally located near the Class IX section of the supply and transportation platoon and maintenance platoon. Teams may maintain limited combat spares (PLL and shop stock) in order to facilitate repairs during contact maintenance support missions. The BSC base maintenance platoon also coordinates its backup and pass-back (those maintenance functions that were removed from the division and given to the corps) maintenance requirements with the FSB support operations section.

4-25. This maintenance platoon operates maintenance collection points (MCP). The MCS coordinates recovery and evacuation for the FSC maintenance platoon. Corps maintenance plugs may be available for backup and component repair. The goal of base maintenance platoon operations is to return as many combat systems to the battle as possible.

Platoon Headquarters Section

4-26. The headquarters section of the maintenance platoon provides command and control of assigned and attached personnel and supervision for the administrative functions of the other sections. Through the direction of higher headquarters, it coordinates all training activities for assigned personnel.

Maintenance Control Section

4-27. The maintenance control section provides maintenance management for units operating within the BSA. The MCS uses three management tools: ULLS-G, SAMS-1, and FBCB2. The MCS receives call for support messages through FBCB2. With the introduction of GCSS-Army, maintenance functionality will be consolidated in the maintenance module. The MCS is located in close vicinity of the Class IX section during operations in the BSA.

4-28. The MCS tracks the CFS through the “task management” file in FBCB2. In turn, these CFS are entered into ULLS-G (for jobs formally classified as organizational) or SAMS (for jobs formally classified as DS).

4-29. The MCS is the manager for all field maintenance and recovery mission actions within the BSC, base maintenance, forward repair and engineer support elements. This includes managing TAMMS, performing dispatching, and managing scheduled services for the HDC FSB, BSC, HHC brigade, FSMC, engineer battalion, and brigade recon troop using ULLS-G. The ULLS-G boxes are collocated with the maintenance control section. The ULLS-G clerks input the DA Form 5988-E completed by the operator or crew. This section provides the technical inspectors, monitors the job orders, and maintains limited combat spares (PLL and shop stock). The technical inspectors are responsible for all aspects of quality assurance, technical inspection, and quality control for DS maintenance activities of the company. The MCS provides maintenance management information to the FSB support operations section. It also provides maintenance management information to the FSB support operations section by transmitting maintenance data from the MCS's SAMS-1 box to the FSB support operations section SAMS-2 box.

4-30. If a vehicle is non-mission capable for organizational level maintenance, the ULLS-G operator enters that information into the ULLS-G computer. If vehicles require DS level maintenance, an automated maintenance request from ULLS-G or a completed DA Form 2407 is entered into SAMS. If maintenance sections exceed either capabilities or capacities, the MCS can request backup maintenance support through the FSB support operations section from the corps.

4-31. The MCS receives missions from:

- Supported units via FBCB2, voice, or face-to-face.

- The FSB support operations section as backup support to the FSC.

4-32. All requests for maintenance support flow through the FSB support operations section. The maintenance message flow begins when the MCS receives a CFS from the FSB support operations section. The MCS forwards a logistic task order (LTO) to the appropriate maintenance section (automotive maintenance, ground support equipment repair, or service and recovery) via FBCB2. The section responds to the LTO with one of the acknowledgment messages. The requesting operator/crew receives a copy of the acknowledgment message so that the operator is always kept informed on the status of the CFS. When the LTO is accepted, the section NCOIC synchronizes/coordinates support with the requesting unit and sends a mechanic to the location identified, coordinated, and agreed upon to repair the system. If the mechanic does not have the combat spare on-hand to complete the repair, he sends a message via FBCB2 to the MCS requesting the required repair parts. When the parts are readily available, the mechanics replaces the part forward at the breakdown site or at the UMCP. When required repair parts are not on-hand, the MCS orders appropriate parts through ULLS-G (organizational) or SAMS (direct support). When parts are not available or when the part has a long order ship time, the unit recovers the vehicle to the TFSA or BSA. As necessary, the MCS coordinates with the FSB support operations section to evacuate the system to a corps unit for repair.

Automotive Maintenance Section

4-33. The automotive maintenance section provides field maintenance for the HDC FSB, BSC, HHC brigade, FSMC, and the brigade recon troop. The automotive maintenance section provides base shop and limited on-site field maintenance for brigade's wheel and track vehicles not habitually supported by a FSC and which do not otherwise have a dedicated internal or external wheeled/tracked maintenance support capability. As directed by the MCS, this section also provides DS maintenance on an area support basis to units operating within the BSA and limited Abrams-series FUPP repair as required. This section provides backup maintenance support to the artillery support team and other supported units in the BSA. The flow of maintenance is the same as described in the MCS section.

4-34. This section is also responsible for conducting scheduled services on the equipment for the HDC FSB, BSC, HHC brigade, FSMC, and the brigade recon troop. After performing services, the mechanic fills out DA Form 5988-E and turns it into the maintenance control section.

Ground Support Equipment Repair Section

4-35. The GSE section provides field maintenance on utility, chemical, power generation, construction, refrigeration, and all

quartermaster equipment to the HDC FSB, BSC, HHC brigade, FSMC, and the brigade recon troop and on an area basis for units operating in the BSA. The flow of maintenance is the same as described in the MCS section. Provides back-up field maintenance support for maneuver brigade elements as required.

Armament Section

4-36. The armament repair section provides armament, turret, fire control systems, small arms, and artillery component repair for the brigade. It provides field maintenance support to all maneuver brigade units not habitually supported by a FSC, and backup field maintenance support to other brigade elements as required. It also provides backup armament maintenance support to the FSC. Armament diagnostics equipment, such as direct support electrical system test set (DSESTS), is located in this section in the forward repair platoon, BSC. Equipment that needs testing is recovered to the TFSA or BSC in the BSA, as dictated by METT-TC. The section's mechanics have the capability to take DSESTS forward to the UMCP location in the TFSA or FSC forward to test and repair the inoperable combat system.

FORWARD REPAIR PLATOON

4-37. The forward repair platoon provides field maintenance to brigade and divisional units not supported by FSCs or the DSB on an area basis. The service and recovery section provides welding services and limited recovery/lift support. The missile/electronic maintenance support team provides land combat missile systems (LCMS) and communications/electronic maintenance support either forward on-site, or at the base shop as directed by the MCS. The artillery support section provides on-site DS level maintenance to the artillery battalion in support of the brigade. The wheel/track section is capable of providing contact (on-site) support to the brigade headquarters, the brigade recon troop, engineer battalion, and reinforcing support to the FSCs as directed and also provides limited reinforcing and back up support to the FSCs.

Platoon Headquarters Section

4-38. The headquarters section of the forward repair platoon provides command and control of assigned and attached personnel and supervision for the administrative functions of the other sections. Through the direction of higher headquarters, it coordinates all training activities for assigned personnel.

Service And Recovery Section

4-39. The service and recovery section provides welding and recovery/lift support to the HDC FSB, BSC, FSMC, HHC brigade,

the brigade recon troop, and other units operating in the BSA. The section provides limited recovery/lift support, on an area basis, to all other units within the BSA. The section also provides backup support to the FSC.

4-40. Items that cannot be repaired on-site are recovered to the UMCP or BSA. The use of FBCB2 enables recovery vehicles to identify the exact location of an inoperable piece of equipment. Units in the brigade rear need to establish a detailed maintenance SOP in coordination with the FSB for how they receive maintenance support. Normally the operator of the non-mission capable vehicle in the brigade rear sends a CFS message to his 1SG to be forwarded to the FSB support operations section that sends a LTO to the MCS of the base maintenance platoon. The MCS sends a LTO via FBCB2 to the section NCOIC. Upon notification, the section sends an acknowledgment message to the MCS. The operator and crew receive a message from the maintenance activity accepting the maintenance request for recovery at the same time. Through the entire sequence of events the operator/crew is updated on the status of the FBCB2 CFS.

Missile/Electronic Maintenance Section

4-41. The missile/electronic support section provides field maintenance for the BSC, FSMC, HDC FSB, HHC brigade, engineer battalion, and the brigade recon troop. The missile support teams provide support for all land combat missile systems (LCMS) for the entire maneuver brigade. CE/COMSEC, special electronics devices, night vision, surveillance radar systems, automation hardware DS level repair, and component repair support. This section also provides limited backup radio repair for the FSC. Equipment that needs testing is recovered to the TFSA/FSC forward or BSC in the BSA, as dictated by METT-TC. Corps provides backup support to the BSC.

Artillery Support Team

4-42. The artillery support team provides DS maintenance support to the field artillery battalion in support of the brigade. It also provides wheeled and tracked vehicle repair, armament support, and limited power generation repair. When a vehicle becomes non-mission capable, the operator sends a call for support to the unit maintenance officer (UMO) formerly called the battalion maintenance technician. If the UMO needs assistance from the artillery support team, he sends a call for support to the team NCOIC. The team NCOIC sends an acknowledgment message. If the team needs backup support, the NCOIC sends a call for support to the MCS.

Wheel/Track Contact Team

4-43. The wheel/track contact repair team provides backup support to the FSC CRTs and engineer support element as directed by the

MCS. It also provides contact (on-site) maintenance support, on an area basis, to all other units within the BSA and the brigade recon troop. The FSC MCS sends a call for support through the FSC support operations section requesting assistance from the wheel/track contact repair team. The FSC support operations section forwards the call for support to the FSB support operations section. The logistic task order is sent to the BSC MCS and the MCS acknowledges the message. The BSC MCS sends the task order to the wheel/track contact repair team NCOIC. The team NCOIC sends an acknowledgment message to the MCS and operator/crew. Teams move forward to support the FSC.

Chapter 5

Forward Support Medical Company

ORGANIZATION AND MISSIONS

5-1. The forward support medical company (FSMC) has the overall mission of providing Echelon I and Echelon II CHS on a direct support (DS) basis for the supported maneuver brigade. It provides C2 for organic elements and attached medical units. The FSMC is dependent on appropriate elements of the corps, division, brigade, and FSB for patient evacuation (including air ambulance), CHS operations planning and guidance, and for legal, finance, and personnel and administrative services. It is also dependent on the HDC of the FSB for food service and religious support and the brigade support company for maintenance. The FSMC is organized into a company headquarters, a treatment platoon, an ambulance platoon, a preventive medicine (PVNTMED) section and a mental health (MH) section (see Figure 5-1). For more detailed information on the operations and functions of the medical company see FM 4-02.1 (8-10-1) (The Medical Company Tactics, Techniques, and Procedures). The company performs these functions:

- Treatment of patients with disease and non-battle injuries (DNBI), battle fatigue, and trauma injuries. It provides routine sick call, triage of mass casualties, advanced trauma management (ATM), surgical resuscitation/stabilization (when the forward surgical team (FST) from the corps is deployed/collocated with the FSMC), and preparation of patients incapable of returning to duty for further evacuation.
- Ground ambulance evacuation for patients from battalion aid stations (BASs) and designated patient collecting points.
- Emergency and sustaining dental care.
- Class VIII resupply and medical equipment maintenance for supported units.
- Medical laboratory and radiology services commensurate with Echelon II/division-level treatment (TRMT).
- Outpatient consultation services for patients referred from unit-level medical treatment facilities.
- Patient holding for up to 40 patients able to return to duty (RTD) within 72 hours.
- Limited reinforcement and augmentation to supported maneuver battalion medical platoons.
- Coordination with the UMT for required religious support.
- Preventive medicine consultation and support.
- Combat stress control to include management of battle fatigue and stress related casualties.

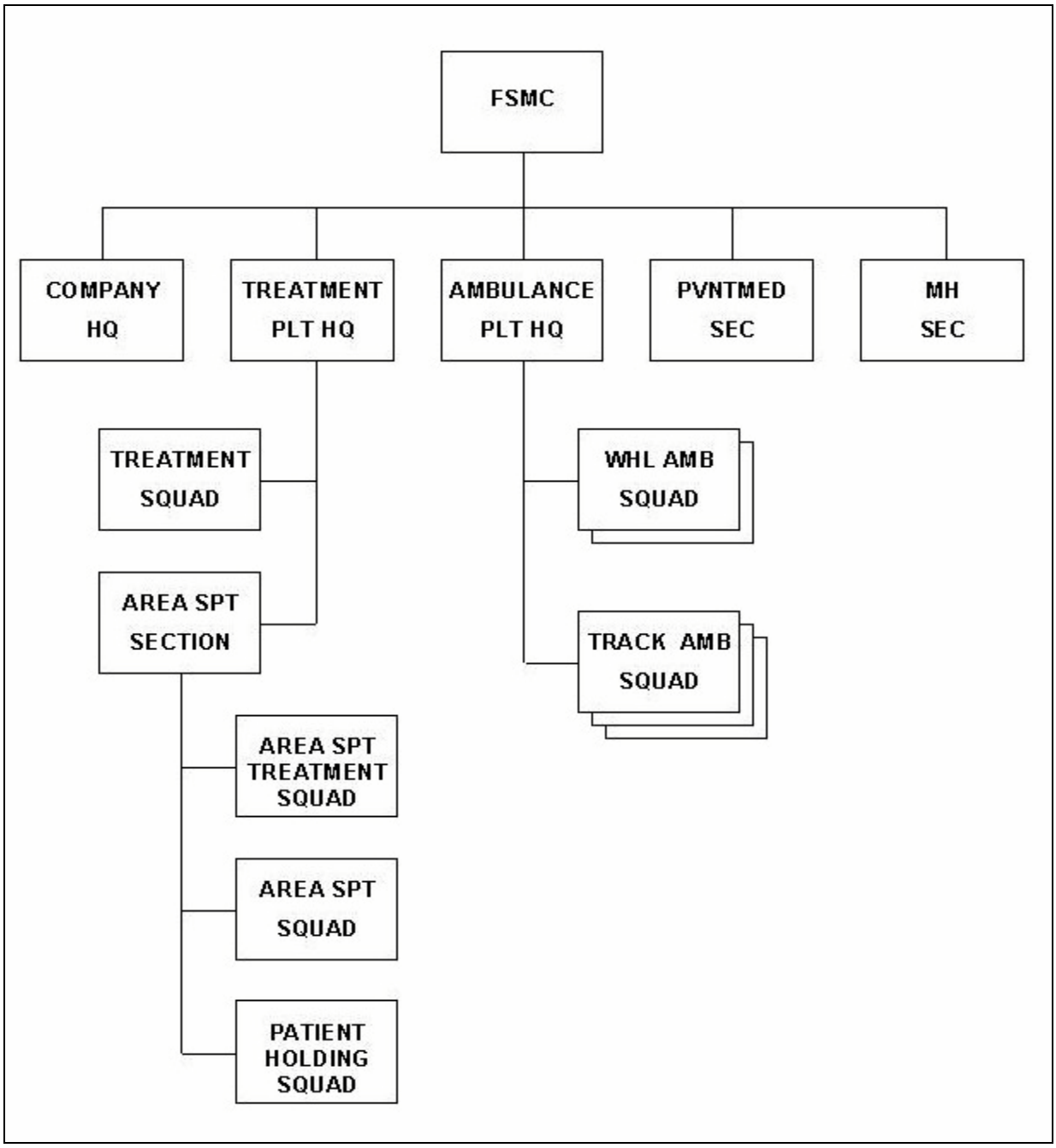


Figure 5-1. Forward Support Medical Company

PLATOON/SECTION FUNCTIONS

COMPANY HEADQUARTERS

5-2. The company headquarters is organized into a command element, a supply 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, NBC operations, and CE support to organic and attached elements. For communications, the company headquarters employs AM and FM tactical radios, units level computers, FBCB2, and a manual switchboard.

COMMAND ELEMENT

5-3. 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, and a first sergeant (1SG).

FSMC Company Commander

5-4. Currently, the FSMC commander positions are documented 05A, AMEDD immaterial, meaning any qualified AMEDD officer can assume command. When the FSMC commander in not a physician, medical decisions and technical supervision of any physician assigned to the FSMC is performed by the senior physician assigned to the FSMC. The FSMC commander keeps the FSB commander informed on the CHS aspects of FSB operations and the health of the command. He regularly attends FSB staff meetings to obtain information to facilitate the execution of medical operations. He provides staff estimates and assists the health service support officer (HSSO) and the brigade surgeon's section (BSS) medical planner as required, with the development of the FSB and brigade CHS plan. Specific duties of the FSMC commander include:

- Ensuring implementation of the CHS section of the TSOP.
- Coordinating and synchronizing the execution of the brigade's CHS plan while ensuring efficient and effective utilization of medical assets.
- Supervising the technical training of medical personnel and combat lifesavers in the FSB and supported units as required.
- Determining procedures, techniques, and limitations in the conduct of routine medical care, emergency medical treatment (EMT), and ATM.
- Monitoring requests for medical evacuation from supported units to ensure appropriate platform is used.

- Informing the FSB SPT OPNS/HSSO, DISCOM medical operations branch, and BSS of the FSMC's tactical and medical situation.
- Supervising the activities of subordinate physicians.
- Providing technical supervision of all PAs and medical section NCOs organic to supported units in the absence of their assigned physician.
- Monitoring the health of the command and advising the commander of preventive medicine measures (PMM) to counter DNBI.
- Providing the CHS information to the HSSO for use in developing the CHS estimates.

Field Medical Assistant/XO

5-5. The field medical assistant/XO is the company's second in command and its primary internal CSS/medical planner and coordinator. He and the company headquarters personnel serve as the company's battle staff and operate the company CP and net control station (NCS) for both radio and digital traffic. The field medical assistant/XO's other duties include the following:

- Continuous battle tracking.
- Ensure accurate, timely tactical reports are sent to the FSB TOC.
- Assume command of the company as required.
- In conjunction with the 1SG, plan and supervise the company CSS and defense effort before, during, and after the battle.
- Conduct tactical and logistical coordination with higher, adjacent, and supported units.
- As required, assist the commander in issuing orders to the company, headquarters, and attachments.
- Conduct additional missions as required. These may include serving as OIC for the quartering party, company movement officer, or company training officer.
- Assist the commander in preparations for follow-on missions.

First Sergeant

5-6. The 1SG is the company's senior NCO and normally is its most experienced soldier. He is the commander's primary medical and tactical advisor and he is an expert in individual and NCO skills. He is the company's primary internal CSS operator and helps the commander to plan, coordinate, and supervise all logistical activities that support the company's mission. He operates where the commander directs or where his duties require him. The 1SG's specific duties include the following:

- Execute and supervise routine operations. The 1SG'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 1SG may observe and report on the company's base, proof fighting positions, or designing and ensuring emplacement of the defensive perimeter.
- As necessary, serves as quartering party NCOIC.
- Using FBCB2 transmit company rollup reports LOGSITREP and PERSITREP. Transmit call for support (CFS) for immediate resupply for Class III/IV/V or recovery missions using FBCB2 (as required).
- Provide order, receipt, and issue capability for Classes I, II, III(P), IV, V, VI through supply STAMIS (either ULLS-S4 or GCSS-A).
- Conduct training and ensures proficiency in individual and NCO skills and small-unit collective skills that support the company's mission essential task list (METL).
- Receive incoming personnel and assigns them to subordinate elements as needed.
- Responsible for the evacuation of unit members killed in action to the supporting graves registration collection point.
- In conjunction with the commander, establish and maintain the foundation for company discipline.

SUPPLY ELEMENTS

5-7. 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 FSMC's organic platoons/sections and attached medical units. See FM 4-02.12 (8-10-9) for definitive information of Class VIII resupply operations and FM 10-14 and FM 10-14-1 for definitive information on unit supply operations and property accountability.

Medical Equipment Maintenance

5-8. The medical equipment repairer provides operational and unit-level medical equipment maintenance for the FSMC and the brigade. He exercises his responsibilities by:

- Scheduling and performing PMCS for the FSMC and all maneuver battalion medical platoons assigned to the supported brigade.
- 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 required to repair medical equipment.
- Maintaining a technical library of operator and maintenance 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.
- Requesting through MMMB for maintenance support services, repairable exchange, or replacement from the medical standby equipment program (MEDSTEP), see AR 40-61.

5-9. 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.

Supply Sergeant

5-10. 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 1SG and the support operations officer. The supply sergeant's specific responsibilities include the following:

- Control the company 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 HDC, FSB sections.

EMPLOYMENT OF THE FORWARD SUPPORT MEDICAL COMPANY

5-11. The FSMC locates with the FSB HDC in the BSA. The FSMC participates in the initial reconnaissance of a new setup area and assists with site selection for establishment of the FSMC.

Treatment teams from the FSMC may deploy, as required, to geographical locations of supported maneuver medical platoons or collocate with an ambulance exchange point (AXP) or any other METT-TC supported locations. The FSMC headquarters element coordinates for convoy clearances and security for the movement of treatment teams through the FSB support operations section.

5-12. Site selection is an important factor impacting on the accomplishment of the FSMC'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 MTFs established by the FSMCs should not be placed near high-value Level 1 threat targets, hazardous materiel (such as POL and ammunition), or storage areas and motor pools. 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 1.5 kilometers from breeding sites of flies and mosquitoes and 1.5 kilometers from native habitation, when possible.

5-13. 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.

5-14. 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 establishment of the FSMC is approximately 500 meters by 500 meters, equaling 2,500 square meters, or .5 kilometers by .5 kilometers. These 2,500 square meters includes the helipad and motor pool parking requirements. The actual space allotted to the FSMC will be based on METT-TC and the amount of space available to the FSB. The space to establish the treatment and administrative areas of the unit is dependent upon the mission and expected duration of the operation and whether NBC operations are anticipated. 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 factors of site selection, remember that terrain can impede line of sight communications systems.

5-15. Outside of the BSA 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 4-02.7 (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). The Geneva Conventions afford the medical unit a certain degree of protection from attack. The extent to which the combatants and irregular forces on the battlefield are adhering to the provisions of the Geneva conventions has a bearing on site selection in that it may dictate the degree of required security for the unit. The NATO STANAG 2931 (Edition 1) provides for camouflage of the Geneva emblem and 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.

Commander’s Plan And Mission

5-16. The specifics of the 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 that is expected to be used on an extended basis. For example, if the FSMC’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 pre-established shelters, if available, may be used.

Routes Of Evacuation And Accessibility

5-17. Although air ambulance is the primary and preferred method in the medical evacuation system, ground ambulances are required and used. The FSMC'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. Whether or not a route has been cleared or is being used by combat units should also be considered. Brigade designated MSRs should be identified and used in site selection planning.

Expected Areas Of Patient Density

5-18. To ensure the timely delivery of CHS, the FSMC's clearing station must be located in the general 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.

Establishment Of The Company Headquarters

5-19. The company headquarters must ensure that communication is established with the units within the FSB and BSA. All security precautions and requirements must be met according to FSB and BSA 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 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 FSMC area is established.

5-20. The command element supervises the establishment of the company. The commander monitors all elements as the company sets up. He ensures the FSMC 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 FSB TSOP and brigade 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 synchronize CHS 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 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 policies/procedures.

- Class VIII resupply.
- Area damage control.

5-21. The MC4 system will provide the commander and staff with enhanced command and control of subordinate platoons and the capability to collect and process medical information resulting from treatment encounters. Medical planners will be provided with near real-time medical situational awareness to enhance their ability to plan CHS operations in support of the maneuver battalion.

5-22. When NBC patient decontamination support is required, the supported units are responsible for providing non-medical 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 with medical company personnel. Additional personnel from the BSA 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 chemical patient treatment MES is stocked with enough supplies to treat 30 patients. Each patient decontaminate MES is stocked with enough supplies to decontaminate 60 patients.

5-23. 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. He monitors field sanitation team activities. The operations element assists in establishing the company headquarters. The NBC NCO supervises the company NBC team by monitoring its activities and use of unit NBC-monitoring equipment. He coordinates with other FSB units 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 MOPP clothing and equipment according to the current MOPP level and TSOP. The NBC NCO coordinates with PVNTMED section in cases of possible NBC contamination of food.

5-24. Unit personnel set up communications equipment and establish the net control station (NCS) for the company. They establish contact with the battalion headquarters and with supporting and supported units. Unit personnel also establish the internal wire communications net. They connect to the MSE area system at the wire subscriber access point operated by the area support signal element.

5-25. 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

5-26. The treatment platoon operates the FSMC's 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 and those elements identified in Figure 5-1. It is further broken down into a treatment squad and an area support section. The area support section consists of an area support treatment squad, an area support squad, and a patient holding squad.

Platoon Headquarters

5-27. The treatment platoon headquarters element directs, coordinates, and supervises platoon operations based on the brigade's CHS plan. The headquarters element directs the activities of the FSMC'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, and 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 teams that are in support of maneuver battalion BASs.
- Accomplishing the logistics functions for the platoon.
- Working with and assisting the FST with the care and management of surgical patients.

Treatment Squad

5-28. The treatment squad provides emergency and routine sick call treatment to soldiers assigned to supported units. This squad can perform its functions while located in the company area, or can operate independently of the FSMC for limited periods of time. The 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 two separate treatment stations. It can be assigned to reinforce or reconstitute battle losses.

Area Support Section

5-29. 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 FSMC 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 BSA and on an area support basis. 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 Squad

5-30. 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 sergeant and specialist, and an x-ray sergeant and specialist. The dental officer supervises the activities of the area support squad.

Dental Element

5-31. 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), sustaining (routine) dentistry, consultation services, and dental x-ray services.

Medical Laboratory Element

5-32. The medical laboratory element performs clinical laboratory and blood banking procedures to aid physicians and PAs in the diagnosis, treatment, and prevention of diseases. Laboratory functions include performing elementary laboratory procedures consistent with the Echelon II laboratory medical equipment set (MES). See FM 4-02.2 (08-10-1) for additional information. 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

5-33. 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. 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.

Area Support Treatment Squad

5-34. The area support treatment squad is the base medical treatment element of a clearing station. It provides sick call services and initial resuscitative treatment (ATM and EMT) for supported units. For communications, the squad employs FM radios and is deployed in the FSMC's radio and wires communications nets.

Patient-Holding Squad

5-35. The patient-holding squad operates the holding ward of the brigade 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 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 FSMC 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

5-36. The treatment platoon establishes its elements using the FSMC layout plan. 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 brigade CHS 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 preventive maintenance checks and services (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 supports the 1SG by providing platoon personnel to assist with security, establishment, and other operational activities of the company headquarters.

5-37. 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. The area treatment squad establishes and operates the clearing station. 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 FM 4-02.20 (8-10-1) and FM 4-02.24 (8-10-24).

5-38. 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.

5-39. The laboratory and X-ray element are 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.

5-40. 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 to 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 is erected. In the vicinity near a patient-holding area, a water point (lister bag or collapsible fabric drums), a latrine, and a hand wash area should be established for the convenience of those patients being held at this facility a minimum of 100 feet away.

5-41. Field surgeons direct the activities of the two treatment squads. They identify the treatment team tasked with providing medical support for the FSMC 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 require.

AMBULANCE PLATOON

5-42. 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 (or ten ambulance teams), one high-mobility multipurpose-wheeled vehicle (HMMWV) is used as a C2 vehicle, four M997 HMMWV wheeled ambulances, and six M113 track ambulances.

Ambulance Platoon Headquarters

5-43. 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 the maneuver battalions of the supported maneuver brigade and to units operating in the brigade area of operations. The ground ambulance evacuation provided is either from BASs of maneuver battalions or from FSMC treatment squad/teams locations back to the FSMC located in the BSA. 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. This element supervises the platoon and plans for its employment. It establishes and maintains contact with supported units and treatment squad/teams of the FSMC. The ambulance headquarters element performs route reconnaissance and develops and issues graphic overlays to all ambulance teams. It also coordinates and establishes ambulance exchange points (AXPs) for both air and ground ambulances, as required.

Ambulance Squads

5-44. The ambulance squads provide ground evacuation of patients from forward areas back to the FSMC/division clearing station. The ambulance squads consist of five emergency care NCOs and fifteen aid/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 the EMT that is necessary to prepare patients for movement and also 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 MESs. They ensure that appropriate property exchange of medical items (such as litters and blankets) is made at sending and receiving MTFs (Army only).

Employment of the Ambulance Platoon

5-45. The FSMC 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 ambulance team carries an on-board MES designed for medical emergencies and en route patient care. Ambulances either deploy forward to support maneuver battalions' BASs or with treatment squads/teams of the FSMCs or to AXPs. The ambulance platoon leader and platoon sergeant conduct 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 maps and overlays are provided to platoon personnel. 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. Track ambulances are usually positioned forward with the BASs of the maneuver battalions. Track ambulances normally evacuate patients from the BASs back to AXPs where patients are placed in a wheeled or air ambulance for further medical evacuation back to the FSMC. Wheeled ambulances are used for area support missions and for medical evacuation mission where patients do not require the added protection that an armored ambulance provides. Ambulance platoon personnel assist with establishment of the FSMCs and

provide available personnel as tasked by the 1SG. For definitive information on medical evacuation operations, see FM 4-02.6 (8-10-6).

PREVENTIVE MEDICINE SECTION

5-46. The PVNTMED section assists the commander with ensuring PVNTMED measures (PMM) are implemented to protect brigade personnel against food, water, vector-borne diseases, as well as environmental injuries (for example, heat and cold injuries). This section is responsible for the BSA and units in forward areas. Its missions are monitored according to the division and brigade CHS plans and coordinated as appropriate by the by the brigade surgeon's section. 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. Taskings for this section will be provided by the BSS through the FSB HSSO or from the DISCOM medical operations branch through the FSB HSSO. Additional information pertaining to PVNTMED staff and specific functions is discussed in FM 4-02 (8-10).

Employment of the Preventive Medicine Section

5-47. Preventive medicine activities begin prior to deployment to minimize disease, non-battle injury (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 potable water supplies.
- Monitoring the status of individual and small unit PMM (see FMs 21-10 and 21-10-1).
- Monitoring heat and cold injuries and food, water, and arthropodborne diseases (see FMs 4-02.33 (8-33) and FM 4-02.250 (8-250), TM 5-632, TB Meds 81, 507, 530, and 577).
- Ensuring training in PVNTMED that will assist in countering the medical threat.
- Monitoring the use of prophylaxis such as anti-malarial tablets.
- Ensuring adequate unit field sanitation supplies.

5-48. Lessons learned from past conflicts have shown that more soldiers have been rendered non-effective 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

presumptive actions, increased soldier and commander involvement, and awareness with priority to combat units. To accomplish this, the FSMC PVNTMED section will focus its support to specific areas of troop concentrations within the brigade AO.

5-49. The brigade surgeon, the FSMC commander, and the environmental science officers must be proactive and initiate action on presumptive information to reduce the medical threat early. Based on medical threat information provided through the DISCOM or the BSS from the PVNTMED officer of the DSS, the PVNTMED section must be proactive. 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, the section initiates control measures.
- Inadequate sanitation practices must be corrected before the first case of enteric disease appears.
- Site surveys are conducted prior to the establishment of bivouac locations to ensure they meet environmental and health standards, when possible.

It should be anticipated:

- That sanitation breakdowns will occur while troops are still in debarkation assembly areas.
- That soldiers are at risk for arthropod transmitted diseases upon entry to the AO.

5-50. Lack of or delay in implementing preemptive actions can significantly impact on the deployment forces' ability to accomplish its assigned mission. Refer to FM 4-02.51 8-51), 4-02.250 (8-250), FM 21-10, and FM 21-10-1 for additional information.

5-51. The PVNTMED section sets up near the FSMC CP. Pre-deployment 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 PVMTMED support. Preventive medicine section operations and activities may include:

- Assisting the FSMC commander and staff to prepare the CHS estimates by identifying the medical threat.
- Assisting the FSMC commander in determining disease prevalence in the AO.
- Assisting the FSMC commander and DSS PVNTMED officer in assessing the health status of unit soldiers.
- Conducting surveillance of supported units to ensure implementation of PMM at all levels, to identify actual or

potential medical threats and to recommend 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 food-borne 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.

5-52. Supported units can request PVNTMED support through command channels or request support from the BSS or the FSB support operations section. If requests are received by the FSMCs, the FSB headquarters is notified of the requests. The HSSO and BSS 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.

MENTAL HEALTH SECTION

5-53. The FSMC MH section consists of a behavioral science officer and a MH specialist. The MH specialist assists the behavioral science officer with the accomplishment of his duties. The behavioral science officer participates in staff planning to represent and coordinate MH/CSC activities throughout the AO. The behavioral science officer and MH specialist are especially concerned with assisting and training small unit leaders, which include:

- Company commander and platoon leaders.

- Unit ministry teams and staff chaplains.
- Battalion medical platoons.
- Patient-holding squad and treatment squad personnel of the FSMC.

Employment of the Mental Health Section

5-54. The FSMC MH section provides training and advice in the control of stressors, the promotion of positive combat stress behaviors, and the identification, handling, and management of misconduct stress behavior and battle fatigue (BF) soldiers. It coordinates combat stress control (CSC) training for supported units through the FSMC commander and battalion psychiatrist, as required. The section collects and records social and psychological data and counsels personnel with personal, behavioral, or psychological problems. General duties for personnel assigned to this section include:

- Assisting in a wide range of psychological and social services.
- Providing classes in stress control.
- Compiling caseload data.
- Providing counseling to soldiers with emotional or social problems.
- Referring soldiers to specific hospital neuropsychiatric (NP) services or CSC unit facilities, physicians, or agencies when indicated.
- Conducting or facilitating group debriefings, counseling, and therapy sessions, and leading group discussions.
- Providing individual case consultation to commanders, NCOs, chaplains, battalion surgeons, and PAs within the supported AO.
- Collecting information from units regarding unit cohesion and morale, which include:
  - Obtaining data on disciplinary actions.
  - Collecting information with questionnaires.
  - Conducting structured interviews.
  - Collecting information on individual BF cases pertaining to the prior effectiveness of the soldier, precipitating factors causing the soldier to have BF, and the soldier's RTD potential.

5-55. The company MH section uses the FSMC clearing station as the center for its operations, but is mobile throughout the AO. The section's priority functions are to promote positive stress behaviors, prevent unnecessary evacuations, and coordinate RTD, not to treat cases. Through the treatment and ambulance platoon leaders and company commander, the section keeps abreast of the tactical

situation and plans and projects requirements for CSC support when units are pulled back for rest and recuperation. For definitive information on CSC operations see FM 4-02.51 (8-51) and FM 22-51.

Chapter 6

Forward Support Company

ORGANIZATION AND MISSIONS

6-1. The FSC commander is the single CSS operator for the maneuver BN/TF. The FSC commander is responsible for executing the CSS plan in accordance with maneuver commander's guidance. The FSC commander responds directly to the Bn/TF XO who serves as the Bn/TF CSS integrator and assists the Bn/TF S4 in CSS synchronization and troubleshooting. The FSC is DS to the maneuver BN/TF and must regularly must interface with the FSB in order to provide CSS support to the Bn/TF. The FSC provides field maintenance and all classes of supply, less medical, to its supported BN/TF. The maneuver BN/TF provides Echelon I medical care to its supporting FSC. The FSCs accomplish their core functions through centralization of support. Centralization of support provides an increased efficiency and effectiveness in the flow of support and supplies. Centralized support allows the FSB commander to cross-level between FSCs and weight the battle logistically, or surge, as required. Centralization of support is enhanced through the employment of FBCB2 and CSSCS. The FSC has the capability to command, control, and integrate attached units such as engineer support teams or teams from Corps assets. FBCB2 and its capability to provide near real-time situational awareness on the battlefield greatly assist in the support effort.

6-2. The FSC is a multi-functional unit that includes an S&T platoon and a maintenance platoon organized to provide habitual support to a maneuver Bn/TF. The FSC is as mobile as the unit it supports. This mobility provides greater flexibility for the maneuver commander. The FSCs locate, based on METT-TC, four to twelve kilometers behind their supported maneuver BN/TF in the task force support area (TFSA). The maneuver unit company supply sergeants and Bn/TF HHC XO are located in the TFSA. They assemble their logistics packages (LOGPACS) and then move their vehicles forward to the company logistics release point (LRP). The company first sergeant (1SG) or his representative meets the LOGPAC and guides it to the company resupply point. The HHC XO provides operational liaison, support and advice to the FSC commander.

6-3. The FSCs co-locate a support operations cell with the maneuver BN/TF S1/S4 at the Combat Trains Command Post (CTCP). The CTCP is located within the FSC forward location, one to four kilometers behind the BN/TF. Based on METT-TC, the FSC has the flexibility to locate the unit maintenance collection point (UMCP), recovery, emergencies re-supply of Class III and V, and other assets from the TFSA in this FSC forward location. The

maneuver units will normally locate their Battalion Aid Station (BAS) within the combat trains location for force protection and proximity considerations. Combat repair teams (CRTs) from the FSCs are placed forward with each maneuver company under the control of the maneuver 1SG. The maneuver 1SG also has under his operational control the combat medical team (CMT) with track ambulance capability. Casualties are evacuated by track ambulance to the casualty collection point (CCP), consolidated, and further evacuated back to an ambulance exchange point (AXP). Figure 6-1 shows a doctrinal template on how to deploy the FSC to support their maneuver BN/TF.

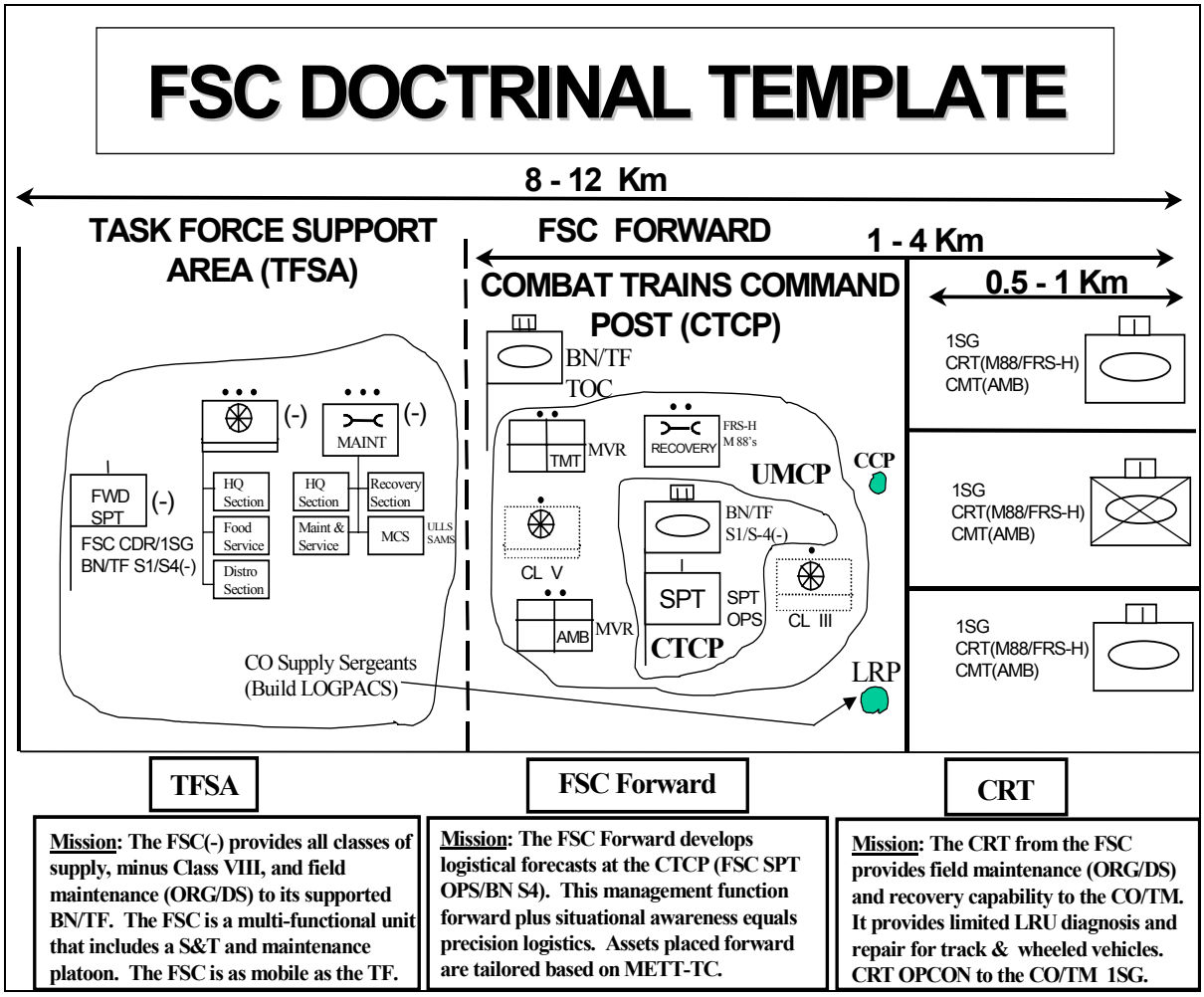


Figure 6-1. Forward Support Company Doctrinal Template

6-4. Figure 6-2 shows the FSC organization. The FSC depends upon the following:

HDC, FSB for personnel administration support.

HDC, FSB or TF for religious support.

The FSB support operations section for situational awareness, integrated materiel management, movement, maintenance, and distribution management direction.

The FSB and/or TF S2 for intelligence.

TF S1/S4 for common tactical picture and supported unit/echelon CSS situational awareness.

Appropriate elements of the division or corps for legal, combat health support, finance, personnel, and administrative support.

The BSC or EAB for resupply assets to maintain the required quantity of materiel for push forward to the supported battalion. Fuel requires a twice a day delivery, all other supplies are daily or as required by METT-TC.

The FSMC, FSB, for combat health support and patient evacuation. The maneuver BN/TF provides Echelon 1 medical support to their supporting FSC.

Corps mortuary affair teams for MA support.

The HDC for water distribution to the FSC.

Corps COMMEL assets to augment COMMEL maintenance.

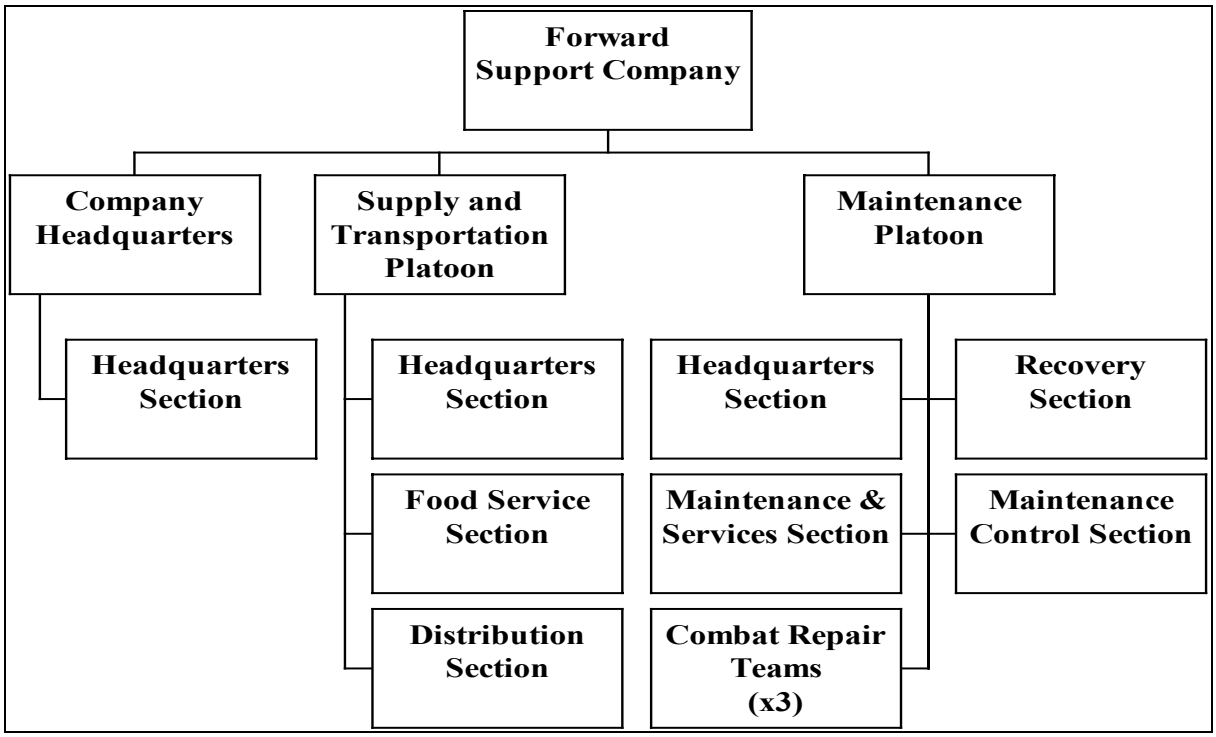


Figure 6-2. Forward Support Company

PLATOON/SECTION FUNCTIONS

COMPANY HEADQUARTERS

Headquarters Section

6-5. The HQ section of the FSC provides C2 to assigned and attached personnel. It ensures that subordinate elements follow the policies and procedures prescribed by the FSC commander and the FSB commander. It directs the operations of its subordinate sections as well as the overall CSS operations in support of the BN/TF. The company commander is the single CSS operator for the conduct of all CSS operations, less medical, in support of the BN/TF.

COMPANY COMMANDER

6-6. The FSC company commander is responsible to the FSB commander for the discipline, combat readiness, and training of the FSC, direct support to the supported BN/TF, and for the maintenance of FSC equipment.

6-7. The commander is responsible for everything the FSC does or fails to do. He must be proficient in the tactical employment of the company and its assigned and attached CSS elements. The commander must also know the capabilities and limitations of the company's personnel and equipment in performing the CSS mission as well as those of CSS elements attached to him. Additionally, his responsibilities include leadership, discipline, tactical employment, training, administration, personnel management, supply, maintenance, communications, and sustainment activities of the company.

6-8. 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.

6-9. 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.

6-10. The company commander’s responsibility in combat is threefold. He will:

Accomplish all missions assigned to the FSC in accordance with the FSB commander's intent and will support the BN/TF commander's scheme of maneuver with CSS.

Preserve the fighting capability of the supported BN/TF and the FSC. Must maintain continual communications with higher, lower, and adjacent units.

Retain connectivity of STAMISs with the FSB.

EXECUTIVE OFFICER

6-11. The XO is the principle assistant to the company commander. As second in command, he must understand both the support operations and the non-CSS functions of the forward support company. He supervises the company headquarters personnel and coordinates assigned missions with subordinate elements. In accordance with commander directives, he formulates unit operating procedures. He also supervises CP operations.

SUPPORT OPERATIONS FUNCTIONS

6-12. The support operations functions are performed by the executive officer or one of the other company officers. The support operations duties include the following:

Continuous battle tracking.

Ensure accurate, timely tactical reports are sent to the FSC CP.

Assume command of the company as required.

Assist in preparation the company OPORD for the commander and the concept of support for the BN/TF OPORD.

Conduct tactical and logistical coordination with higher, adjacent, and supported units.

As required, assist the commander in issuing orders to the company, headquarters, and attachments.

Conduct additional missions as required. These may include serving as OIC for the quartering party, company movement officer, or company training officer.

Assist the commander in preparations for follow-on missions.

Support Operations Personnel

6-13. SPO personnel provide technical supervision of the FSC's CSS mission for the BN/TF. This mission includes DS supply, field maintenance, and the coordination of transportation and field services. They collocate with the maneuver BN/TF S1/S4 representatives. This physical location on the ground where the support operations tracked vehicle co-locates with the maneuver BN/TF tracked vehicle is called the combat trains command post (CTCP). This CTCP is located in the FSC forward location, usually in the center of the FSC forward, for force protection purposes and to act as the command and control of the assets placed there, as well as, to facilitate cooperation, planning, and interface with the BN/TF staff. The FSC support operations personnel are responsible for a myriad of tasks, including the following:

General Tasks

Coordinates and provides technical supervision for the support unit's CSS mission.

Advises the commander on requirements versus available assets.

Determines CSS requirements in coordination with the FSB support operations, Bn/TF S4, the FSB S2/3, and the logistics representatives from other customer units.

Provides input to the Bn/TF log estimate and service support annex.

Plans and monitors support operations and makes necessary adjustments to ensure support requirements are met.

Tracks available assets through subordinate companies, the FSB support operations, Bn/TF S4, and other customers.

Keeps the FSB support operations section abreast of the log and requests backup support when needed.

Recommends support priorities and enforces priorities received from higher headquarters.

Coordinates with the FSB/TF S2/3 on support locations.

Plans and executes contingency operations as required.

Prepares and distributes customer support SOP.

Coordinates with the battalion S3 on routes in the BSA (BCOC & LOC routes).

Plans, coordinates, and controls allocation of available resources.

Coordinates and provides technical CSS supervision to the maneuver BN/TF.

Establishes and monitors Bn/TF LOGSITREP/ LOGSTAT/ LOGSPOT reports IAW SOP.

Plans future operations.

Establishes and maintain tactical and CSS overlays.

Establishes CSS synchronization matrix.

Maintenance Tasks

Recommends allocation of maintenance assets in coordination with company commanders and UMOs.

Monitors CRT operations and Class IX/major assembly resupply.

Reviews and recommends ASL changes to division/FSB support operations officer.

Forecasts and monitors the workload for all equipment by type.

Monitors maintenance shop production and job status.

Intensively manages non-mission capable (NMC) high priority jobs and pacing items.

Coordinates additional requirements through division/FSB support operations branch.

Coordinates critical parts status with division/FSB support operations officer.

Coordinates for personnel with special MOSs to support slice units equipment, e.g., combat engineers, ADA, and FA.

Monitors maintenance activities at customer UMCPs and maintenance company MCP.

Monitors slant report.

Supply and Services Tasks

Coordinates supply and service distribution with division/FSB support operation and the maneuver BN/TF.

Coordinates with division/FSB support operations section for augmentation as required.

Monitors daily battle loss reports to anticipate Class VII requirements.

Plans and supervises resupply operations.

Determines requirements and plans for air resupply operations. Requests and coordinates if required.

Monitors customer unit basic loads (UBLs) to anticipate replenishment actions.

Supply status report collection.

Maintains current status of critical supplies.

Monitors the CSR and supported units' UBLs.

Coordinates with the brigade/battalion S4 and BSC/FSC commanders on field services requirements and augmentations.

Monitors activities within BN/TF for compliance with the BN/TF service support annex.

Transportation Tasks

Coordinates and monitors the movement of replenishment stocks and services for the FSC.

Monitors retrograde of flatracks.

Monitors retrograde of aerial delivery equipment (fixed and rotary wing).

Coordinates retrograde of equipment and supplies with the FSB support operations officer or FSB movements NCO.

Coordinates delivery priorities with the brigade/battalion S4.

Coordinates supplemental transportation in support of the BN/TF.

Coordinates aerial resupply for critical items.

FIRST SERGEANT

6-14. The 1SG is the company's senior NCO and normally is 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 company’s primary internal CSS operator and

helps the commander and support operations officer to plan, coordinate, and supervise all logistical activities that support the company's mission. He operates where the commander directs or where his duties require him.

6-15. The 1SG's specific duties include the following:

Plan and supervise the company defense effort before, during, and after the battle.

Execute and supervise routine operations. The 1SG'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.

Assists in planing, rehearsing, and supervising key logistical actions in support of the tactical mission. These activities include resupply of Class I, III, and V products and materiels; maintenance and recovery; medical treatment and evacuation; and replacement/return to duty (RTD) processing.

Assists and coordinates with the support operations in all critical functions.

As necessary, serves as quartering party NCOIC.

Using FBCB2 transmit company rollup reports LOGSITREP and PERSITREP. Transmit call for support (CFS) for immediate resupply for Class III/IV/V or recovery missions using FBCB2 (as required).

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

6-16. 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 1SG and the support operations officer. Normally, the supply sergeant will be positioned in the TFSA where he is supervised by the company 1SG. He communicates with the company using the BN/TF A/L radio net (when available). The supply sergeant's specific responsibilities include the following:

Control the company cargo truck, resupplies the water trailer, and supervise the supply clerk/armorer.

Monitor company team activities and/or the tactical situation; anticipate and report logistical requirements using FBCB2; and coordinate and monitor the status of the company's logistics requests.

Coordinate and supervise the issue or delivery of supplies to the platoons or sections.

Provide order, receipt, and issue capability for Class I, II, III(P), IV, V, and VI through supply STAMIS (either ULLS-S4 or GCSS-A).

NBC NCO

6-17. The NBC NCO assists and advises the company commander in planning for and conducting operations in an NBC environment. He plans, conducts, coordinates, and/or supervises NBC defense training with the 1SG and covers such areas as decontamination procedures and use and maintenance of NBC-related equipment. Specific duties include the following:

Assist the commander in developing company operational exposure guidance (OEG) in accordance with OEG from higher headquarters.

Make recommendations to the commander on NBC survey and/or monitoring, decontamination, and smoke support requirements.

Requisition NBC-specific equipment and supply items.

Assist the commander in developing and implementing the company team NBC training program. The NBC NCO ensures that the training program covers the following requirements:

- First-line supervisors provide effective sustainment training in NBC common tasks.
- That NBC-related leader tasks are covered in sustainment training.
- That NBC-related collective tasks are covered in overall unit training activities.
- That NBC factors are incorporated as a condition in the performance of METL tasks.

Inspect company elements to ensure NBC preparedness and report to the commander the findings.

Process and disseminate information on enemy and friendly NBC capabilities and activities, including attacks.

Advise the commander on contamination avoidance measures.

Coordinate, monitor, and supervise decontamination operations.

ARMORER

6-18. The armorer performs organizational maintenance on the company's small arms and is responsible for evacuating weapons

as necessary to the maintenance platoon or to the base 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 1SG's vehicle to make him more accessible for weapons repair and maintenance in forward areas.

SUPPLY AND TRANSPORTATION PLATOON

6-19. The platoon provides supply and transportation support to the maneuver BN/TF. The S&T platoon provides Class I (to include food service support), II, III(P,B), IV, V, VI, and VII, to the maneuver BN/TF. The distribution section has the ability to conduct simultaneous III, V retail support to the maneuver companies, maneuver HHC and the FSC itself. The food service section provides food service support for its own company and the maneuver BN/TF. The food service section has the ability to prepare and deliver hot meals to the maneuver company area. The supply and transportation platoon operates FBCB2 and the STAMIS (SARSS-1 or GCSS-A).

6-20. Duties and responsibilities of the S&T platoon leader include:

Provide command and control of the distribution and food service sections of the S&T platoon.

Manage the distribution of supply Classes I, II, III(B), III(P), V, and VI to the BN/TF.

Provide retail Class III(B) unit distribution to BN/TF maneuver units and supply point to TFSA units.

Provide Class V unit distribution to BN/TF maneuver units and supply point to TFSA units.

Provide order, receipt, and issue capability for Classes II, III(P), IV, and VI through supply STAMIS (either SARSS or GCSS-A).

Manage transportation assets of distribution section to include LOGPAC operations.

Provide food service support to the BN/TF.

6-21. The S&T platoon leader of the FSC takes over the responsibilities previously held by the support platoon leader in the maneuver units. The key activity of the S&T platoon is the conduct of LOGPAC operations to the BN/TF and getting replenishment sustainment stocks from division/corps units at the LRP. The S&T platoon leader also has the additional responsibility of managing the supply STAMIS (SARSS-1 or GCSS-Army supply module) resident in the FSC. Although the S&T platoon leader works for the FSC company commander, he receives mission taskings from the support operations officer of the company. Within the platoon, there is a senior supply NCO who serves as the platoon sergeant and a senior food service sergeant.

6-22. The S&T platoon sergeant is the platoon's second in charge and is accountable to the platoon leader for the leadership, discipline, training, and welfare of the platoon's soldiers. He

coordinates the platoon's maintenance and logistical requirements and handles the personal needs of individual soldiers. The platoon sergeant (PSG) executes the support mission of the platoon in concert with the concept of support, the operations order and platoon leader's guidance. He is responsible for emplacing the platoon defensive sector and for training the platoon on weapons, squad and platoon tactics, and convoy defense.

Platoon Headquarters Section

6-23. The S&T platoon HQ manages the distribution of supplies and food service coming from or passing through the FSC in support of a mechanized infantry or armor BN/TF.

Stock Control Procedures

6-24. The HQs section utilizes SARSS-1 to provide supply receipt and issue management. The platoon sergeant must ensure that daily start-up and closeout procedures are followed IAW ADSM 18-L1Y-AJT-ZZZ-EM (SARSS 1), ADSM 18-L1Y-AJT-ZZZ-UM (SARSS 1), and IAW the schedule of operations established by the DISCOM support operations. Automated document receipt and issue operations will be conducted IAW AR 710-2, AR 710-2-1, this FM/TTP, ADSM 18-L1Y-AJT-ZZZ-EM (SARSS 1), ADSM 18-L1Y-AJT-ZZZ-UM (SARSS 1), and unit SOP.

6-25. The stock control section is collocated to facilitate on-site item management. The stock control section will:

Operate the SARSS-1 system.

Maintain a current listing for all on-hand commodities.

Process receipts, issues and turn-ins.

Process turn-ins to maintenance (for reparable items).

Establish limited storage, receipt and issue facility for all supported commodities.

Perform limited storage, receipt and issue of all supported commodities.

Deliver issued assets (LOGPAC) and pickup retrogrades(turn-ins to maintenance and/or for disposal).

Food Service Section

6-26. Class I is provided by the food service section. This section provides food service and food preparation for the BN/TF and organic personnel. It distributes prepackaged and/or prepared food. It is capable of providing one "heat-and-serve" meal and one "cook-prepared" (A or B) meal per day.

Distribution Section

6-27. The distribution section is responsible to support all classes of supply coming from or passing through the FSC in support of a mechanized or armor battalion. This includes retail refuel operations from organic assets and ammunition resupply.

6-28. Major differences between support of an armor and mechanized battalion are that the armor battalions require more fuel and the mechanized battalions require more ammunition STONS.

6-29. This section also provides Class II, III(P), IV, VII, and IX DS to the maneuver BN/TF units. The Class IX teams are capable of providing Class IX support to three maneuver companies and the HHC. Each Class IX team maintains the company's PLL/combat spares for the company/HHC it is supporting. It also provides exchange of reparable items.

MAINTENANCE PLATOON

6-30. The maintenance platoon, FSC, provides field maintenance (organizational and DS level) to itself and its supported maneuver BN/TF. The platoon consists of a headquarters section, maintenance control section (MCS), recovery section, maintenance and service section, and the combat repair teams. The maintenance platoon provides command and control and reinforcing maintenance to the CRTs. The CRTs provide field maintenance and battle damage assessment and repair (BDAR) to the maneuver companies. As a maneuver commander task organizes the force, all or part of a CRT goes with the company teams in order to maintain habitual support. The platoon maintains a limited quantity of combat spares (PLL and shop stock) in the MCS. The FSC operates the UMCP in what is known today as the task force support area (TFSA) or combat trains command post (CTCP) area depending on METT-TC. Maintenance advances such as the multi-capable mechanic, advances in diagnostics and prognostics maintenance capabilities, and the introduction of the forward repair system (FRS) enhances the FSC maintenance platoon's capabilities.

6-31. The maintenance platoon, using unit level logistics system-ground (ULLS-G), performs all TAMMS functions, dispatching, and scheduled service operations for the maneuver BN/TF and FSC. The FSC maintenance platoon's priorities are determined by the MCO in coordination with the maneuver BN/TF chain of command. The maintenance platoon operates and controls the BN/TF UMCP. The platoon performs on-system maintenance. It "replaces forward" by using diagnostics/prognostics to diagnose major component failure and then replaces that component. These components can include line replaceable units (LRU), major assemblies, or other sub-components. The extent of repair is METT-TC dependent. If time, tools, test equipment, and repair parts are available, repairs are done on site. Mechanics perform battle damage assessment and repair (BDAR) IAW applicable technical manuals. As directed, mechanics perform controlled exchange to expedite repairs. The BN/TF commander is the approval authority for controlled exchange actions. The FSC maintenance platoon coordinates backup and pass-back maintenance requirements with the FSC support operations.

6-32. During combat, the maintenance platoon's first priority is to reinforce the CRT's mission. The platoon headquarters coordinates with the FSC commander and FSC support operations officer to integrate and support BN/TF operations. The headquarters section maintains situational awareness of BN/TF operations. It also maintains FM communications capability with both the BN/TF command and logistics nets and capability to link to FBCB2 devices. This ensures the maintenance platoon maintains asset visibility and tactical as well as CSS situational awareness. Use of FBCB2 provides the roll-up of critical information required by the FSB to anticipate and meet the BN/TF maintenance requirements. The FSC maintenance platoon also coordinates backup and pass-back maintenance requirements through the FSC support operation officer to the FSB.

6-33. On the Force XXI battlefield, mechanized and armored maneuver battalions remain responsible for operator and crew level maintenance. Operators/crews may perform BDAR through the use of onboard BDAR kits and will use self-recovery techniques to greatest extent possible.

6-34. Operators and crews annotate PMCS shortcoming/deficiencies on DA Form 5988-E. The DA Forms 5988-E are consolidated, reviewed, and verified by the chain of command and CRT. Shortcoming/deficiencies are corrected immediately unless parts are required at which time parts are placed on order through ULLS-G or SAMS-1.

6-35. The FSC support operations officer coordinates the maintenance priorities with the battalion S4 and MCS. The MCO task organizes the maintenance platoon based on analysis of current and anticipated mission requirements. He is concerned with providing the appropriate support at the UMCP and forward. The UMCP is under the control and is workloaded by the MCS. It is task organized with the maintenance control section, the maintenance and service section, and the recovery section. Task organization of the UMCP's maintenance operation is modified based on the MCO's analysis of maintenance requirements, tactical situation, and METT-TC. Anything that is not repaired in the UMCP, or that is not towed by UMCP assets, is recovered to the BSA or evacuated echelons above division (EAD).

6-36. The maintenance control section is the management center for all maintenance actions. The FSC's ULLS-G boxes are collocated in the MCS. The MCO uses ULLS-G to produce the Army materiel status system (AMSS) readiness reports. The AMSS replaces manual readiness reporting on the front-side of DA Form 2406. The maneuver commander is responsible for the operator/crew maintenance functions in his unit. The MCO is responsible for preparing the readiness report for the maneuver commander's signature.

Maintenance Control Officer (MCO)

6-37. The maintenance control officer is the principal assistant to the commander, both BN/TF and FSB, on all matters pertaining to the field maintenance mission. The MCO serves as the task force maintenance officer for the maneuver BN/TF and FSC using SAMS-1 and FBCB2. He is responsible to the commander for the management of the combined efforts of the maintenance control section, maintenance and service section, recovery section, and the combat repair teams to include:

- Evaluating and ensuring the quality of maintenance completed by the maintenance platoon.
- Developing a training and cross-training plan for maintenance personnel.
- Coordinating for the recovery of BN/TF equipment.
- Monitoring the status of equipment under-going repairs and determining status of Class IX repair parts required to complete the repair.
- Planning for continuity of maintenance support during periods of movement.
- Managing production control, to include the assignment of work to shop sections and the compilation of prescribed reports and records.
- Coordinating maintenance and service section and combat repair teams requirements for the use of the recovery section assets.
- Coordinating the activities of the inspectors and maintenance personnel to ensure adherence to the maintenance standard.
- Executing maintenance priorities as established by the BN/TF and FSB commander.
- Anticipating expected work loads, shop progress, difficulties encountered during repair actions, and maintenance supply actions.
- Analyzing and planning all maintenance activities.
- Coordinating field maintenance requirements with FSC SPT OPNS and FSB SPT OPNS as appropriate.
- Developing the maintenance services plan for BN/TF equipment.
- Developing and executing the BN/TF licensing program.
- Integrates engineer support teams and corps maintenance teams into the FSC.

Maintenance Control Supervisor

6-38. The maintenance control supervisor is the best-qualified noncommissioned officer in the platoon, selected on the basis of leadership skills as well as technical ability. He is the principal assistant to the maintenance control officer in matters pertaining to the field maintenance mission of the organization. The maintenance control supervisor is responsible for management of

the combined efforts of all maintenance sections and teams and the day-to-day operations of the maintenance control section to include:

- Maintaining all records essential to the operations of the maintenance section and teams.
- Assigning daily workload to maintenance and service section and the recovery section.
- Knowing the status of equipment undergoing repairs.
- Managing equipment service schedule.
- Assisting in the troubleshooting, use of TMDE and tools, and replacement of parts.
- Managing ULLS-G and SAMS-1 STAMIS.
- Managing the maintenance platoon stockage of combat spares. Ordering required repair parts and replenishing combat spares as required.
- Managing, and when necessary, conducting cross training for mechanics in the FSC.

Maintenance Platoon Leader

6-39. The maintenance platoon leader is responsible for controlling and directing the accomplishment of the platoon's mission. He is responsible for the readiness of the platoon's personnel and equipment. He is also is responsible for maintaining the health, welfare, and morale of platoon personnel. The unit commander primarily establishes the platoon leader duties. They include but are not limited to the following:

- Training of platoon personnel.
- Leading recovery team operations, forward repair elements, or other on-site maintenance missions.
- Reviewing and evaluating operator/crew preventive maintenance checks and services on platoon equipment.
- Determining platoon equipment operators licensing requirements.
- Participating in the analysis, planning, and supervising the execution all maintenance activities.
- Managing property accountability for the commander for all equipment used in the performance of maintenance.
- Understanding the BN/TF maintenance priorities and ensuring maintenance platoon adhere to the established priorities and guidance.
- Serving as maintenance control officer in his absence.

Maintenance Platoon Sergeant

6-40. The maintenance platoon sergeant is the platoon's second in command and is accountable to the platoon leader for the leadership, discipline, training, and welfare of the platoon's soldiers. He coordinates the platoon's maintenance and logistical

requirements and handles the personal needs of individual soldiers. The PSG executes the support mission of the platoon in concert with the concept of support, the operations order and platoon leader's guidance. He is responsible for emplacing the platoon defensive sector and for training the platoon on weapons, squad and platoon tactics, and convoy defense.

Unit Maintenance Officer (915E)

6-41. The unit maintenance officer (called support maintenance technician by MTOE) provides technical expertise on all aspects of the field maintenance mission. They use their advanced diagnostics and troubleshooting skills to isolate system faults and expedite the repair and return of major weapon systems to operation. Because of his technical expertise, the unit maintenance officer advises the commander and MCO on all matters pertaining to battle damage assessment and repair (BDAR). His responsibilities include, but are not limited to the following:

Provides input to the plans. Organizes and allocates resources to execute the field maintenance mission in support of wheeled vehicles, tracked vehicles, ground support equipment, armament systems, small arms, fire control, and power driven chemical equipment.

Evaluates and inspects maintenance operations and develops and implements corrective action plans where necessary to comply with regulatory and statutory requirements applicable in garrison and field environments.

Identifies technical training shortfalls and when necessary trains maintenance personnel to accurately diagnose/troubleshoot mechanical, electrical, pneumatic and hydraulic malfunctions accurately using the latest equipment, technical publications, and procedures available.

Provides management oversight and technical guidance on the establishment of unit stockages of combat spares IAW applicable supply regulations.

Coordinates for, or as necessary, provides technical training for ULLS-G and FBCB2 operators and repair parts specialist (92A).

Assists in the development and updating of the field maintenance SOP as it pertains to the conduct of field level maintenance operations.

Oversees the unit's calibration and the Army oil analysis programs and ensures the programs are covered in the field maintenance SOP and meet the regulatory guidance.

Directs, and when required trains recovery vehicle operators on safe and correct recovery operations. Ensures that recovery vehicle operators are properly trained and certified to perform recovery operations.

Utilizes automated maintenance management systems to provide maintenance information to the commander and maintenance control officer.

Assists in the planning, scheduling, and publishing of the scheduled service plan for all assigned equipment per the applicable technical manual/lubrication order.

Conducts technical inspections of unit equipment to determine the equipment maintenance status.

Enforces the maintenance of up-to-date technical publications for use by maintenance personnel.

Establishes the commander's quality assurance program for maintenance and repairs. Oversees all quality control inspections and inspectors to validate their capability to identify improper repairs and scheduled services.

Serves as the unit's point of contact for automated readiness reporting and mileage reporting issues.

Headquarters Section

6-42. The maintenance platoon headquarters section provides command, control, and supervision for all administrative functions of the platoon. With guidance from higher headquarters, it plans and conducts all necessary training activities.

Maintenance Control Section

6-43. The MCS is the primary manager for all field maintenance in the FSC and supported BN/TF. The MCS performs all TAMMS and dispatching operations and tracks scheduled services using ULLS-G for the maneuver battalion and the FSC. All maneuver company ULLS-G boxes are collocated with the maintenance control section; and the MCS supervises the ULLS-G operators. The ULLS-G clerks operating each company box process the DA Form 5988-E completed by the operator or crew and verified by the CRT.

6-44. If a vehicle is non-mission capable (NMC) for organizational level maintenance, the ULLS-G operator enters that information into the ULLS-G computer. ULLS-G assigns an organizational work order number (ORGWON). If the vehicle requires DS level maintenance, an organizational work order DA Form, 5990-E, is generated by ULLS-G. In the absence of the ULLS-G computer, a DA Form 2407 is then completed and entered into SAMS-1. The SAMS-1 assigns a DS work order number. The MCS provides maintenance information management to the FSC support operations. It also provides maintenance information to the FSB support operations section by transmitting data, FM BLAST to the greatest extent possible (other communication technique to be determined), from the MCS's SAMS-1 box to the FSB support operation section's SAMS-2 box. When that is not available they will use a disk to transfer data.

6-45. The MCS uses three management tools: SAMS, ULLS-G, and FBCB2. The MCS receives calls for support (CFS) and logistics task order (LTO) messages through FBCB2. With the introduction of GCSS-Army, maintenance functionality will be consolidated in the maintenance module.

6-46. The MCS tracks the CFS and LTO through the "orders/request" functions in FBCB2. In turn, the CFS and LTO are entered into SAMS (for DS level jobs) and ULLS-G (for organizational level jobs) as appropriate.

6-47. The maintenance flow begins when the operator sends a CFS maintenance/recovery request using FBCB2. This message includes the vehicle location and the action requested. The message is sent simultaneously to the 1SG for action and to the FSC support operations section for information.

6-48. When the 1SG receives the CFS from the operator, he sends the logistic task order to the CRT for action. The CRT responds to the LTO with one of the acknowledgment messages. The operator requesting the maintenance support receives an information copy of the acknowledgment message. When the CRT is unable to provide the necessary support to accomplish the task in the CFS, the 1SG forwards a CFS to the FSC support operations section. The FSC support operations sends a LTO to the MCS for action. When the MCS receives a LTO from the FSC support operations section, it forwards the LTO to the appropriate section (another CRT, maintenance and service section, or recovery section) via FBCB2. The appropriate section responds to the LTO with one of the acknowledgment messages. Again, the requesting operator receives a copy of the acknowledgment message. When the LTO is accepted, the maintenance section NCOIC uses FBCB2 to synchronize/coordinate mission support and sends a mechanic to repair the vehicle. If the mechanic does not have the necessary combat spares on hand, he sends a message to the MCS via FBCB2 requesting additional repair parts. If the repair parts are not on hand at the MCS, they are ordered through ULLS-G (organizational parts) or SAMS (direct support parts). If the repair part arrives in a timely manner, the vehicle is repaired on-site or at the UMCP. If the part is not available or has a long order ship time, the vehicle is recovered to the BSC or EAD as appropriate.

Maintenance and Service Section

6-49. The maintenance and service section provides habitual field maintenance for the FSC and maneuver battalion HHC. This section also provides maintenance support to elements attached to the BN/TF and provides reinforcing maintenance to the CRTs. The CRT sends a CFS to the MCS via FBCB2 requesting support. The MCS sends a LTO to the maintenance and service NCOIC who responds with one of the acknowledgment messages. The maintenance flow is the same as described in the MCS.

6-50. This section is also responsible for providing organizational services on the equipment organic to the FSC and the maneuver battalion HHC, and assists the CRTs in completing the services for the maneuver companies. While performing services, the mechanic completes a DA Form 5988-E and turns it into the ULLS-G operator within MCS.

Service and Recovery Section

6-51. The recovery section provides recovery support to elements of the FSC. This section also provides limited reinforcing recovery support to CRTs. When reinforcing recovery support is required, CRTs send a CFS to the MCS. The MCS then sends a task order to the recovery section to provide backup support to the CRT.

6-52. Items that cannot be repaired on site must be recovered to the UMCP or BSA. The use of FBCB2 enables recovery vehicles to locate the exact location of the inoperable piece of equipment. The crew/operator forwards a call for support message through FBCB2 to the 1SG. This message includes the type of request, action requested, mission, and vehicle location. When the CRT recovery assets are not available to perform the recovery mission, the company/team 1SG sends a CFS to the FSC support operations section. Support operations section forwards a LTO to the MCS. The MCS forwards the LTO to the recovery section NCOIC. Upon notification, the section NCOIC acknowledges the LTO. However, if unable to perform the mission, the NCOIC redirects the message back to the MCS. The MCS returns the LTO back to the FSC support operations. The operator/crew receives a message from the maintenance activity accepting the maintenance request for recovery. When the FSC exceeds its organic recovery capability, the FSC support operations section requests assistance through the FSB support operations section by forwarding the original CFS by FBCB2. The FSB support operations section responds to the message by sending a LTO to the recovery section. The recovery section responds with an acknowledgment message. If the recovery section is unable to perform the mission, the FSB support operations section the forwards the original CFS to EAD. Through the entire sequence of events the operator/crew is always updated on the status of his call for support in the FBCB2.

Combat Repair Teams

6-53. The armored and mechanized infantry maneuver BN/TF's first level of support comes from the FSC CRTs which are organized to provide field maintenance (organizational and direct support maintenance levels) for all combat platforms organic to maneuver companies. The company/team commander and the MCS set the CRT's priorities. The CRT operates under the operational control of the maneuver 1SG and is supervised by the CRT's maintenance NCOIC.

6-54. The scope and level of repairs are based on METT-TC. The CRTs perform repairs as far forward as possible returning the piece of equipment to the battle. During combat, CRTs will perform BDAR, diagnostics, and on-system replacement of LRUs. Emphasis is placed on troubleshooting, diagnosing malfunctions and fixing the equipment by component replacement. If the tactical situation permits, CRTs focus on completing jobs on site. The CRTs carry limited on board combat spares to help facilitate repairs forward. If inoperable equipment is not repairable, due either to METT-TC or a lack of repair parts, the team uses recovery assets to assist the maneuver company and may as necessary recover

inoperable equipment to the UMCP or designated linkup point. The CRTs are fully integrated into the maneuver units' operational plans.

6-55. The CRT and maintenance section work together on annual and semi-annual services to the FSC maintenance and service section of the FSC maintenance platoon to the maneuver company's equipment. The MCS inputs this information into ULLS-G. As the task force is task organized, CRTs with associated ULLS-G boxes move with supported units in order to maintain habitual support to the company.

6-56. Organizational and DS work orders are tracked by the MCS. The MCS gives the CRT a block of work order numbers to track equipment repair. The CRT NCOIC uses the free text message on the CFS via FBCB2 to update the MCS on work order status. The CRT opens a DS job by completing a DA Form 2407 after the equipment is repaired. The CRT sends paper work back to the MCS on part runs.

6-57. The operator/crew initiates maintenance requests in a CFS to the maneuver company 1SG or his designated representative. The maneuver company 1SG sends a LTO to the supporting CRT. The CRT NCOIC sends an acknowledgment message to the maneuver company 1SG and dispatches the appropriate assets to complete the mission. If the CRT exceeds its capability, it sends a can't comply (CANTCO) message to the maneuver company 1SG. The maneuver company 1SG reinitiates the platform's CFS up to the FSC support operations section. The FSC support operations section sends a LTO to the MCS. The FSC maintenance platoon maintains limited combat spares and provides backup maintenance and recovery support. The MCS checks the status of the maintenance and service/recovery section and the remaining CRTs to support the mission. If all FSC assets are committed, the MCS sends a CANTCO message to the FSC support operations. The FSC support operation then reinitiates the CFS to the FSB support operations.

Chapter 7

Combat Service Support Planning

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

7-1. 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.

7-2. This chapter describes C4ISR techniques and procedures that exploit the unique capabilities of digitized forces. It will assist the 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

7-3. Battle command is the art and science of battle decision-making and leading. It includes controlling operations and motivating soldiers to accomplish the mission. 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 battlefield 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)

7-4. 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) of which CSSCS is the CSS component, and the Force XXI command brigade and below (FBCB2) system. The 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.

7-5. 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

7-6. The definition of battlefield visualization is the process whereby 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.

7-7. 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 maneuver brigade.

7-8. 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.

7-9. The available digital information systems enhance the commander's situational awareness 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

7-10. 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. The C2 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 battle 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.

7-11. 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 awareness 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. For further information concerning C2 refer to FM 6-0 (100-34) (Command and Control).

INFORMATION FOCUS

7-12. The common relevant picture is derived from multiple databases and can be tailored to specific unit needs. The systems that provide input to the commander’s maneuver control system (MCS) terminal include the following:

- **FBCB2**. Provides situational awareness 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.
- **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.
- **CTIS**. Engineer terrain visualization gained through combined terrain information system (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).

7-13. 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. The 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.

7-14. 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 (CCIR)

7-15. The digital information system employed by the commander and battle 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. The commander and his battle staff prepare it. 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 battle 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.

7-16. The use of CCIR focuses the information gathering process for the battle staff. It is that information which the battle staff will notify the commander, regardless of his location or time. 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 (PIRs) - 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 requirement (FFIR) - Information commander needs on forces available for the operation such as personnel, maintenance, supply, ammunition, POL, experience and leadership capability.

7-17. How can the commander anticipate logistics requirements to best support the maneuver brigade's combat mission? The CCIR allows the commander to define information needs and, in turn, focuses the battle staff (and subordinate commanders) on information acquisition, fusion, and analysis. The CCIR can be further described as being:

- Logistics preparation of the battlefield (LPB) process.
- 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 BATTLEFIELD (LPB)

7-18. Logistics preparation of the battlefield 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 and 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 logistics preparation of the battlefield shows how battlefield data, when systematically collected and processed, provide meaningful information for the development of effective logistics estimates.

7-19. The process requires tacticians to understand the data needed by logisticians to plan and provide timely, effective support. It requires TF 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 TF plans and orders.

7-20. 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 that 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 that must be considered to anticipate support requirements.
- Time and space factors are those requirements and restrictions of the battlefield that 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, nighttime 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.

7-21. 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 task force units. These provide data on logistics resources, capabilities and capacities.
- Logistics status reports. These reports from CSSCS and FBCB2 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 battlestaff members may be required to collect data on likely resupply routes, obstructions, bridge weight limits or the composition of streambeds.

7-22. 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.

7-23. 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.

7-24. The commander and staff conduct LPB. Successful LPB contributes immeasurably to the favorable outcome of battle. Logistics preparation of the battlefield 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.
- Combat service support shortfalls.
- The enemy (intentions, capabilities, weaknesses, doctrine).
- Terrain and weather.

- Intelligence preparation of the battlefield (IPB) products.
- Transportation infrastructure.
- Host nation support available.
- Time/distance factors.

7-25. Logistics preparation of the battlefield (IPB) 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

7-26. The battalion commander appoints an information manager because of the importance and amount of information in the digitized FSB. 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 CCIRs are directly linked to current, future, and sequel operational situations and previously identified decision requirements, the XO ensures that the battle staff collects, analyzes, and presents information meeting the CCIRs on a timely and accurate basis. In particular, he supervises the FSB TOC in maintaining and disseminating the brigade'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 or support operations section generates requests to answer specific planning 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

7-27. 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 is 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

7-28. 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) and is expressed in rounds, units, or units of weight, as appropriate.

MISSION LOAD

7-29. 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.

7-30. Mission loads are a BN/TF responsibility regardless of the command and support relationships, they normally stretch or exceed the transportation assets of the BN/TF and the HDC S&T platoon. Palletized standard loads/flat racks help solve the planning and distribution problem. Class IV/Class V resupply for the defense is one of the most demanding mission load operations the BN/TF must carry out and requires all the assets that can be made available. A total cooperative effort by the BN/TF, including engineers, is required if the defense is to be adequately resourced.

CLASSES OF SUPPLY

7-31. There are ten 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

7-32. 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

7-33. Organizational clothing and individual equipment (OCIE) support is not normally available at battalion. The supply and transportation (S&T) platoon of the HDC in the FSB provides supply point distribution of limited quantities of OCIE in the BSA. The HDC also provides supply support for other Class II items, such as tentage, tool sets, and administrative and housekeeping supplies. These items are moved to forward locations when dictated by the tactical situation and METT-TC.

Class III

7-34. 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

7-35. 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

7-36. 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

7-37. 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

7-38. 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 using the FBCB2 LOGSITREP. The supporting CSS unit replaces them as they become available.

Class VIII

7-39. This class includes medical equipment sets and their components, and medical supplies which are provided through the FSMC of the FSB. 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 in the FSB support operations using the FBCB2 LOGSITREP .

Class IX

7-40. Repair parts are stocked at FSC and BSC maintenance platoon level based on usage requirements (shop stock and PLL). The FSC and BSC maintenance control section manages repair parts. The FBCB2 equipped brigade obtains repair parts either from the Class IX supply point in the HDC or by throughput from other echelons of supply support organizations. Parts are moved forward to the combat repair teams location during routine logistics package (LOGPAC) operations or as required. The maintenance platoons request Class IX items (less reparable exchange) and major Class IX subassemblies, such as engines and transmissions, by submitting requests to the supporting FSC or HDC supply and transportation platoons.

Class X

7-41. Class X consists of materials and all other classes of supply to support nonmilitary programs, such as agriculture and economic development.

LOGISTICS RELEASE POINT (LRP) OPERATIONS

7-42. 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.

7-43. 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.

7-44. 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.

7-45. Logistics release point 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.

7-46. Logistics release point 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 awareness 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

7-47. 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.

7-48. 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

7-49. 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.

7-50. 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 awareness.

TECHNIQUES OF RESUPPLY

7-51. 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.

7-52. In the tailgate technique, fuel and ammunition trucks, which have been handed off to the platoon sergeants (PSGs), 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 7-1.

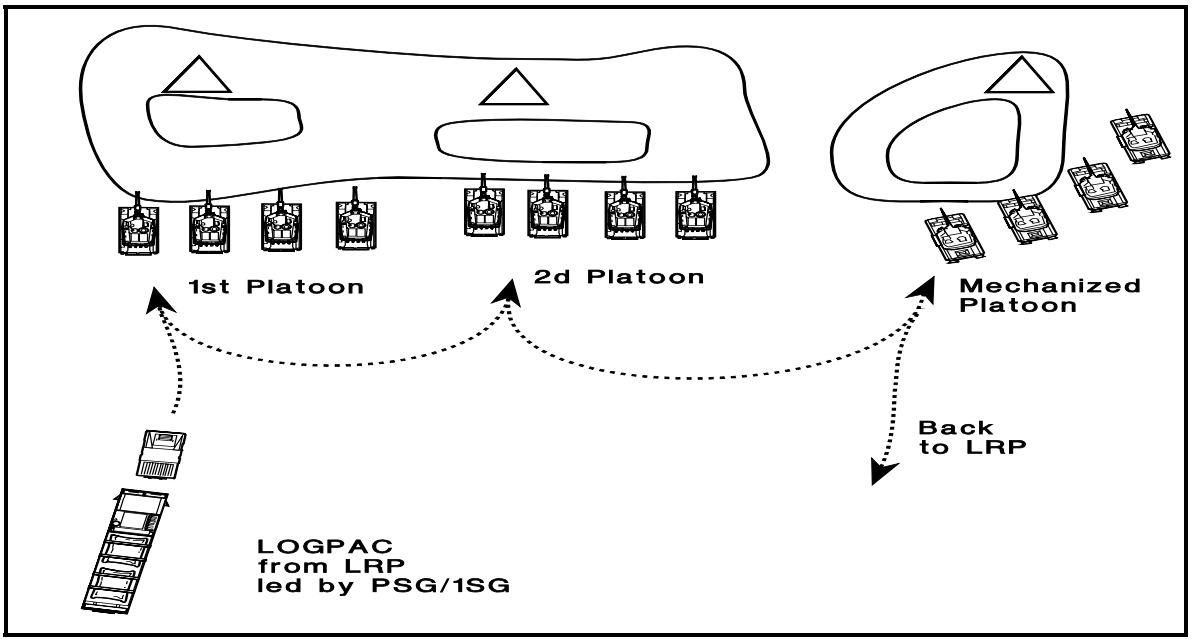


Figure 7-1. Tailgate LOGPAC

7-53. 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 7-2.

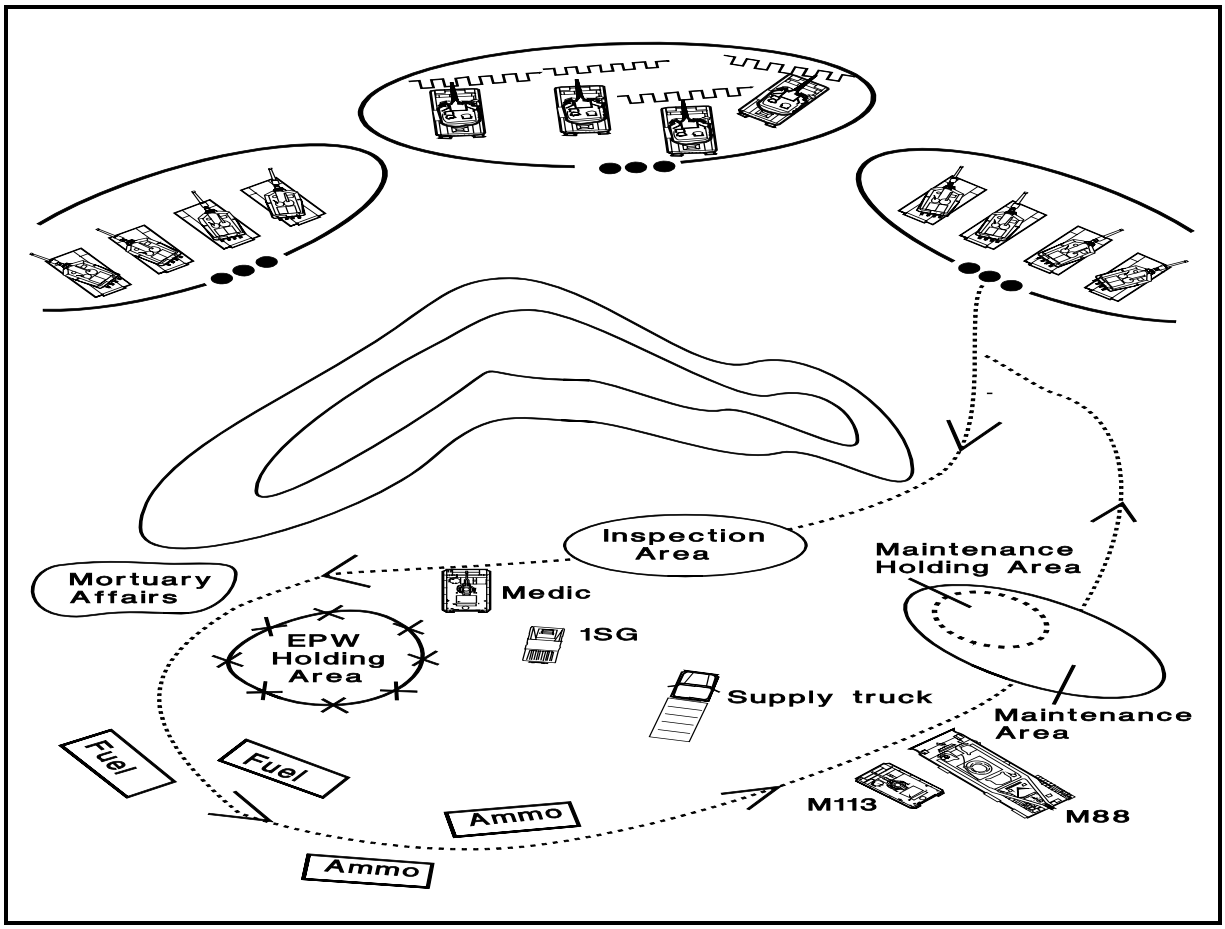


Figure 7-2. Service Station LOGPAC

7-54. 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 post (OPs), and the service station method for the remainder of the company located in their positions. See Figure 7-3.

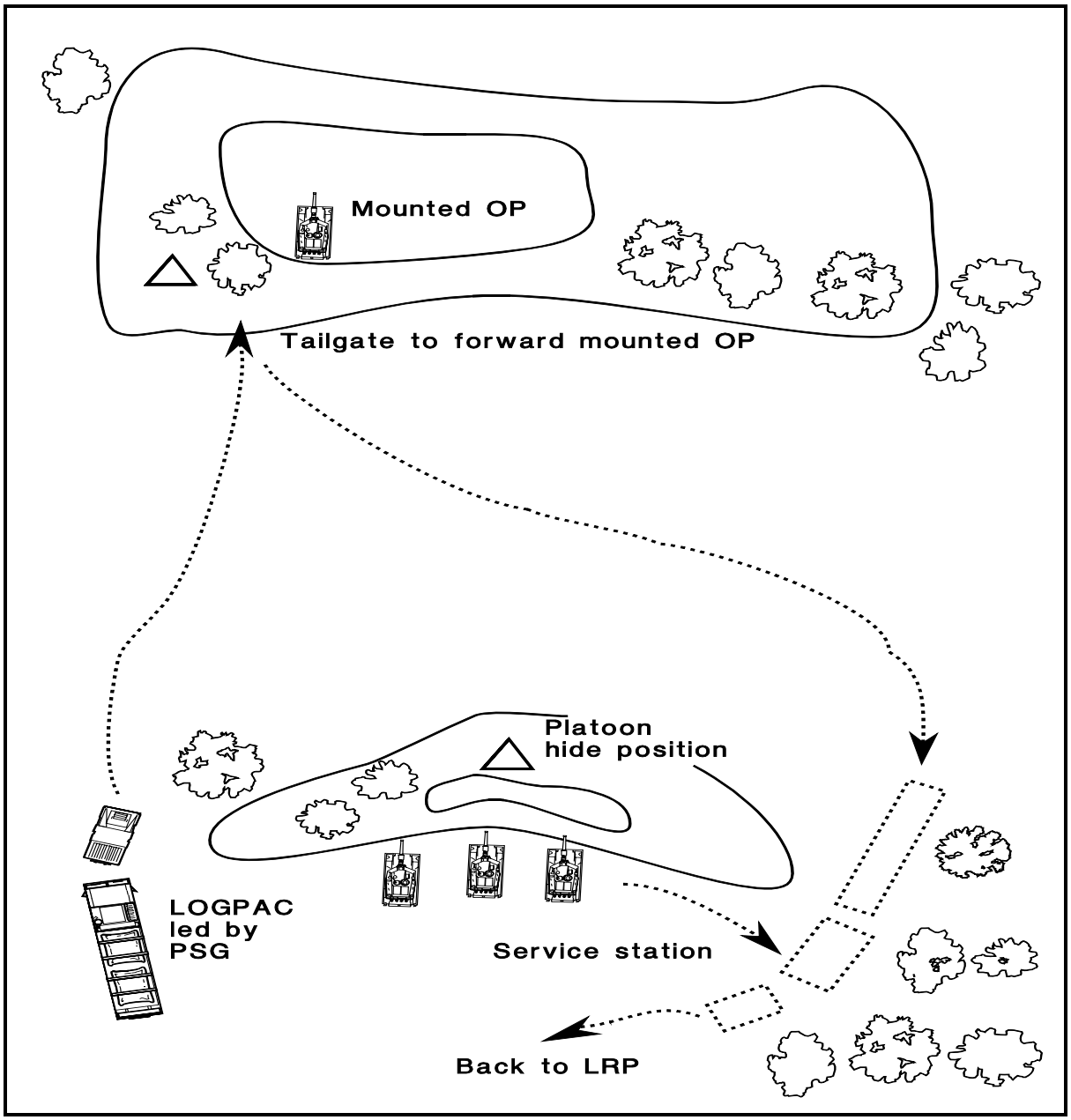


Figure 7-3. Modified Tailgate LOGPAC

IMMEDIATE RESUPPLY

7-55. Immediate resupply, normally involving Classes III, IV, and V, is executed when the company 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 25-millimeter ammunition each than two BFVs with 100 rounds and two others with none.

7-56. The commander, XO, or 1SG transmits a “call for support” for Class III/IV/V through FBCB2, FM, MSE, or most expedient means to the support operations section of the FSB. Immediate supplies are brought forward by the S&T platoon of the HDC. Based on the enemy situation, the platoon may conduct resupply while in contact with the enemy. Two techniques are used to resupply platoons 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

7-57. 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. Conducting sustainment operations during the offensive is critical to the success of the attack. By identifying the point of consumption by the warfighters, the brigade S4 and FSB support operations will be able to position mission tailored support.

7-58. The two most critical supplies for offensive operations are Class III and V, but all aspects of support must be addressed. The FSB support operations will direct the movement of resources to designated LRPs to resupply planned or forecasted requirements, as stated in the logistics support matrix. The resupply of the FSCs may come from the HDC, BSC, DSB, or directly from corps.

7-59. The FSB commander may find it necessary to echelon his assets to better support the maneuver brigade operation.

7-60. The brigade S4 produces the CSS overlay. The FSB commander and the support operations personnel assist with this overlay. The overlay ensures that both the supported units and the FSB know the location of all support assets in relation to the maneuver units and maximize the support given.

DEFENSIVE OPERATIONS

7-61. The CSS defensive plans are developed to support the defensive battles and facilitate rapid transition to the offensive. Defensive operations take many forms. They range from static, relying on firepower from fixed positions, to wholly dynamic, based on maneuver to disrupt and destroy the attacking force. Combat service support commanders must be involved early in the defensive planning. This allows for planning for the right support

and to anticipate changing priorities. Planning considerations that should be addressed while planning for defensive operations are:

- Plan for the support to be provided to the covering force and the counter recon units.
- Anticipate the amounts of ammunition, fuel, food, and barrier material that must be delivered and have it positioned forward at LRPs to minimize resupply turn around times.
- Conduct resupplies operations during periods of limited visibility to the maximum extent possible to reduce the CSS signature and the opportunity for enemy observation and interference.
- Develop control measures that will allow the support personnel to switch from a support role to defense, force protection, and survivability operations at the appropriate time.

7-62. For defensive operations, throughput supply will be used to expedite deliveries as far forward as possible. Class IV will be pushed from corps directly to the emplacement site. The Class III(B) resupply of the FSCs may come from the HDC or directly from corps. Class V is given the highest priority of all critical supplies during defensive operations. The increased expenditures of ammunition will significantly impact transportation assets.

7-63. In the same manner as described in the offensive operation paragraph, the brigade S4 must prepare the CSS overlay. This overlay should have everything on it that the offensive overlay had with the addition of any LRPs designated and the locations of any prestockages of Class IV (barrier material) and Class V.

URBAN WARFARE CSS OPERATIONS

7-64. There is an increased likelihood of U.S. Forces fighting in urban environments that 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.

7-65. The MOUT is a significant challenge for CSS personnel to prepare for. Commanders identify those cities in their areas of responsibility that could become urban battlefields and direct their staffs to prepare detailed studies for those possible contingencies. Developments and refinements in force structure, equipment design, and CSS procedures support the tactical mission. During MOUT, the terrain and the nature of the operations create unique demands on support units and operations. The CSS units must be included in joint and multinational urban warfare training. Increased ammunition consumption, high casualty rates, and transportation

difficulties resulting from rubble and the decentralized nature of operations all make CSS challenging.

7-66. Historically, urban combat operations have required a significant amount of time and quantities of ammunition and other CSS. Assaults on cities cause heavy military and civilian casualties and shattered cities resulting in increased stress on CSS systems. The DISCOM may be called upon to supply food, shelter and public safety services to indigenous populations.

CSS SITUATIONAL AWARENESS IN URBAN OPERATIONS

7-67. 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.
- The CSS commanders' access to intelligence preparation of the battlefield (IPB) products.

7-68. 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 asymetric (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 8

CSS Operations

CSS SUPPORT STRUCTURE

8-1. 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 headquarters and headquarters company (HHC). The DISCOM provides combat service support 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, sustaining through the provision of rations, individual equipment, and medical support. 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 FSB commander and battle staff an understanding of what and how CSS integrates from higher, DISCOM and EAD, laterally, with the DSB and DASB, and to the lower supported units. The DISCOM organization is shown in Figure 8-1. Shown in Figure 8-2 are the non-divisional CSS assets, their command and support relationship, and their location in the divisional battlespace.

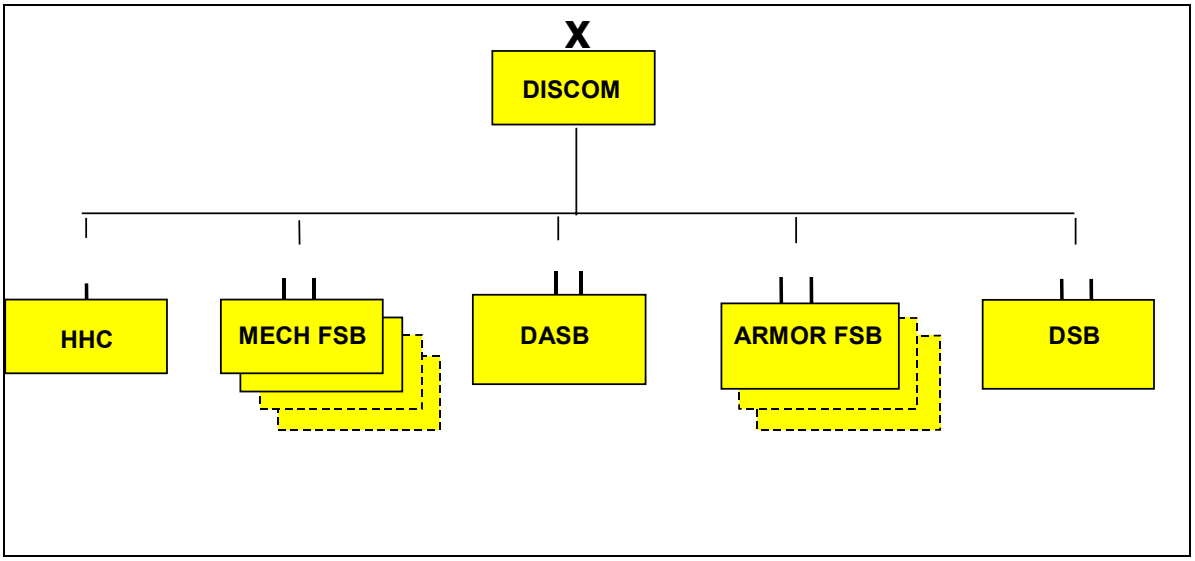


Figure 8-1. DISCOM Organization

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
F&E Rpr
Allied Trades
DS Reinf Trk&Whl
Wtr Purif Det/Tm
ASP
MCT
MA Plt
Trk Co(PLS/POL)

+Air MEDEVAC
+Gnd Ambulance
+FST
+Cbt Stress Ctrl Tm
+ Contingency K Tm
+AMC-LSE/LAO Tm
+CA Tm

In Support of Corps Trps/Div Area Spt

Trailer Transfer Point
TMDE/Cal Tm
PSB&Fin Bn elements

FDRP
EOD Det
Field Svc Co

In Support of Corps Trps In Div Rear

CSB HQ/HHC
DS/GS Mt Co
Wh/Trk Veh Rpr
Arm/FC Rpr
FA/ADA/Msl Rpr
Pwr Gen Rpr
Commel/F&E Rpr
Allied Trades
Recovery
Comp/GS Reps

DS Supply Co
Perishable Sub Plt
DS Ammo Co
Trk Co(PLS/POL)
MCT
MA Sect

+Area Spt Med Co
+Air MEDEVAC
+Gnd Ambulance
+FST

In Spt of the Div in Brigade Battlespace

Commel Repair
Wtr Purif Det/Tm
MA Tm

+Air MEDEVAC Element
+Gnd Ambulance Element
+FST

In Spt of Corps Trps in Brigade Battlespace

FLE FA Bde
Log C2
MST
Supply
Trans

FLE Engr Bde
Log C2
MST
Supply
Trans

Log Task Force ACR
Log C2
MST
Supply
Trans

+Air MEDEVAC Element
+Gnd Ambulance Element
+FST

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

Figure 8-2. Non-divisional CSS Assets Inside FXXI Divisional Battlespace

ARMING THE FORCE

8-2. The division operates four ATPs. These are typically arrayed to support one maneuver brigade each, and one to support 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

8-3. Using the LOGSITREP via FBCB2, 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 using LOGSITREP via FBCB2 to the BN/TF S4, with information copies to the BN/TF commander and S3. Company commanders will indicate in their LOGSITREP remarks about any critical ammunition shortages or forecasted changes in ammunition requirements. At the discretion of the CO/TM commander cross leveling on-hand ammunition within platoons or throughout the company is accomplished.

DETERMINING/REQUESTING BATTALION AMMUNUNITION REQUIREMENTS

8-4. 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 will consolidate the entire battalion ammunition requirement. He will then submit company roll-ups for ammunition resupply through the LOGSITREP via FBCB2 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.

8-5. Units in the division rear submit their requests through the LOGSITREP or LOGSTAT report 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), located 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 issued directly to the FSC, or to replace stocks that will be issued from the ATPs located in the FSBs, DASB, or the rear ATP.

8-6. 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 rear ATP, operated by corps, is responsible for supporting all divisional and non-divisional units in the division rear.

8-7. 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 non-organic 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

8-8. 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 unit. The DAO will then determine, based on METT-TC and transportation availability, whether the ammunition resupply will be throughput to the FSB's ATP, task force support area (TFSA) or the FSC forward. 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 (FSB), HSC ATP (DASB), or rear ATP section (run by corps) of any scheduled ammunition deliveries.

AMMUNITION RESUPPLY

8-9. The CMMC, using SAAS-MOD and recommendations from the DAO, then determines whether the ammunition resupply will come from the ASP or the corps storage area (CSA). The DAO will use the CSSCS Class V ATPs 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 CSA, the CMMC will submit a request for ammunition resupply to the corps G4. Ammunition may 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 movement tracking system (MTS). Delivery coordinates and time will be sent by FBCB2 or CSSCS free text message to the receiving unit/activity, with information copies furnished to the DAO, brigade S4, DAO representative, 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 FSB support operations officer using the CSSCS, FBCB2, or MTS through free text. Ammunition shipments that need to be diverted within the division will be directed by the DISCOM commander or designated representative. See Figure 8-3 for Class V distribution within the DISCOM.

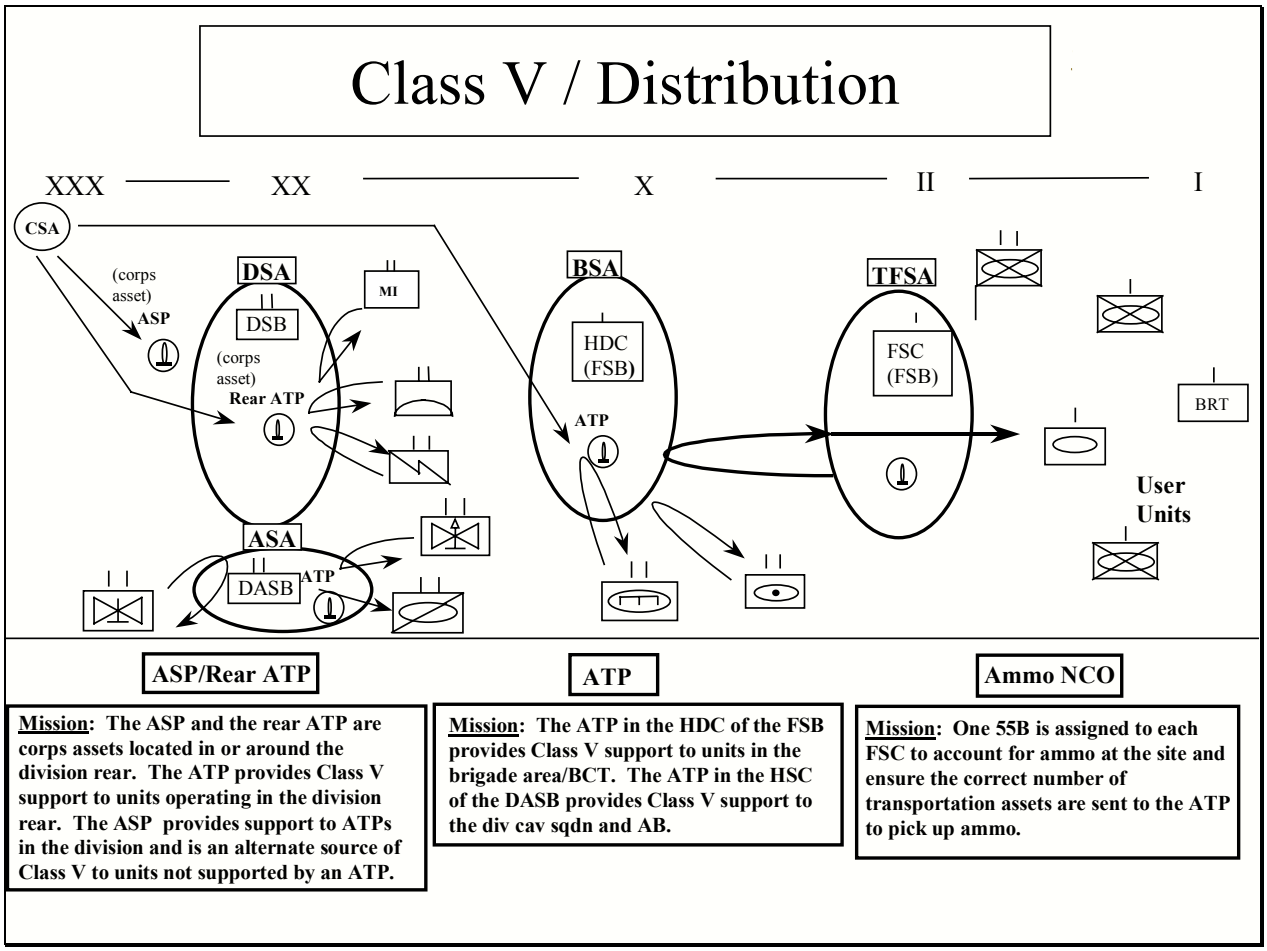


Figure 8-3. Class V Resupply

ATP OPERATIONS

8-10. The ATPs act mainly as a temporary distribution point, conveniently located to facilitate rapid issues to users. The HDCs (FSB) operates the ATPs 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 and is non-organic to the division and is run by corps assets. 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. 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 via DAO, CMCC, and the respective support operations officer based on guidance from the DISCOM commander, division G4, and G3. Corps transportation assets using PLS trucks and trailers will deliver ammunition on flat racks. The ATP personnel will interrogate RFID 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 retrieves fully loaded flat racks. The 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 returns at the ATP to the respective support operations and to the DAO. The corps transportation assets used to deliver ammunition resupply will pick up the unit turn-ins for immediate retrograde. When time and equipment permits, the ATP section will attach RFID 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.

ASP OPERATIONS

8-11. 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

8-12. 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 exploitation operations.

8-13. 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.

8-14. 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 reinforcing distribution of Class III(B) to the BSA, and distribution to the HEMTT fuelers of the FSCs. The distribution section of the supply and transportation platoons (FSC) is 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 of Class III(B) to the AB and division cavalry squadron.

8-15. 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, submits 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.

8-16. 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 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 BSA, and down to lower levels on a case-by-case, exception, or mission dependent basis. Due to EAD time/distance factors, OPTEMPO, and the challenges in synchronizing deliveries forward, this throughput to the lowest level will be coordinated through support operations channels. If direct re-supply from EAD assets to FSC is required, the FSB support operations needs to have the FSC conduct a reverse LRP operation in concert with the already coordinated delivery time and location. The preferred method of distribution is via LRP operations as coordinated with the DSB, DASB, and FSB support operations.

8-17. 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. To optimize bulk fuel storage capacity forward and ensure HEMTT tankers have smaller turns to refuel, the FSB commander has the flexibility to position HDC 5K tankers forward in the FSC's. If the FSB support operations officer and/or the FSB commander need additional fuel assets they can request for DSB 5K tankers forward in the BSA. Tasking authority to position the DSB tankers in the forward areas normally resides with the DISCOM support operations. Figure 8-4 depicts Class III(B) operations.

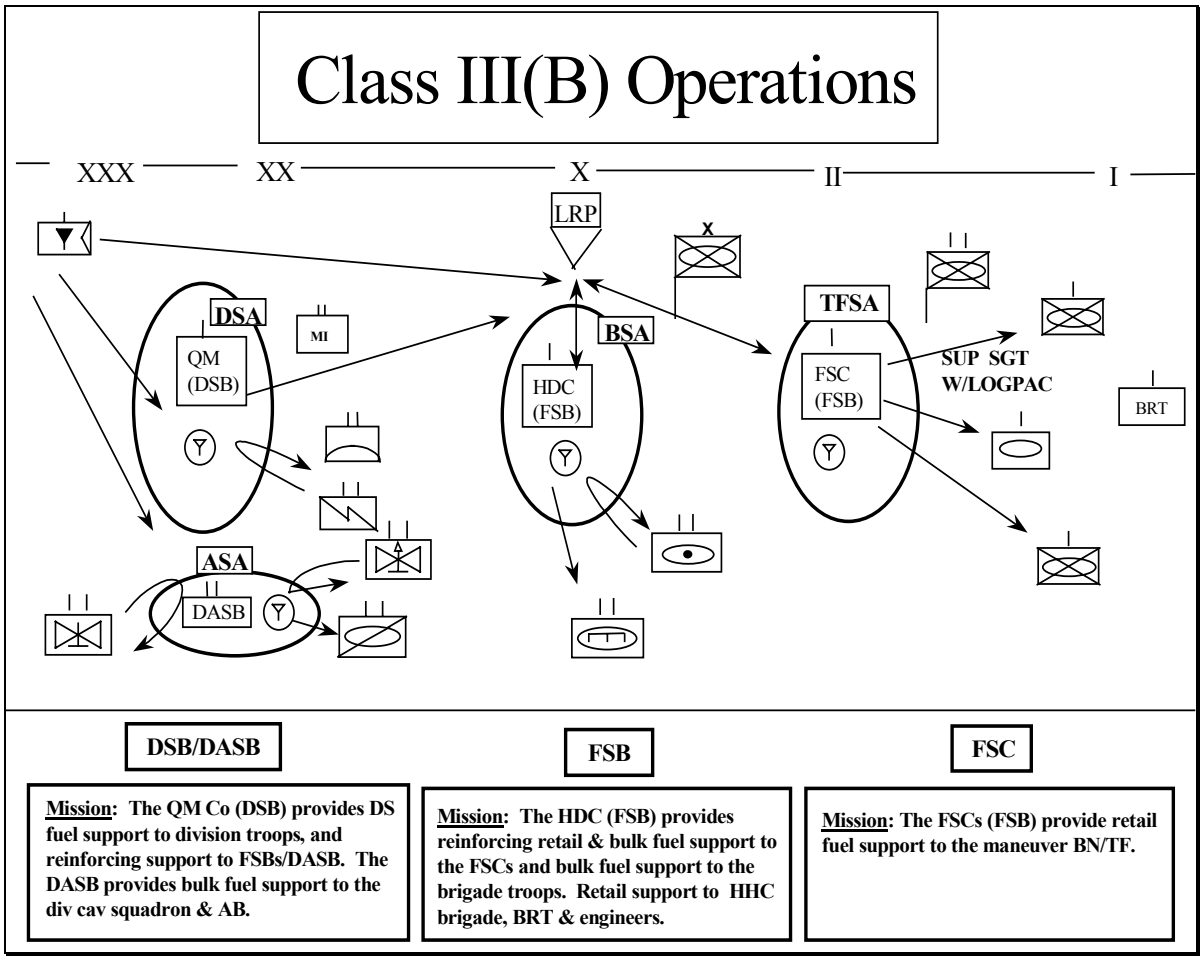


Figure 8-4. Class III(B) Operations

FIXING THE FORCE

8-18. 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. In the maneuver BN/TF, field maintenance (organizational and direct support maintenance levels) is consolidated in the forward support company (FSC), maintenance platoon. By combining organizational and direct support maintenance levels, the FSC has greater flexibility to perform maintenance farther forward on the battlefield unencumbered by job ordering equipment from one level of maintenance to another. The multi-capable maintainer (MCM),

which are Abrams and Bradley system mechanics, have both organizational and on-system direct support level maintenance skills. Coupled with the forward repair system (FRS), the multi-capable maintainer now has the skills and the tools necessary to better execute the replace forward mission. The base maintenance platoon, brigade support company (FSB) provides similar field maintenance support to HDC FSB, BSC, engineer battalion, HHC brigade, and the brigade recon troop with a combination of organizational and direct support level mechanics. Field artillery units retain their unit maintenance sections and are provided a DS artillery support team from the BSC, forward repair platoon. The BSC maintenance platoons provide direct support level maintenance on an area basis to those units operating within the brigade area.

CONTROLLED EXCHANGE

8-19. Controlled exchange is the removal of serviceable parts, components, or assemblies from unserviceable, but economically reparable 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

8-20. 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.

MAINTENANCE PLATOON, FORWARD SUPPORT COMPANY

8-21. The maintenance platoon, FSC, provides field maintenance (organizational and DS level) to its supported maneuver BN/TF. The platoon consists of a headquarters section, maintenance control section (MCS), recovery section, maintenance and service section, and the combat repair teams. The maintenance platoon provides command and control and reinforcing maintenance to the CRTs. The CRTs provide field maintenance and battle damage assessment and repair (BDAR) to the maneuver companies. As a maneuver commander task organizes the force, all or part of a CRT goes with the company teams in order to maintain habitual support. The platoon maintains a limited quantity of combat spares (PLL and shop stock) in the MCS. The FSC operates the UMCP in what is known today as the task force support area (TFSA) or in the FSC forward location, depending on METT-TC.

BASE MAINTENANCE PLATOON, BRIGADE SUPPORT COMPANY

8-22. The BSC base maintenance platoon provides field maintenance (organizational and direct support) to the HDC FSB,

BSC, FSMC, HHC brigade, and brigade recon troop. It also provides DS maintenance support to other units operating in the brigade support area. The platoon performs and coordinates backup and reinforcing support to the FSC maintenance platoons and the ESE forward engineer repair teams. The goal of the "replace forward" concept is to repair systems forward on the battlefield returning combat systems to battle as rapidly as possible. The base maintenance platoon consists of the maintenance control section, automotive maintenance section, GSE repair section, and armament repair section.

FORWARD REPAIR PLATOON, BRIGADE SUPPORT COMPANY

8-23. The forward repair platoon provides field maintenance to brigade and divisional units not supported by FSCs or the DSB on an area basis. The service and recovery section provides welding services and limited recovery/lift support. The missile/electronic maintenance support team provides land combat missile systems (LCMS) and communications/electronic maintenance support either forward on-site, or at the base shop as directed by the MCS. The artillery support section provides on-site DS level maintenance to the artillery battalion in support of the maneuver brigade. The wheel/track section is capable of providing contact (on-site) support to the brigade headquarters, brigade recon troop, engineer battalion, and reinforcing support to the FSCs as directed and also provides limited reinforcing and back up support to the FSCs.

ENGINEER SUPPORT ELEMENT

8-24. The engineer support element (ESE) is a multi-functional unit that includes a food service section, a distribution section, and maintenance sections organized to provide habitual support to divisional engineer battalion. The new engineer support element is as mobile as the unit it supports. It is modular enough to be broken into three multi-functional engineer support teams (EST) each capable of providing habitual combat service support to an engineer company. These ESTs can co-locate or be attached to maneuver FSCs that are in support of the battalion task force that the supported engineer company is in support of. The ESE can also consolidate all of the ESTs with the ESE headquarters and form a separate engineer task force support area based on METT-TC.

8-25. The brigade support company maintenance control section manages limited combat spares consisting of major assemblies and key combat system components. During combat operations, these combat spares are maintained by the engineer CRT, engineer support element and managed by the MCS. When task organized, the BSC MCS sends the accompanying ULLS-G box and an operator with each engineer CRT to facilitate parts requests and maintenance management. The FBCB2 calls for support and

logistic task orders follow the same lines of communication as the CRT in the FSC.

FIX - INTERNAL SUSTAINMENT

8-26. The BSC is resourced to perform its own field maintenance. Requests for maintenance of organic equipment are submitted by FBCB2, voice, or face-to-face to the BSC MCS. An information copy is sent to the 1SG. If the equipment can move, the section takes it to the maintenance area for repair. If the equipment cannot move, the repair team assesses the system and updates the MCS on its status. Parts are ordered and the repairs are made. Repairs can be made at the point of repair or the equipment can be recovered to the maintenance collection point.

8-27. The MCS reports the ULLS-G automated materiel condition status report (MCSR) to the BSC commander. The BSC commander signs the MCSR and forwards it the FSB S4. This allows the BSC commander to maintain oversight of all organic maintenance issues and the BSC's external support mission.

DSB AND DASB

8-28. When the brigade organizes for combat, typically, elements from the DSB may be in the brigade battlespace in DS support to the slice elements in support of the brigade (MP, signal, MI, etc…). The area support maintenance company (ASMC), organic to the division support battalion (DSB) provides direct support level maintenance support for the division troop units and CSS elements operating in the division rear area. The ASMC also provides unit level maintenance to itself and the HHC DISCOM. See FM 4-93.55 (63-21-1) (DSB Digitized). The division troops, division cavalry squadron, and field artillery retain their organic unit maintenance sections. The ground maintenance company (GMC) of the division aviation support battalion (DASB) provides field maintenance support to the aviation brigade and division cavalry squadron. See FM 4-93.55 (63-23-1) (DASB Digitized). Figure 8-5 depicts maintenance relationships in the division.

AUTOMATION SUSTAINMENT

8-29. 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.

8-30. 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.

8-31. Development of a successful automation maintenance plan at the FSB level in support of a maneuver brigade's 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.

8-32. 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.
- Rehearse evacuation and replacement procedures for combat critical automation systems such as FBCB2, ABCS (MCS, CSSCS, AFATDS, ASAS, AMDWS, and selected GCSS-A systems.

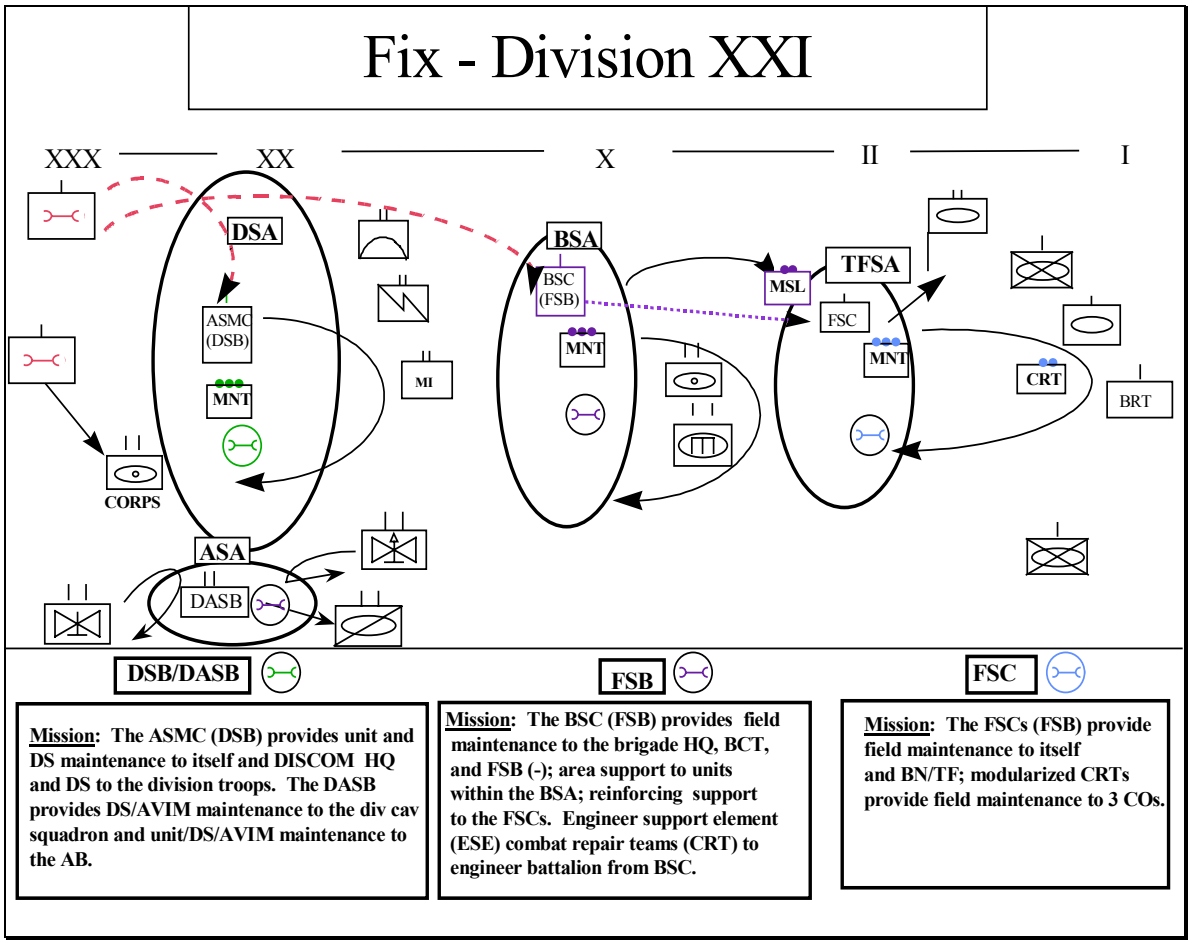


Figure 8-5. Fix-Division XXI

MOVING THE FORCE

DIVISION TRANSPORTATION OPERATIONS

8-33. 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 commanders' intent. Under Force XXI operations, this doctrinal premise is dependent upon battlefield distribution, throughput to forward areas, and improved situational awareness through the application of enabling technologies.

8-34. 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 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 to provide movement control and transportation coordination for the maneuver brigade.

8-35. In order to maximize division transportation capability, planners and operators must employ the Force XXI CSS imperatives discussed below as the basis for all transportation operations.

Unity Of Command, Centralized Distribution Management

8-36. 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 battle 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 supply and service cell of the FSB support operations section.

Increased Velocity, Throughput To Forward Areas

8-37. Throughput operations bypass one or more echelons in the distribution network or system to minimize handling of cargo and improve velocity on the battlefield. Direct throughput relies on unity of command and situational awareness 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 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

8-38. 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

8-39. 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 battle 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 non-committed units in the division area and require 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 battle staff and the commanders and battle staffs of the brigades, separate battalions, and separate companies.

8-40. The division G4 DTO is the primary advisor to the division commander, the coordinating 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 battle staff, the corps transportation officer (CTO), and division support movement control team (MCT) habitually supporting from corps. The division G3 prioritizes CSS movement and tactical maneuver missions in support of division operations 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/ASRs. 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.

8-41. 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, and then assigns the missions to the TMT.

8-42. 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 or directly to the supporting area MCT with a copy furnished to the DTO/division support MCT. The supporting division MCT/DTO submits the request to the corps support group forward 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.

8-43. 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.

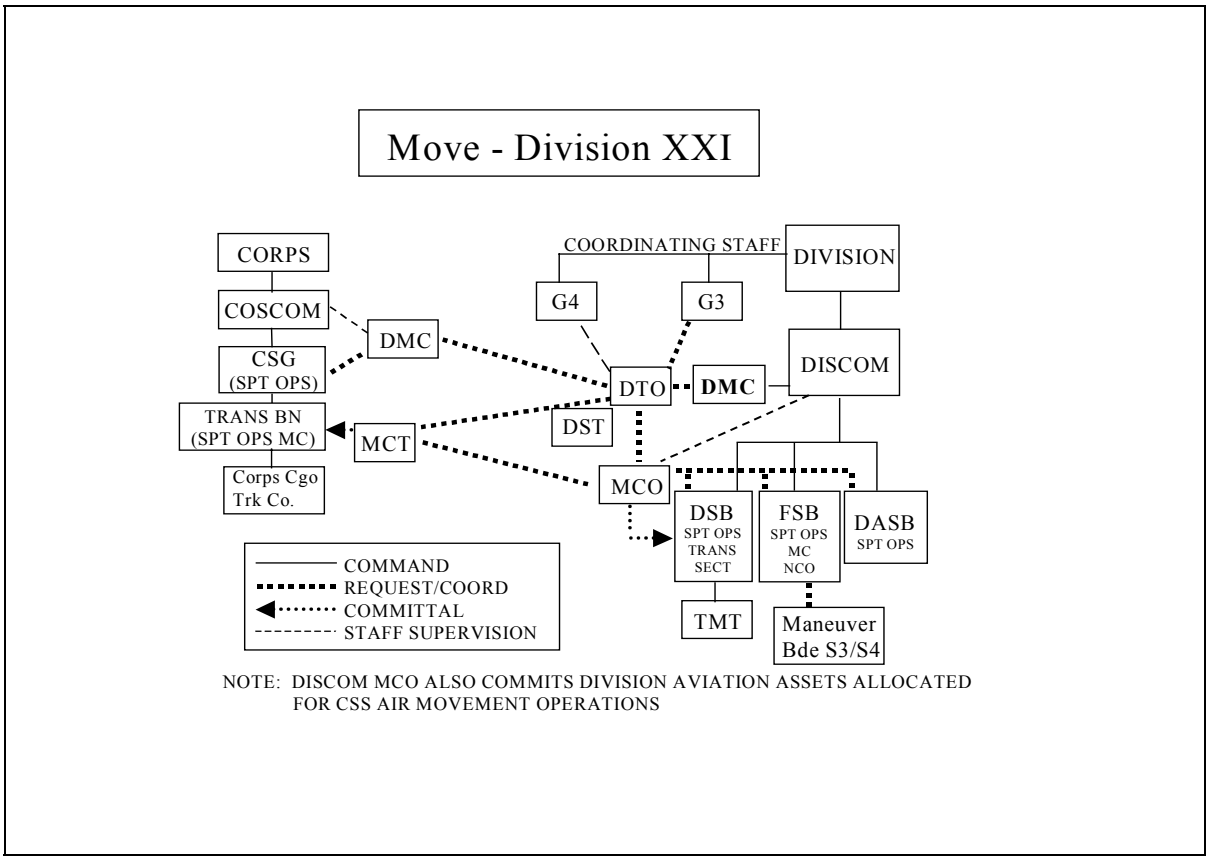


Figure 8-6. Division Movement Control

8-44. 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 support operations) 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 to the division support operations 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 8-6 depicts division movement control.

8-45. Transportation operations and movement control in the maneuver brigade is a CSS staff responsibility. The brigade S4

provides the brigade commander with overall battle 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, and the battalion S4/forward support company (FSC) support operations at the BN/TF.

8-46. 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 manages and approves all tactical movements in the brigade's battlespace. The brigade S3 must also monitor that all CSS movements are synchronized with the scheme of maneuver. The brigade S4 plans, manages, and monitors all CSS movements with the FSB support operations. The FSB support operations manages and executes the movements through CSSCS and maintains visibility through MTS.

8-47. 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 the CSSCS 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.

8-48. 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 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 (info copy to FSC commander). The FSC support operations 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 REPORT POINT

8-49. 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 awareness.

8-50. 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

8-51. 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 to successfully sustain combat power on the FXXI battlefield.

8-52. 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

8-53. The FSCs operating TFSAs face increased flatrack management challenges because 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.
- 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.

8-54. 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

8-55. The FSB operating in the BSA has 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.

8-56. 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, and DISCOM.
- Monitoring the status and location of FSC FRCPs.
- Coordinating with the DISCOM MCO for supplemental transportation support when retrograding flatracks from BSA FRCP.

8-57. 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 movement control MC NCO.

8-58. 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. When selecting the LRPs, supply routes, feeder routes, accessing supply routes, supply support activity, and other collection point locations,

force protection measures must be considered. The FRCPs can also be collocated within existing logistical nodes to maximize force protection resources.

Division Rear Area Flatrack Management Operations

8-59. 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.

8-60. 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.

8-61. 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.

8-62. 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

8-63. 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 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 8-7 depicts division flatrack management operations.

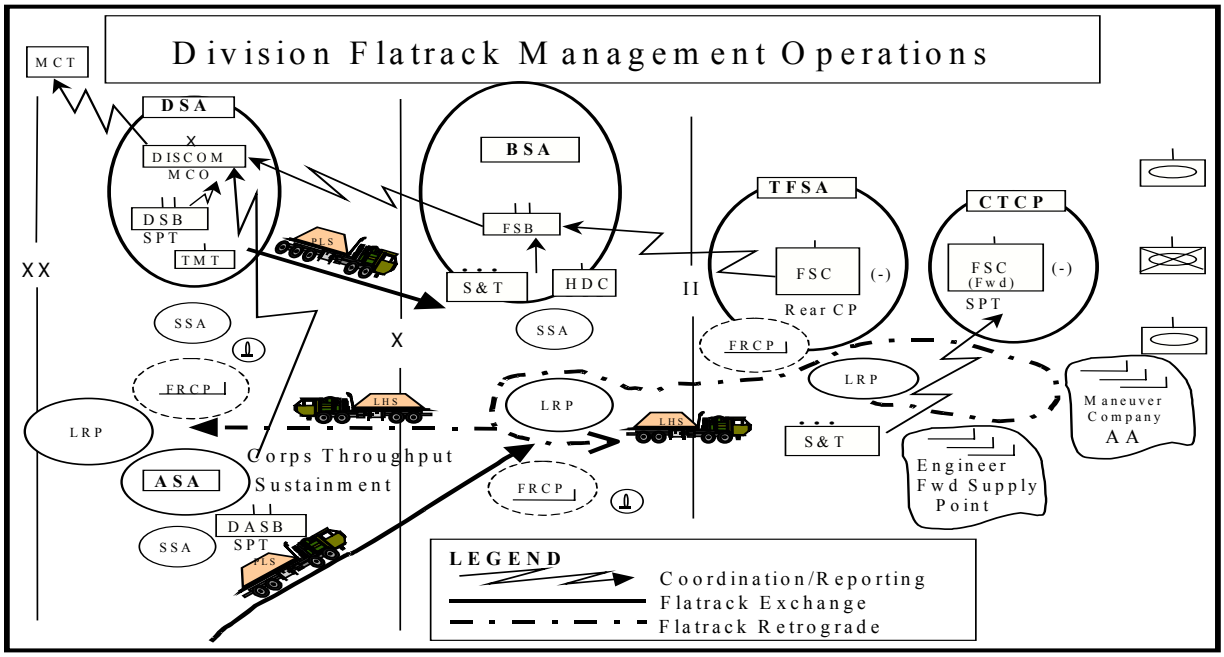


Figure 8-7. Digitized Division Flatrack Management Operations

ARMY AIRCRAFT SUPPORT

8-64. Logistics planners categorize air movements' requests as pre-planned or immediate. Units submit pre-planned requests to satisfy programmed requirements within 24-hour advance notice. 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.

8-65. Units submit requests to the FSB 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 assets are not available internal to the division, the DTO submits requests through CMCC channels for pre-planned missions. For immediate use, the DTO coordinates through division G3 air with corps G3 air for allocation of assets.

8-66. 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 division support operations. If aviation assets are required for CSS distribution missions, the MCO submits pre-planned 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.

8-67. 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.

8-68. 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 4-20.199 (10-450-5)). Information is passed to both the supporting and supported units as well as the responsible operations center/battle 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

8-69. 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

8-70. 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 challenge. 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."

8-71. As the operational situation permits, efforts are made to distribute, prepare, and serve the UGR-A. This requires extensive planning and coordination. Some key points planners need to consider with UGR-A are: refrigerated storage and distribution equipment and the availability of ice for unit storage.

8-72. The FSC provides consolidated food preparation for the FSC and BN/TF. The FSC has the ability to prepare meals forward in each company area based on METT-TC. The food service section

cooks UGR-A or heats the heat and serve meal in its organic mobile kitchen trailer (MKT). Food can be packed in insulated food containers and sent with the LOGPAC to CO/TM location where CO/TM soldiers serve the meals. The HDC, FSB provides food service support to itself, BSC, HHC brigade, brigade recon troop, and FSMC. In the brigade support company (BSC) the engineer support element (ESE) provides food service support to the engineer battalion. Food and beverage containers are sent back for reuse. Where practical, small units are fed by units designated on an area basis.

8-73. 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 8-8, shows Class I resupply.

8-74. 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.

8-75. 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.

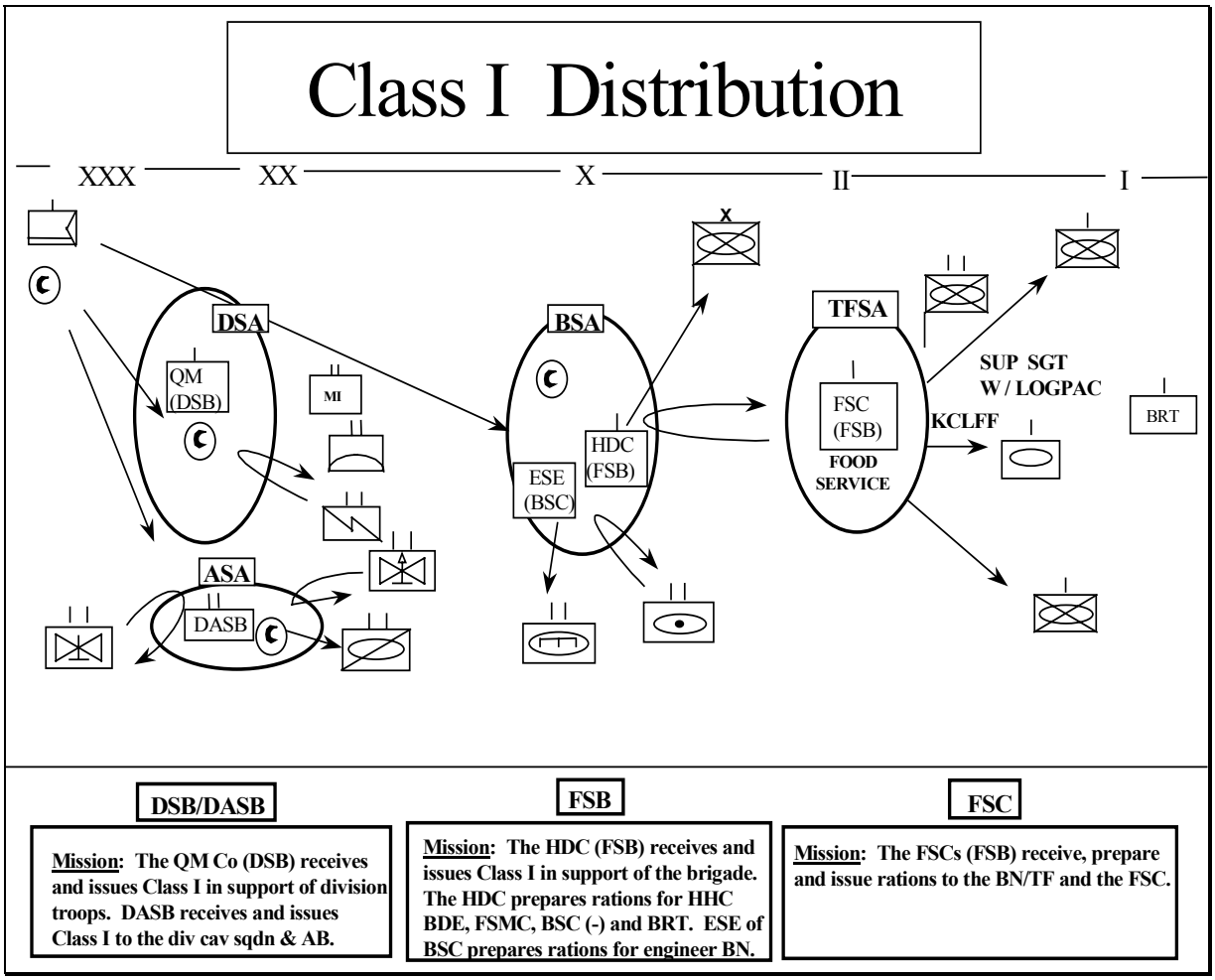


Figure 8-8. Class I Distribution

WATER

8-76. The Class III and water supply branch of the division support operations will manage water distribution within the division. Figure 8-9 shows the DISCOM water distribution organization. Water production and storage is provided to the division by an augmentation team from 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.

8-77. Water augmentation teams/sections 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/section and transporting the water to support area water points.

8-78. Water distribution within the DSA, ASA, and BSA will be normally through supply point distribution at the water points. The HDC's hardwall tankers or semi-trailer mounted fabric tanks (SMFTs) 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. Figure 8-9 shows water purification and distribution.

8-79. 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 (situational 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.

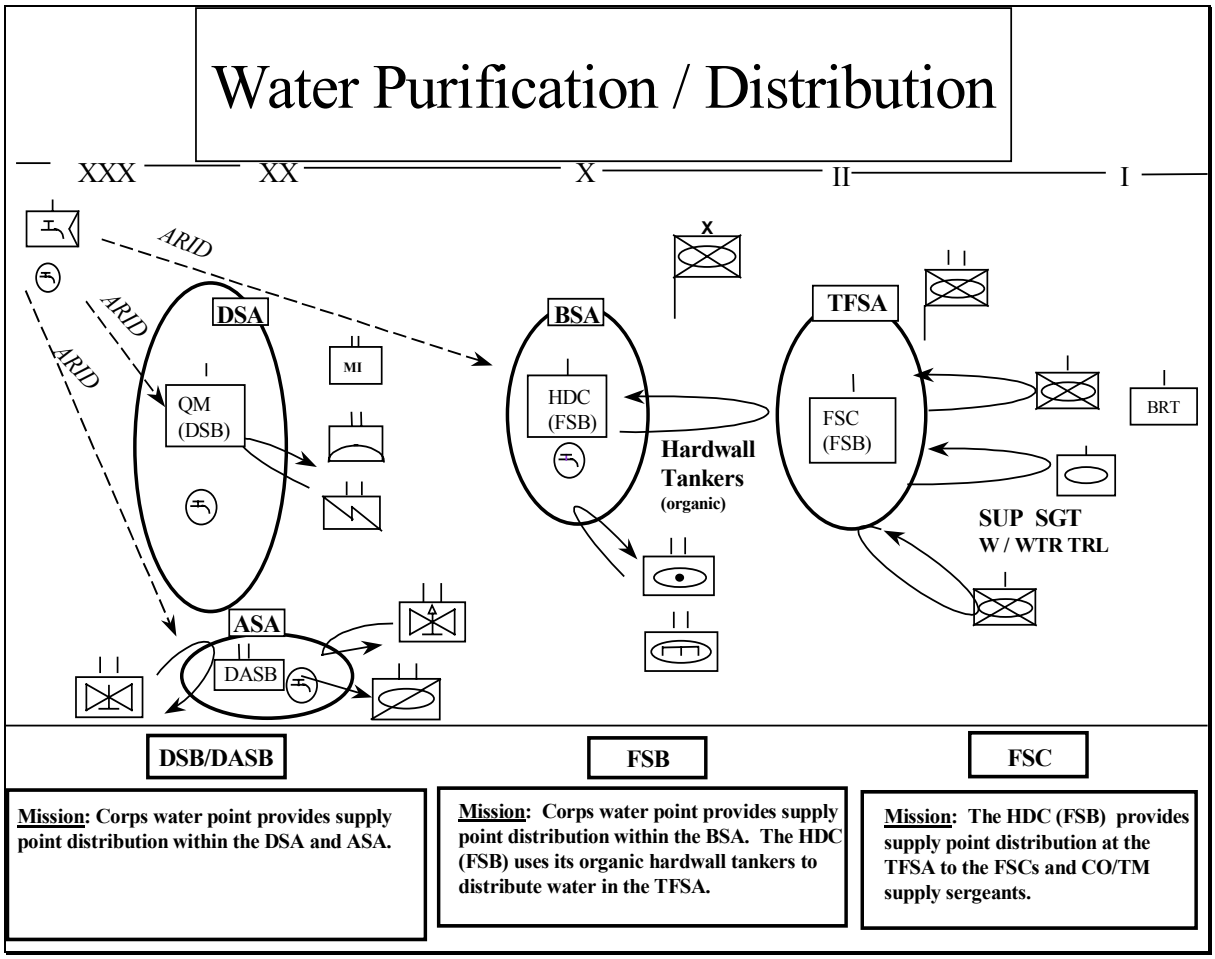


Figure 8-9. Water Purification/Distribution

CLASSES II, III(P), AND IV

8-80. Classes II, III(P), IV, and unclassified maps include a wide variety of supplies and equipment from clothing to tools, to packaged petroleum products, to barrier materials. The FSC of the FSB issues Class II, III(P), and IV to units in the maneuver BN/TF. The HDC of the FSB will maintain limited stockage for support of the brigade supply point distribution to brigade troops. The QM company out of the DSB will issue Class II, III(P), and IV to division troops. Stockage for the support of division troops is kept in the supply platoon of the QM company. This stockage is not based on maneuver brigade consumption. The HSC of the DASB will maintain stockage for support of the aviation brigade and division cavalry squadron.

8-81. 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.

8-82. Units in the brigade area submit their requests for Class II, III(P), and IV items through the appropriate STAMIS (ULLS-S4), to their supporting FSC. The S&T platoon issues the item to the customer. If supplies are not on hand at the FSC, the request is sent to division support operations (SARSS-2A). Personnel in the Class II, III(P), and IV supply branch of division support operations check within SARSS-2A. If they find the items are on hand in the SSAs, they will release it or forward the request to the corps SARSS-2A. The division support operations can also direct cross leveling of items within FSBs. The supporting COSCOM activity delivers the supplies to the respective SSA according to the department of defense activity address code (DODAAC). Units in the division rear submit their Class II, III(P), and IV request through the appropriate STAMIS (ULLS S4) to their supporting QM company in the DSB. Units in the aviation brigade and division cavalry squadron submit their Class II, III(P), and IV request through the appropriate STAMIS (ULLS S4) to their supporting HSC in the DASB. Figure 8-10 shows the DISCOM supply operations for Class II, III(P), and IV as well as Class VII and IX supply operation, and Figure 8-11 shows the requisition flow for Classes II, III(P), and IV.

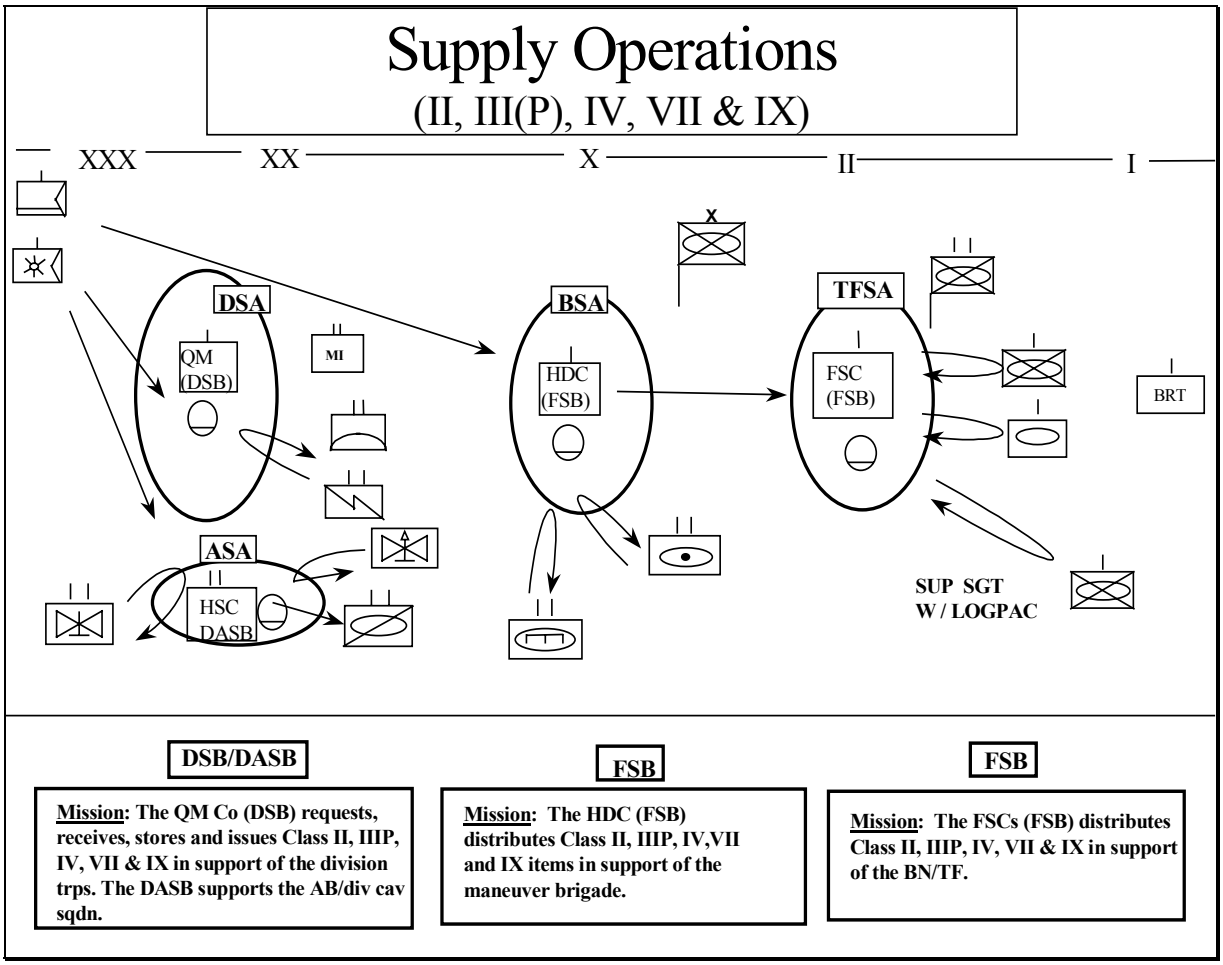


Figure 8-10. Classes II, III(P), IV, VII, and IX Resupply

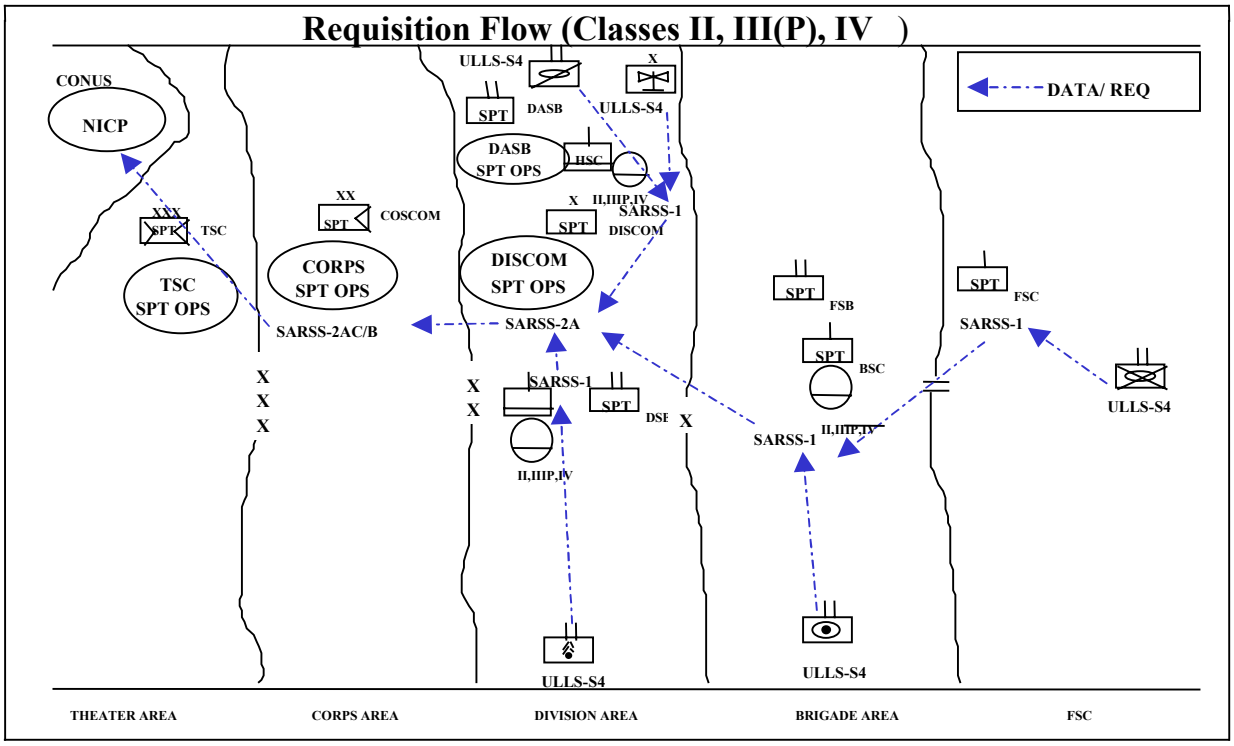


Figure 8-11. Classes II, III(P), and IV

8-83. The limited stockage of Class II items may include MOPP gear, environmental protection items (boots, overshoes, parkas, and helmets), and mechanics' tools. Distribution plans for protective clothing and equipment must consider the threat and the service life of protective overgarments and filters. Unit priorities for issue must be established.

8-84. The QM company of the DSB, the HDC of the FSB, and the HSC in the DASB, or, if appropriate, the gaining unit's supply element, reequip soldiers returning to duty from medical treatment facilities (MTFs) in the division rear area. The FSB/DASB may reequip return to duties (RTDs) in the brigade area. If the gaining unit has support elements operating in the vicinity of the MTF, SOP may require that the unit bring personal equipment when it picks up personnel returning to duty. If the gaining unit does not have elements operating near the medical treatment facility (MTF), SOP may require medical personnel to pick up clothing and essential protective gear at the supply point to provide minimum protection before the soldier returns to duty. The MTF cannot issue individual weapons.

8-85. The engineer battalion S4 officer determines and requests Class IV requirements for upcoming operations in coordination with the assistant brigade engineer (ABE). He passes the request to the

FSB support operations section, with a copy furnished to the brigade S4. Then the request is sent to HDC to be inputted into the SARSS-1. The request is then sent to division support operations from the SARSS-1 to the SARSS-2A, and subsequently to the CMMC SARSS-2A. If available in the corps, the Class IV package is then released and delivered as close to the emplacement site as possible, METT-TC dependent. Once released from the corps, the requesting unit is notified by electronic means of the amount and composition of the mission configured load (MCL) available for delivery. Coordination is made for the delivery location.

CLASS VI

8-86. 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. The 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

8-87. 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.

8-88. 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.

8-89. 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 VII supply operations is shown in Figure 8-10.

CLASS VIII

8-90. Typically, there are four Class VIII DSUs within the division (DSMC, 3-FSMCs). These DSUs will forward their requisitions to the DISCOM medical material management branch (MMMB). The MMMB will have asset visibility of on-hand quantities of Class VIII supplies. The MMMB can authorize and direct one DSU to fill another DSUs supported unit requisition. If the MMMB elects not to cross level from one DSU to another DSU, then it forwards requisitions from the division to the supporting medical logistics company. Class VIII management in the Army's Force XXI division will be accomplished by medical units/elements using the combat health logistics (CHL) functional module of theater medical information program (TMIP)/medical communications for combat casualty care (MC4) system, when fielded. 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) that is a legacy system. This system will be replaced in the future by the MC4/TMIP system. This system provides brigade medical elements a direct link with the FSMCs and division rear medical elements a direct link with the DSMC. Also, this system provides 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 to 5 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.

8-91. 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.

8-92. During the initial employment phase, each FSMC will receive a preconfigured medical resupply push-package every 48 hours, as required, from pre-positioned stock or the continental United States

(CONUS) base. Preconfigured medical resupply push-packages will continue until appropriate units of the corps medical logistics (MEDLOG) battalion are established.

8-93. 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, as required. 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 HSMO who coordinates further Class VIII resupply requirements with the supporting MEDLOG battalion. Other than line item requisitioning from the FSMCs and DSMC, the HSMO of the DSS and the DISCOM MMMB will coordinate all Class VIII requirements for the division with the supporting MEDLOG battalion and/or MEDLOG company as appropriate.

8-94. Divisional medical elements will use TMIP/MC4 system, when fielded, to requisition Class VIII. Users of this system in the division include maneuver battalion medical platoons, FSMCs, the DSMC, and the DISCOM MMMB. The TMIP/MC4 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

8-95. 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 MMMB and also 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 MMMB. The MMMB coordinates shortfalls in throughput distribution with the DSS and divisions support operations branch. The MMMB 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 that were not filled. An information copy is forwarded to the MMMB.

Immediate Requisitions

8-96. 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

8-97. Delivery of throughput Class VIII to the requesting medical units in the division is accomplished by logistical packages (LOGPACs) and non-medical 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 (TC-AIMS), 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 non-medical 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 8-12 provides an overview of Class VIII requisitions and resupply flow at Echelon I. Figure 8-13 provides an overview of Class VIII requisitions and resupply flow at Echelon II.

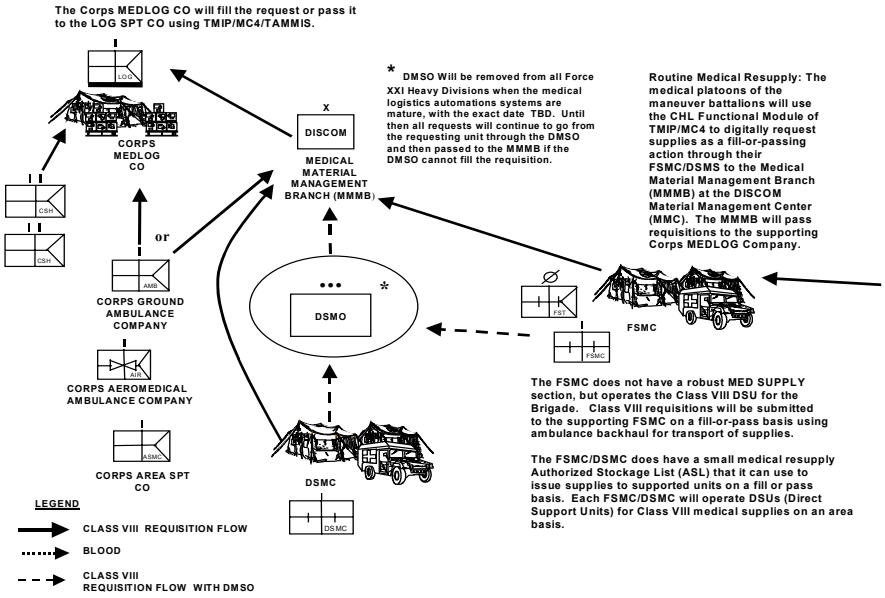


Figure 8-12. Overview of Class VIII resupply at Echelon I

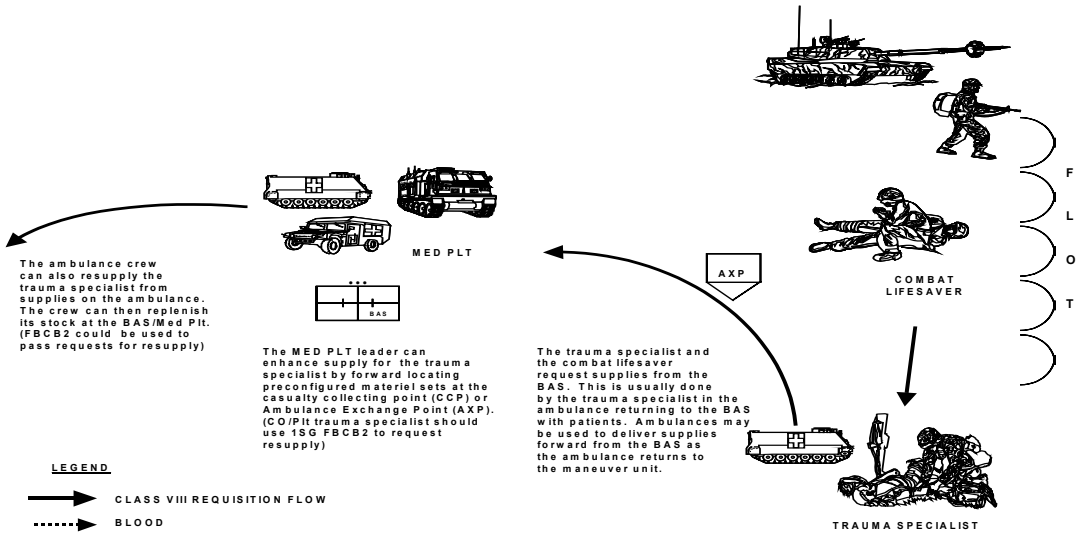


Figure 8-13. Overview of Class VIII resupply at Echelon II

Assemblage Management Reporting Under USR

8-98. Unit status reporting (USR) of medical equipment sets (MESs) in the division will be created using the TMIP/MC4 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.

8-99. 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.

8-100. 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

8-101. 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 MMMB 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.

8-102. 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 FM 4-02 (8-10), FM 4-02.1 (8-10-9), FM 4-02.55 (8-55), and TM 8-227-12 for definitive information on blood management. Also refer to TM 8-227-12, Armed Services Blood Program Joint Blood Program Handbook, January 1998.

CLASS IX

8-103. As a result of the implementation of field maintenance (organizational and DS level maintenance) in FXXI, the maintenance control section (MCS) is now responsible for maintaining what we know as prescribed load lists (PLL) and shop supply items. For this reason we have designated the new term for these consolidated inventories as "combat spares." Both of these inventories have very different requirements for adding and maintaining parts on inventory. The MCS will manage the PLL using the ULLS-G and the shop stock using the SAMS-1. With the fielding of GCSS-Army, the maintenance module's consolidated ULLS-G and SAMS-1 functionality will have the ability to manage the combat spares. Combat spares are not meant to bring back the "iron mountains". Combat spares consist of a broad but shallow inventory of high use, combat essential parts that support a replace

forward maintenance philosophy. Combat spares provide a buffer for the lead-time it takes the distribution system to deliver a required part and also acts as insurance against interruptions in the distribution pipeline. In FXXI parts can be stocked in several different ways. If there is a high use, combat essential part the support units believe needs to be stocked to support combat operations they can do it several different ways. If the part does not meet the stockage criteria for PLL it may be able to be carried on the shop stock. If an essential item fails to meet the criteria for both it may still be stocked at the MCS but will be centrally managed as ASL in the HDC. The SARSS1 box has the ability to just change the location of where the part is physically stored.

8-104. Combat spares for the CO/TM are received, stored, and issued by the maintenance control section of the FSC. An operator identifies a fault and requests assistance from the CRT via FBCB2 (free text) or FM radio. 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 recon troop may be managed 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. The 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 aviation brigade 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 Request

8-105. An operator identifies a fault, annotates the fault and notifies the CRT. The CRT will diagnose the fault, identify the repair part required, and 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 DISCOM support operations 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 & 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 8-14 shows the requisition flow of Class IX within the division.

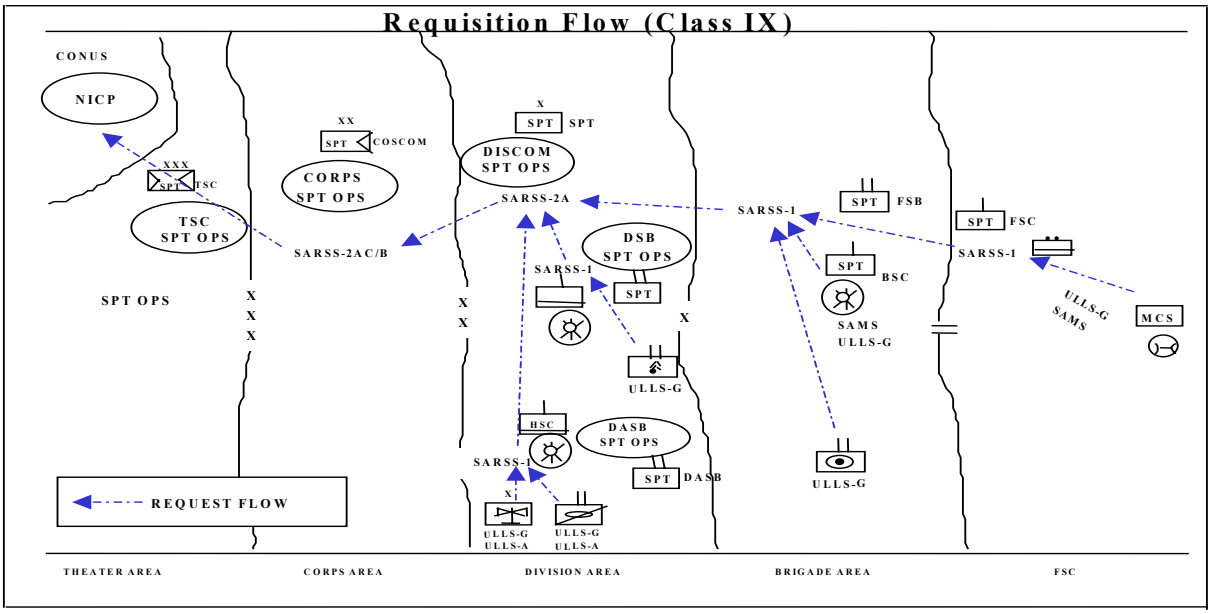


Figure 8-14. Requisition Flow Class IX

Class IX Resupply

8-106. 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 aviation brigade and the division cavalry squadron. The S&T platoon of the HDC provides unit distribution to the FSC in support of the maneuver companies. The 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 8-8.

FIELD SERVICES

8-107. Field services, such as showers, laundry, and textile renovation, are provided by the corps field services companies. The unit makes request for field services to the DSB, DASB, and FSB support operations section. The requesting support operations section will make the appropriate coordination with DISCOM.

MORTUARY AFFAIRS

8-108. 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 tentative 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 nation (UN) agreements.
- Reverent handling of remains and adequate ceremonies and services for deceased.
- Temporary interment of remains (when required and authorized).

8-109. All commanders are responsible for unit level search, recovery, and evacuation of remains to a MACP. Digital FBCB2, or per the TSOP, will be used to transmit the initial findings of the unit search and recovery teams to the MA team.

8-110. Upon deployment and transition to the concurrent return program, a MA forward collection platoon is detached from the corps' QM collection company and attached to the DISCOM. The MA forward collection platoon consists of a platoon headquarters and four forward collection teams. The MA forward collection platoon functions include:

- Conduct limited search and recovery missions, as required.
- Set up and operate collection points with refrigeration capability in the maneuver brigade area.
- Set up and operate a division main collection point with refrigeration capability.
- Conduct temporary interments and disinterments when directed by the geographic combatant commander. This mission is not resourced by the TOE and may require augmentation from the FSB commander.
- Maintain essential records and reports.
- Maintain security over collection points.

8-111. Once the forward collection platoon is attached to the division, the platoon leader and platoon sergeant works with the division support operations or G4 as liaison officer and NCO technical representative. Forward collection teams establish

MACPs at key locations within the division. Each forward collection section has seven personnel and can receive, process, and coordinate evacuation of about 20 remains and associated personal effects per day. The division commander has the flexibility to employ collection teams as the mission dictates, consolidating or shifting assets as need. Normally one forward collection team is attached to the DSB (division collection point) and each FSB. These forward collection teams setup and operate MACPs.

8-112. The forward collection point NCOIC in the BSA reports to the FSB commander for command and control. The collection point receives staff supervision from the FSB's MA staff NCO assigned to support operations. The FSB's MA staff NCO is the commander's advisor for all MA issues. The FSB MA staff NCO's responsibilities include:

- Advising the FSB commander on MA issues.
- Training the brigade and FSB 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 BSA.
- Advising on temporary interment 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.

8-113. The support operations MA staff NCO recommends to the FSB commander the best location within the BSA for the MACP. The FSB commander may have to supply personnel to operate the MACP until the forward collection team arrives. MACP 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.

8-114. The FSB's support operations coordinates the transportation of remains within the BSA. All personal effects found on the remains will accompany the deceased when evacuated to the division collection point. Vehicles bringing supplies (except Class I) to the BSA 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 FSB 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 supporting mortuaries. 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.

8-115. Temporary interment of remains OCONUS is permitted as a last resort. Every effort should be made to return remains to CONUS as soon as possible. The geographic combatant commander may authorize temporary interments only when operational constraints prevent the evacuation of remains out of the AOR. The expedient and respectful evacuation of deceased personnel is a top priority. However, during extreme situations when the tactical and logistical situations leave no alternatives, a program of temporary interment may be implemented. Temporary interments are a last resort used for health, safety, sanitation, and morale reasons at unit levels and are conducted IAW Joint Pub 4-06 and FM 10-64. These burials are fully documented and promptly reported through MA channels.

8-116. In extreme circumstances, when a unit is cut off and has no means to communicate with higher headquarters, the senior commander is responsible for deciding whether temporary interment will be utilized after all known support options have failed.

MANNING THE FORCE

8-117. Manning is the process of recording, reporting, verifying and processing personnel strength and casualty information at the unit level.

8-118. 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 with the right capabilities. 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.

8-119. The FSB S1 is the battle staff officer for the FSB commander on all matters concerning human resources. 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 (TPS), personnel module of CSSCS, and FBCB2/PERSITREP. 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.

8-120. Predicting is the process of anticipating the number, grade, and skill of personnel resources required to sustain the battlefield operating system (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 MA assets. In the DISCOM the personnel operator will use the digitized capabilities within CSSCS to anticipate casualties.

8-121. 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 department of the army deputy chief of battle staff for personnel (DA DCSPER) executes the task at the national level in order to structure, acquire, train, distribute, and separate the force. Individual replacements move from the central receiving center (CRC) under the direction of the DCSPER and CONUS major commands (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.

8-122. 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 division G1, manifest all deploying personnel. Inbound or prepositioned asset information is

available through information systems of the manning the force automation architecture. 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.

8-123. Assessing is the process of comparing current and projected unit strength data to personnel capabilities required maintaining OPTEMPO and achieving operational success. It starts by determining the personnel required maintaining 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.

8-124. 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 that hold and process replacements until they are dispatched to the gaining unit. The 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.

8-125. When soldiers deploy to an area of operations, the battalion S1 manifests soldiers using smart card technology and the tactical personnel system (TPS) to create the deployed database. Once that the S1 establishes that baseline, unit leadership (FBCB2 platform level) report changes to the baseline through FBCB2s PERSITREP. As the S1 updates the duty status changes in the personnel module of CSSCS, all subsequent reports and queries reflect the changes. This reduces the need for the 1SG to send up reoccurring personnel status reports.

8-126. 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, which resides on the personnel module of CSSCS. 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.

8-127. 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.

8-128. S1 ensures personnel service support is fully coordinated with other battle 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 combat health support. The S1 directs the activities of the battalion S1.

8-129. 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 9

Defense Of The BSA

OVERVIEW AND PURPOSE

9-1. Combat service support 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 FSB are designated to evacuate the BSA to allow minimum support to the maneuver brigade should the enemy confront the BSA. The FSB should develop a displacement plan. However, all units must be able to defend against Level I activities (sniper, agents, saboteurs, or terrorist activities). They should be able to impede Level II attacks until assistance arrives. FSB units must defend themselves against attempts to disrupt their operations. They must be able to minimize destruction and to reinforce their units. FSB units must also be able to gain time until response forces arrive. Each unit must form a base defense perimeter 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 an enemy incursion exceeds the capability of response forces, tactical combat forces must be committed to neutralize the threat. 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. The FSB must be able to synchronize self-defense with BSA assets, MPs, and the TCF when it arrives.

9-2. 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 FSB 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.

9-3. Operations in the rear will include efforts to secure the force, neutralize or defeat enemy operations in the rear, and secure freedom of action in the deep and close battles. The brigade commander is responsible for plans and operations throughout the brigade area of operations. He assigns tasks to subordinate and supporting commanders to accomplish all brigade missions. The brigade S3 includes detailed planning for the entire brigade's rear area as part of operational planning for offensive and defensive missions.

9-4. When the brigade commander plans for the defense of the rear area, he needs to have complete knowledge of what elements are in his sector of responsibility. What assets does each unit have that will allow it to defend itself and identify what elements can defend against a large enemy threat? Most CS and CSS units in the brigade rear area are located in the BSA. Many small elements form bases, with the entire group of bases making up a brigade support area (BSA), which in itself is a base cluster. The BSA or base cluster is under the C2 of the FSB commander. The FSB commander is responsible for the defense of the BSA.

9-5. The brigade commander's goal is to retain overall freedom of action for fighting close and deep operations. This means the MSRs are clear, unobstructed, and secure; units can move quickly and in an orderly fashion throughout the brigade area; logistical resupply and reconstitution are sustained; and all CS and CSS units are secure. To accomplish this, there must first be an understanding of the different levels of threat.

9-6. The planning considerations for rear operations include:

Secure and protect the BSA, facilities, and mission essential assets.

Preventing or minimizing enemy interference with C4ISR.

Preventing or minimizing disruption of CS and CSS to forward units.

Providing unimpeded movement of friendly units throughout the rear area. This will involve control of dislocated civilians, which is coordinated with the division G5 through the DISCOM headquarters and executed by military police elements and reaction forces on the ground.

Finding, fixing, and destroying enemy incursions in the rear area.

Providing area damage control after an attack.

Identifying combat units, ground, and aviation (if available) that will have the on-order mission to defeat the enemy in the rear area and has C2 responsibilities.

In addition, the FSB battle staff must coordinate with the brigade S3 and ensure the BSA security plan for the rear area is integrated into the overall brigade plan.

PLANNING AND EXECUTING DEFENSE OF THE BSA (BASE CLUSTER)

COMMAND, CONTROL, COMMUNICATION, COMPUTERS, INTELLIGENCE SURVEILLANCE, RECONNAISSANCE (C4ISR)

9-7. The FSB commander is responsible for BSA security. As such he has control of all elements in the BSA for defense and positioning. Normally, the BSA is a base cluster with the FSB commander as the base cluster commander. The major elements in the BSA (BSC, FSMC, artillery field trains etc…) become unit bases. The senior individual in each base is the base commander. The FSB 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.

9-8. In addition, all ground units entering the brigade area must report to the brigade administrative and logistics center (ALOC) and the FSB TOC to coordinate routes, terrain, communications, and CSS. The brigade ALOC, where the brigade S1 and brigade S4 are located, will contact the main command post to confirm the operational aspects of the coordination.

9-9. The S2/S3 section of the FSB TOC is the base cluster operations center. The FSB TOC is collocated with the brigade ALOC within the BSA defensive perimeter. The combination of the brigade ALOC and the FSB TOC collocated constitutes the base cluster operations center (BCOC). Alternate BCOCs should also be designated. Possibilities include the brigade support company CP, the engineer battalion ALOC in the BSA, or the forward support medical company (FSMC) CP. In urban terrain, the FSB S2/S3 may have to establish subordinate base clusters and BCOCs within the BSA. One of these may be designated the alternate BCOC.

9-10. Based on their TSOP, each base may send a representative to the BCOC battle 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 BSA movement orders.

BASE CLUSTER OPERATION CENTER (BCOC)

9-11. The FSB 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 FSB S2/S3 assigns a defensive position and a sector to each base in the BSA. 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 FSB S2/S3 must carefully coordinate this planning with each base to avoid having troops engage friendly forces.

9-12. The BSA defense plan must be integrated into the plan for the entire brigade rear. This requires the BCOC to coordinate with the brigade S3 for the overall plan. It must also coordinate directly with other BCOCs in the brigade rear to plan mutually supporting fires and to prevent firing upon each other.

9-13. 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, OP patrol routes, and positions of automatic and anti-armor weapons. These weapons will include those in the BSA for repair. If the firing system is operable, these weapons should be included in the BSA defensive scheme, and mechanics should work on them in their fighting positions. Whenever possible, units should occupy the same location within the BSA relative to the other units every time the BSA 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 BSA security plan.

9-14. In addition, the BCOC must plan for a quick reaction force (QRF) from assets in the FSB. This QRF will be called upon when a base's defenses cannot defeat the threat and MPs and combat forces from the brigade are not immediately available. As a minimum, the reaction force should include personnel equipped with machine guns, grenade launchers, rifles, FM radios, and vehicles under the control of a qualified and designated leader 24 hours a day. The FSB 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.

9-15. 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 FSB 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.

9-16. Initially, the FSB commander and battle staff will not know the size of the attacking enemy force. Identifying the level of threat is critical in determining the appropriate level of response. Level I threats are those which can be defeated by base or base cluster self-defense measures. They normally involve the activities of snipers, 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 FSB can estimate that the 75 percent of available assets will be engaged in support operations, while 25 percent defend.

9-17. 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.

9-18. The BCOC would likely require strictly controlled access to all areas, reinforced perimeter defense, OPs prepared to withdraw, and the reaction force alerted.

9-19. A tactical combat force is required to defeat a Level III threat. Level III threats normally involve:

Heliborne operations.

Airborne 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 OP will be withdrawn, QRF forces committed, the brigade S3 notified, and support operations ceased. Artillery or air strikes normally precede such a threat.

9-20. 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.

9-21. The BCOC should also have planned in advance emergency displacement procedures. If the FSB is under imminent danger

from a Level II or III threat, the BCOC will call for an emergency displacement of key BSA assets. Key elements should be identified in advance and prepared to move to a predesignated site with minimum notice. The commander designates key FSB 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.

9-22. Other duties of the BCOC are to identify primary and secondary entry points into the BSA and designating preplanned landing zones for brigade reaction forces to use when required. Based on TSOP, the BCOC will also conduct regular (preferably daily) meetings or shift change briefings with base representatives to update the defensive plan. Below in Figure 9-1 is an example of an execution matrix to assist the BCOC. To use this matrix the BCOC synchronizes the BSA actions to execute 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 BSA. This matrix can be included with the support synch matrix.

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 9-1. BSA Execution Matrix

COMMUNICATIONS

9-23. Communications for BSA 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 BSA are responsible for laying wire from their CPs to the BCOC. The ADA, field artillery, and engineer units in the BSA will have direct wire communications with the

BCOC to provide early warning of enemy aircraft and to facilitate calls for fire.

9-24. Ideally, the FSB would also operate a separate rear operations radio net. If wire or BCOC FM communications are lost, units will monitor the FSB 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.

9-25. In addition, units in the BSA cannot rely on wire and FM communications to relay alert status. Too much time would pass before every soldier received the message. The FSB should establish readily recognizable signals that are easy to initiate. For example, the warning for an NBC attack could be a pyrotechnic signal, voice, siren,, 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

9-26. The only specific asset the FSB 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.

9-27. The MP elements are task-organized to accomplish their missions. Size and composition of a tasked element depend on mission needs and the tactical situation. The MP teams have the experience, initiative, and ability to operate independently or as part of a larger unit.

9-28. 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, NBC detection equipment, and secure radio communications. MP teams fight mounted or dismounted to suit the tactical situation.

9-29. In the rear area, MPs are a critical part of the brigade and FSB commander's on-the-ground intelligence-gathering assets. The 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.

9-30. In the rear area, the MPs are a flexible economy-of-force organization that can significantly multiply the commander's combat power. The 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.

9-31. 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.

Enemy prisoner of war 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.

9-32. 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

9-33. Maintaining security of the MSRs 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 FSB must use the gun trucks (with M2, MK-19, M60, or M249) 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

9-34. 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.

9-35. 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

9-36. 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.

9-37. 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).
- 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.

9-38. 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

9-39. 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.

9-40. 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.

9-41. **Firing positions.** Except for the prone position, the riflemen's basic firing stances stay the same (Figure 9-2). 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.

9-42. **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

9-43. For a logistical convoy, normally without significant air defense firepower, passive measures are most effective. The key is to prevent attacks by hostile aircraft.

9-44. **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.

9-45. **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.

9-46. **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.

9-47. **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:

Figure 9-2. Firing positions

The operator should look for a bush, tree, or some other means of concealment to break the shape as seen from the air (Figure 9-3).

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.

9-48. **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.

9-49. **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

9-50. 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 9-4).

9-51. 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.

9-52. 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.

9-53. 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 9-5). 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.

9-54. 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.

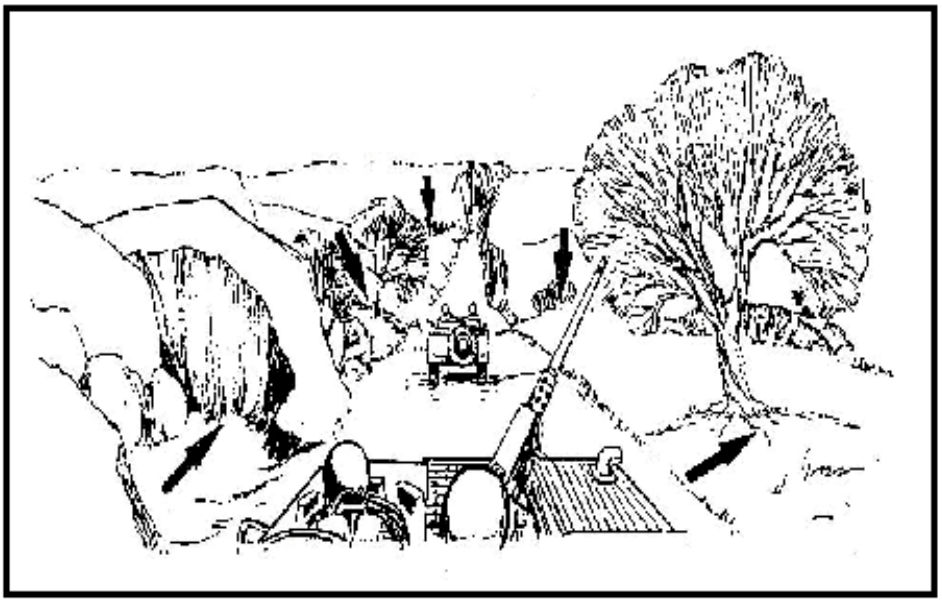


Figure 9-3. Dispersing vehicles seek cover for protection against air observation

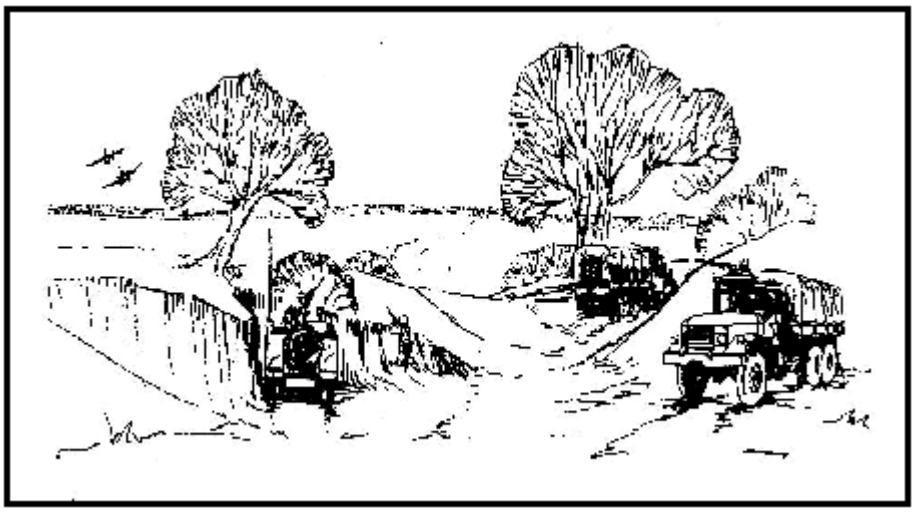


Figure 9-4. Dispersed vehicles in concealed position

Figure 9-5. Vehicles moving to dispersed positions on road shoulders

Artillery Or Indirect Fire

9-55. 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.

9-56. **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.

9-57. **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.

9-58. 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.

9-59. 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.

9-60. 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

9-61. 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.

9-62. 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

9-63. This paragraph provides guidance in developing and employing counter-ambush 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 3-25.75 (21-75) (Combat Skills of the Soldier).

9-64. No single defensive measure, or combination of measures, will prevent or effectively counter all ambushes in a situation. The effectiveness of counter-ambush measures is directly related to the state of training of troops and the leadership ability of the leaders.

9-65. 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.

9-66. 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.

9-67. 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.

9-68. **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.

9-69. 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.

9-70. 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.

9-71. 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.

9-72. **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.

9-73. 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.

9-74. **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.

9-75. 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

9-76. 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) (NBC Protection), FM 3-11.5 (3-5) (NBC Contamination), and FM 3-11 (3-100) (Chemical Operations Principles and Fundamentals).

Area Reconnaissance and Security

9-77. 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 brigade'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 BSA. If the enemy force is more than the MP platoon can handle, the following contingencies should be planned for:

Reprioritize 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

9-78. The FSB must ensure that quick reaction forces (QRF) are identified, trained and equipped to perform their mission of reaction to threats against the BSA both at bases and the base cluster. The S2/3 NCOIC is usually the chief of the QRFs of the BSA. 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 CAS).

Reconnaissance and surveillance/patrolling 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).
Enemy prisoner of war procedures.
Night operations.

9-79. The ready reaction forces must possess:

Friendly barrier plan.
Friendly sector sketch.
Pre-planned fires-field artillery / mortar / attack helicopter/CAS.
Medical evacuation procedures.

9-80. 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 (TTP)

9-81. 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.

9-82. The QRF checklist is listed below:

Example of team composition (METT-TC driven).

- NCOIC.
- A/B team leaders.
- Combat lifesaver.
- Radio/communications 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 soldiers' 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.

The 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

9-83. The elements in the BSA are organized into bases for self-defense. Normally, each FSB company and each field train (MI, chemical, signal, artillery, ADA) in the BSA 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 observation point (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 and units to the left, right, forward, and to the rear.

Prepare primary fighting positions.

Emplace obstacles and mines.

Mark or improve marking for target reference point (TRPs) 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, disengagements, and any reaction force plans.

Continue to improve positions.

9-84. 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 3-34.103 (5-103) (Survivability).

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 BSA 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 FSB cannot constantly occupy a full perimeter and perform its mission. Early warning is imperative. Therefore, OPs are critical. The OPs must provide a good view of the sector, which ideally overlaps with the adjacent OP sectors. Both 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) (Military Police Battlefield Circulation Control, Area Security, and Enemy Prisoner of War Operations) and FM 3-20.98 (17-98) (Scout Platoon).

Establish patrols when required.

Enforce noise and light discipline.

Ensure camouflage is used properly.

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 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 9-6 for an example of a defensive sector sketch, Figure 9-7 for examples of range cards, and Figure 9-8 for weapons characteristic within the FSB. 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 and observation points (OPs).
- Draw TRPs and RPs in sector.
- Draw mines/obstacles.

- Draw indirect fire target/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, DTG prepared, and magnetic north arrow on sketch.

DEFENSE SECTOR SKETCH

UNIT:_____ LOCATION:_____ AS OF:____

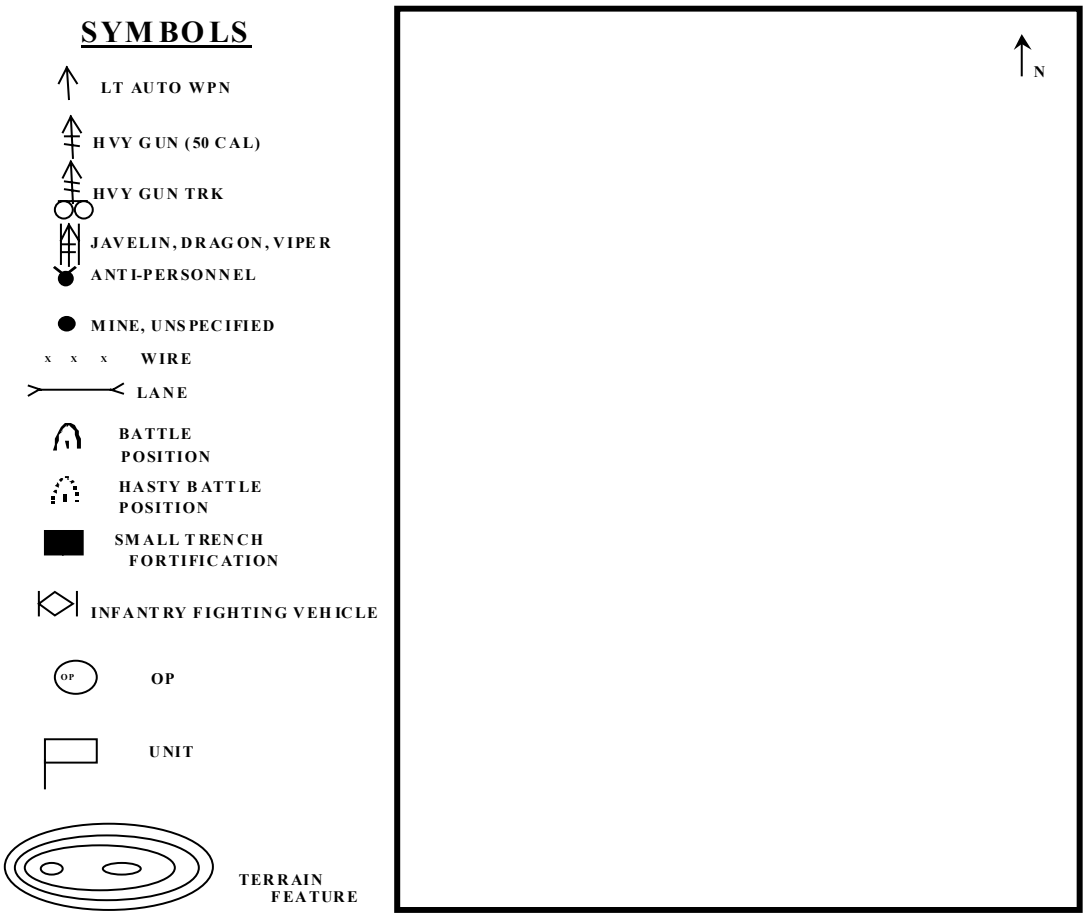
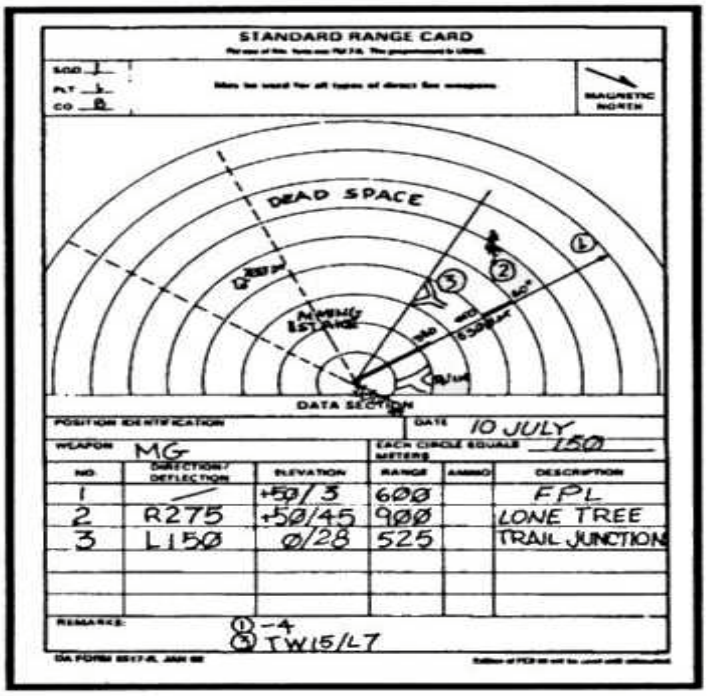
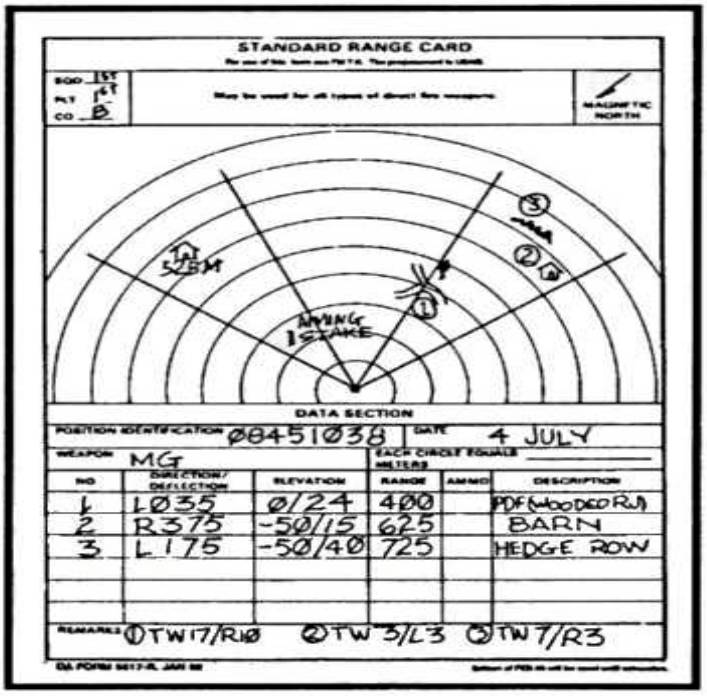


Figure 9-6. Defensive Sector Sketch



Primary sector with FPL.



Primary sector with PDF.

Figure 9-7. 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 Grenade 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 link)	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 9-8. Weapons Characteristics Within The FSB

DEFENSE OF SUPPLY POINTS

9-85. 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

9-86. 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.

DIVISION CLEARING STATION

9-87. The FSB commander must carefully consider the role of the forward support medical company (FSMC). Here are three possibilities. First, the clearing station may be located near the center of the BSA to be protected by surrounding bases. This increases the size of the BSA without adding any defenders to man the perimeter. This also increases traffic movement in the middle of the BSA. A second option is to assign a sector of the BSA perimeter to the medical company. Medical personnel can carry individual small arms for their own defense and the defense of the wounded and sick in their charge against those not acting in accordance with the law of land warfare. Also, it must be considered that the FSMC can only defend itself when attacked, and does not have the right to fire unless fired upon. However, the duty of medical personnel is to care for the sick, wounded, and injured. In addition, to questions on conformance with the Geneva Convention accord, the commander must realize the perimeter sector assigned to the medical company would have no crew-served weapons. The final option is to locate the clearing station away from the rest of the FSB. It is then essentially protected by the enemy's compliance with the Geneva Convention. In view of the FSMC's mission to provide area support to units in the BSA and

the constant coordination required with BSA elements, this option may not be feasible under most circumstances.

INTELLIGENCE

INTELLIGENCE PREPARATION OF THE BATTLEFIELD (IPB)

9-88. Intelligence preparation of the battlefield 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. Detailed information on IPB is in FM 2-01.3 (34-130). 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.

9-89. Intelligence preparation of the battlefield consists of four steps:

Define the battlefield environment.

Describe the battlefield's effects.

Evaluate the threat.

Determine threat COAs.

9-90. The IPB process begins prior to and continues during the command's initial planning for an operation and is continuously updated during the operation. There are four steps to the IPB process. In **step 1** (define the battlefield environment), the FSB S2:

Identifies characteristics of the battlefield that will influence friendly and threat operations.

Establishes the limits of the area of interest (AI).

Identifies gaps in current intelligence holdings.

9-91. 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 identities 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 FSB S2 confers with the brigade S3 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 that will influence COAs and command decisions. If not properly executed, the FSB 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.

9-92. **Step 2** (describe the battlefield's effect) evaluates the effects of the environment with which both sides must contend. The FSB 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).

9-93. Regardless of the subject or means of presentation, the S2 ensures that these products focus on the effects of the battlefield environment.

9-94. 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. National imagery and mapping agency (NIMA) produces specialized maps, overlays, and databases to aid in map-based evaluations. Specialized NIMA 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.

9-95. 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.

9-96. 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.

9-97. 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 that gives access to the opposite shore without requiring an assault crossing. Another example is a level clearing in rough terrain that 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 that 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 AAs 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 FSB 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.

9-98. 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.

9-99. 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. The FSB 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.

9-100. 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.

9-101. 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 BSA.

9-102. 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.

9-103. 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.

9-104. 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.

9-105. In **step 3** (evaluate the threat) the FSB 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.

9-106. 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.

9-107. Threat evaluation is a detailed study of the enemy forces. It considers their organization, tactical doctrine, equipment, and support systems. The FSB's interest for security purposes is in rear area threat evaluation. The FSB 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.

9-108. 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 FSB commander must ensure threat integration for the BSA is coordinated with the brigade. Due to the limited resources available to the FSB 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 BSA.

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 BSA.

9-109. **Step 4** (determine threat COAs) 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.

9-110. 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.

9-111. Like all other Army forces, the FSB must perform intelligence preparation of the battlefield (IPB). The sustainment planning considerations described in Chapter 7 are based on the

FSB's knowledge of the enemy, (for example, his projected use of chemical munitions affects the FSB'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. For BSA security, the FSB 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 COAs to plan security operations.

RECONNAISSANCE AND SURVEILLANCE (R & S) PLANNING

9-112. 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.

9-113. Surveillance is passive. It implies observing a specified area or areas from a fixed concealed position. Observation points (OPs) can provide 24-hour surveillance and must be covered by indirect/direct fire.

9-114. R&S tasking matrix is a product used to display taskings, requests and coordination's necessary to answer the commander's priority information requirements (PIR). The matrix has:

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. Figure 9-9 is an example of an R & S tasking matrix.

RECONNAISSANCE AND SURVEILLANCE (R&S) TASKING MATRIX										
NAI	LOCATION	Specific Information Requirement	HDC	BSC	FSB	DASB	DSB	DISCOM		REPORTING REQUIREMENT

Figure 9-9. Reconnaissance and Surveillance (R&S) Tasking Matrix

SOURCES OF INFORMATION

9-115. The FSB's responsibility for BSA security makes it imperative that the FSB TOC and brigade staff maintains a close relationship. Intelligence information possessed by the brigade with implications for BSA security must be available to the FSB 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 BSA, military police, truckers, customers, elements of the MI battalion in the BSA, and any other elements moving into the area. In addition, information should flow laterally as well as vertically. For instance, while FSMC personnel must pass information like task force casualty estimates to the FSB S2/S3, they should also notify other FSB companies simultaneously whenever possible.

OTHER DEFENSIVE MEASURES

COORDINATION

9-116. In addition to the C2 relationships discussed above, the FSB TOC must ensure proper coordination is maintained with the elements discussed below. Due to the limited assets available to the BSA, the BCOC must coordinate all minefield, obstacles, and artillery fires within the BSA. One technique that may be used is to arrange in advance to have designated field artillery and ADA representatives (and perhaps the MP platoon leader) automatically report to the BCOC when the threat status reaches a predetermined level.

FIELD ARTILLERY SUPPORT

9-117. Call for fire will be made in accordance with procedures detailed in FM 3-09.30 (6-30) (Tactics, Techniques, and Procedures for Observed Fire). TC 25-4-1 gives details on planning and conducting fire coordination exercises.

9-118. For the fire plan to be effective in the defense, the unit must plan and execute fires in a manner that achieves the intended task and purpose of each target. Indirect fires serve a variety of purposes in the defense, including the following:

Slow and disrupt enemy movement.

Prevent the enemy from executing breaching operations at turning or blocking obstacles.

Destroy or delay enemy forces at fixing obstacles using massed fires or pinpoint munitions (such as copperhead rounds).

Disrupt enemy support by fire elements.

Defeat attacks along dismounted avenues of approach with the use of final protective fire (FPF).

Disrupt the enemy to allow friendly elements to disengage or conduct counterattacks.

Deliver scatterable mines to close lanes and gaps in obstacles, to disrupt or prevent enemy breaching operations, to disrupt enemy movement at choke points, or to separate or isolate enemy echelons.

Provide illumination as necessary.

Execute suppression of enemy air defenses (SEAD) missions to support close air support (CAS) attacks and high-payoff targets.

Use smoke to separate enemy echelons; to screen friendly displacement; or to silhouette enemy formations, facilitating direct fire engagement.

9-119. In developing the fire plan, the FSB must evaluate the indirect fire systems available to support the operation; considerations include tactical capabilities, weapons ranges, and available munitions. The BCOC will develop the fire planning required to implement the execution of fire support for the BSA. The FSB S2/S3 will coordinate fires with the BSA FSO designated by the field artillery battalion commander. Together, they will plan

targets for the BSA 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 TACFIRE systems for both brigade and division implementation. Artillery (and ADA) overlays must include displaced civilian camps, routes, and information on arts, monuments, and archives. Calls for fire from the bases are made to the BCOC via field phones FBCB2 or FM. 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. An aerial fire support officer may be on call to adjust fires as necessary.

AIR DEFENSE ARTILLERY SUPPORT

9-120. The BSA must be protected from enemy air strikes. The focus of the air defense plan is on likely air avenues of approach for enemy fixed-wing aircraft, helicopters, and UAVs; these may or may not correspond with the enemy's ground avenues of approach. The ADA assets are positioned based on METT-TC factors and the FSB commander's defense plan. For example, a key consideration is to position air defense vehicles, BSFVs or Bradley Linebackers or Avengers, usually about 2 kilometers apart, to maximize the Stinger's capabilities in the defense. The Stinger then becomes the primary killer of rotary-wing and fixed-wing aircraft, with the Bradley's 25-mm machine gun used for close-in defense. In another situation, the FSB S2/3 and the brigade air defense officer (ADO) may determine that the air defense vehicles should be positioned independent of the BSA. These vehicles are also frequently used to protect friendly counterattack forces against aerial observation or attack. Other factors in air defense planning include development of engagement criteria for BSFVs or Linebackers, or Avengers that become involved in the ground fight and positioning of air defense vehicles near templated enemy LZs near the BSA. The ADA base in the BSA will run a line to the BCOC. This will ensure early warning of all inbound aircraft. In addition, although not located in the BSA, Patriot units may be assigned sectors that encompass the BSA and support ADA fires within the BSA. Resupply of Stinger missiles places unique demands on the brigade support company; it requires detailed planning and consideration. It may be necessary to pre-position Stingers in the section areas to facilitate timely resupply. The FSB S2/S3 will also coordinate with the brigade S3 through the brigade ALOC to identify safe air corridors for logistics air missions and to ensure all ADA assets are aware of impending friendly air movements in and around the BSA. The ADA operations are discussed in FM 44-3.

MOBILITY/COUNTERMOBILITY/SURVIVABLILTY

9-121. When engineer assets are located in the BSA, they will be made available to the BCOC for survivability and countermobility

operations. Therefore, the FSB 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) (Engineer Operations) and FM 3-34.102 (5-102) (Countermobility).

9-122. Mobility operations in the defense focus on the ability to reposition forces, including unit displacement and the commitment of reserve forces. Priorities set by the maneuver brigade may specify some routes for improvement in support of such operations. Normally, however, all or most of the engineer battalion assets will be allocated to the mobility and/or countermobility effort. The FSB S2/3 plans and coordinates all mobility requirements of the BSA with the brigade engineer and brigade S3.

9-123. Survivability positions are prepared in the BSA to protect CL III(B) vehicles, major weapon systems, critical assets of service, supply and transportation as the FSB commander dictates. Positions can be dug in and reinforced with overhead cover to provide crew-served weapons with protection against shrapnel from air bursts. Combat vehicles in the BSA for maintenance other armored vehicles in the BSA should have vehicle-fighting positions constructed with both hull-defilade firing positions and turret-defilade observation positions. In addition, the FSB may use blade assets to dig in the ATP ammunition pre-stocks at alternate, supplementary, or successive storage sites and in individual vehicle fighting positions.

9-124. The process of digging in a BSA requires many "blade hours" and assets may be limited. The FSB S2/3 with guidance from the commander must develop a plan for digging in the BSA. The S2/3 NCOIC prepares the BSA for the arrival of the blades by marking vehicle positions and designating guides for the engineer vehicles. The FSB commander must prioritize the survivability effort; for example, he may only have time to dig in positions that have the least amount of natural cover and concealment. Soil composition should also be a consideration in BP selection; sites to be avoided include those where the soil is overly soft, hard, wet, or rocky.

9-125. Planning countermobility in the defense, the FSB/FSC commander may integrate individual obstacles into both direct and indirect fire plans, taking into account the intent of each obstacle group. At the task force level, obstacle intent consists of the target of the obstacle group, the desired effect on the target, and the relative location of the group. In addition, like artillery and mortar employment, obstacle emplacement must have a clear task and purpose. The purpose will influence many aspects of the operation, from selection and design of obstacle sites to actual conduct of the defense. Normally, the task force will designate the purpose of an obstacle group. For example, the task force commander might specify this purpose: "We must deny the enemy access to our flank

by turning the northern, first-echelon motorized rifle battalion (MRB) into our engagement area, allowing Team B and Team C to mass their fires to destroy it."

9-126. Refer to FM 90-7 (Combined Arms Obstacle Integration) for additional information on obstacle planning, siting, and turnover. The following paragraphs discuss employment considerations for various types of standard obstacles. Engineers can augment these with nonstandard obstacles such as tank ditches and abatises.

Disrupting Effects

9-127. These are often the product of situational obstacles, such as scatterable mines. Disrupting effects focus a combination of fires and obstacles to impede the enemy's attack in several ways, such as breaking up his formations, interrupting his tempo, and causing premature commitment of breaching assets. These obstacles are normally used forward within engagement areas or in support of forward positions within a defensive sector. Normally, only indirect fires and long-range direct fires are planned in support of disrupting obstacles.

Turning Effects

9-128. The commander uses this combination of fires and obstacles to support the scheme of maneuver in several ways, including the following:

Divert the enemy into an engagement area, exposing his flanks when he makes the turn.

Divert an enemy formation from one avenue of approach to another.

Deny the enemy the ability to mass forces on a flank of the friendly force.

9-129. The fire plan should specify how the defending unit will maintain pressure on the enemy throughout the turn as well as identify the task and purpose of the obstacle. In addition, the commander must clearly identify the size of the enemy element to be turned. The turning obstacle is tied into an existing obstacle (severely restricted terrain) at its initial point. The commander may further enhance the effectiveness of the obstacle by using infantry squads to cover it with fires.

Fixing Effects

9-130. Fixing effects use the combination of fires and obstacles to slow or temporarily stop an attacker within a specified area, normally an engagement area. The defending unit can then focus on defeating the enemy, using indirect fires to suppress him in the engagement area while direct fires inflict maximum casualties and damage. If necessary, the defender can reposition his forces using the additional time gained as a result of fixing the enemy. To fully achieve the fixing effect, these obstacles must be covered by direct

and/or indirect fires. The commander must clearly specify the size of enemy unit to be fixed.

Blocking Effects

9-131. Blocking effects use the combination of fires and obstacles to stop an attacker along a specific avenue of approach. Fires employed to achieve blocking effects are primarily oriented on preventing the enemy from maneuvering. Because they require the most extensive engineer effort of any type of obstacle, blocking effects are employed only at critical choke points on the battlefield.

9-132. Blocking obstacles must be anchored on both sides by existing obstacles (severely restricted terrain). They must be covered by direct and/or indirect fires to achieve the full blocking effect. The commander must clearly specify the size of enemy force that he intends to block.

Protective Obstacles

9-133. Companies within the BSA are responsible for coordinating and employing their own protective obstacles to protect their bases. To be most effective, these should be tied into existing obstacles. The FSB/companies may use mines and wire from its basic load or pick up additional assets from the engineer Class IV/V supply point. The FSB/companies may also be responsible for any other required coordination, for recovery of the obstacle, or for its destruction.

9-134. In planning for protective obstacles, the commander must evaluate the potential threat to the base or base cluster position and then employ the appropriate system to counter that threat. For example, MOPMS is predominantly an antitank system best used on mounted avenues of approach, although it does have some antipersonnel applications; on the other hand, wire obstacles may be most effective when employed on dismounted avenues. FM 90-7 provides detailed planning guidance for protective obstacle emplacement.

Obstacle Lanes

9-135. All CSS assets may be responsible for actions related to lanes through obstacles. These duties may include marking lanes in an obstacle, reporting locations of the start and end points of each lane, manning contact points, providing guides for elements passing through the obstacle, and closing the lane.

MILITARY POLICE OPERATIONS

9-136. A direct support military police platoon is usually operating from the BSA. The battlefield missions performed by this platoon may include battlefield circulation control, area security, operation of the EPW point, and law enforcement.

9-137. Battlefield circulation control is performed along MSRs and in and around the BSA. The MPs use traffic control points, mobile patrols, and temporary road signs to accomplish this mission. Coordination between MPs and the FSB 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.

9-138. 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. The 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.

9-139. 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. F M 3-19.40 (19-40/60) covers EPW operations in detail.

9-140. Law and order operations are only performed when the brigade commander requires them and the tactical situation permits. This mission is usually the lowest priority during war.

9-141. The brigade commander sets priority of missions for the MP platoon. However, in some cases the brigade commander will give tasking authority to the FSB commander to support the area security mission and battlefield circulation control aspect of the terrain management mission. The FSB commandeer must use this asset to maximum advantage. Details on MP platoon operations are in FM 3-19.4 (19-4).

BSA LAYOUT

9-142. The location of the BSA and the support battalion is contingent on the tactical situation, terrain in the AO, and security considerations. Location of the COSCOM CSS units and the task force support areas (TFSA) must also be evaluated to ensure that there will be no interruption of corps throughput. The BSA location must be situated close to the MSR. The brigade commander approves the location of the BSA with advice from the FSB commander and the brigade S4.

9-143. The elements located in the BSA vary. The FSB commander and staff will coordinate with the brigade S4 to determine who will be in the BSA. The list below is a representative example of division elements that could be expected to locate in the BSA:

FSB TOC.
Brigade ALOC.
Brigade support company (BSC) CP.
Class I point.
Water point.
Class III point.
Class II, IV, and VII point.
Ammunition transfer point.
Mortuary affairs collection point (MACP).
Maintenance shops.
Class IX point.
FSB forward support medical company (FSMC) CP.
Medical clearing station.
Class VIII point.
Smoke platoon.
Decontamination platoon.
Reconnaissance squad.
Military police platoon.
EPW collection point.
Military intelligence team.
ADA battery (-).
Forward signal platoon (-).
Field artillery battalion field trains.
Engineer battalion ALOC.
Aviation elements.

9-144. In addition to these division units, the BSA may include a number of corps elements, such as non-division maintenance teams, CEB teams, the field trains for a corps artillery battalion, air or ground medical evacuation elements, armored cavalry squadron, detachment of the finance support unit, or non-division engineer units. Information on these may also be available on the division and brigade OPORDs.

9-145. Some of the BSA tenants can be expected to always locate in the BSA, for example the brigade ALOC and the FSB TOC. Others may move in and out of the BSA depending on METT-TC. Examples may be the division MI elements and the decontamination platoon.

9-146. In all cases, the composition of BSA elements will not remain static. The FSB must be able to track and control changes. To accomplish this, all ground units entering the brigade area must send a representative to report to the brigade ALOC and FSB TOC.

They will coordinate movement routes, positioning for units locating in the BSA, communications, support requirements and procedures, and security responsibilities and arrangements. Guards at points of entry into the BSA will direct representatives of entering units to the BCOC S3. Also, base commanders will notify the BCOC of all configured loads arrivals and departures. Movement of displaced civilians and local civilians must also be controlled.

9-147. Not only are changes in the elements located in the BSA occurring, but also changes are constantly taking place within the elements. Medical evacuation elements constantly move in and out of the BSA. Supply elements are involved in resupply efforts. Personnel available for defense actions may be extremely limited within certain bases. Base commanders must keep the BCOC S3 informed of their situations. The FSB commander will designate one of the BCOCs as the alternate TOC for the BSA.

9-148. Locations of elements within the BSA will vary depending on METT-TC. Though the FSB commander and S2/S3 must use their best judgment in positioning units, some general guidelines to be considered include:

Position the brigade ALOC/FSB TOC near the center of the BSA perimeter for C2 and security reasons.

Ensure any units such as the artillery, MI, chemical, signal, BSC or FSMC locate their CPs near the rear of their bases, closer to the BCOC to enhance communications and protection of C2 facilities.

Balance the advantages of dispersion (reduced destruction from a single enemy strike) with the disadvantages (C2 constraints and extended perimeter). In general, though specific situations may dictate otherwise, the BSA can be expected to occupy an area 4 to 7 kilometers in diameter.

Make supply points accessible to both customers and resupply vehicles and helicopters.

Keep Class III points away from other supplies to prevent contamination. They should also be located at least 100 feet from water sources.

Locate the ATP at least 180 meters from other supplies and 620 meters from the nearest inhabited tent.

Position mortuary affairs and salvage points near the MSR possibly near the ATP to maximize backhaul missions of vehicles used for ammunition supply.

Locate the Class I point near the water point whenever water sources allow.

Locate the clearing station away from likely target areas (ATP, Class III point, bridges, and road junctions) but near evacuation routes and an open area for landing air ambulances.

Locate maintenance sites to be accessible to customers, including recovery/evacuation vehicles.

Ensure maintenance shops, along with parking and equipment holding sites are on firm ground.

Position the signal platoon and MP platoon headquarters near the FSB TOC to enhance support and security.

Position the ATP near the rear of the BSA and near, but off the MSR, so that the large numbers of corps trailers bringing ammunition into the area do not clog up the MSR within the BSA. The ATP requires sufficient area to perform transload operations without interfering with BSA traffic.

Position units with heaviest firepower, such as the BSC along the most threatening avenues of approach.

9-149. Figure 9-10 provides a sample of a BSA layout:

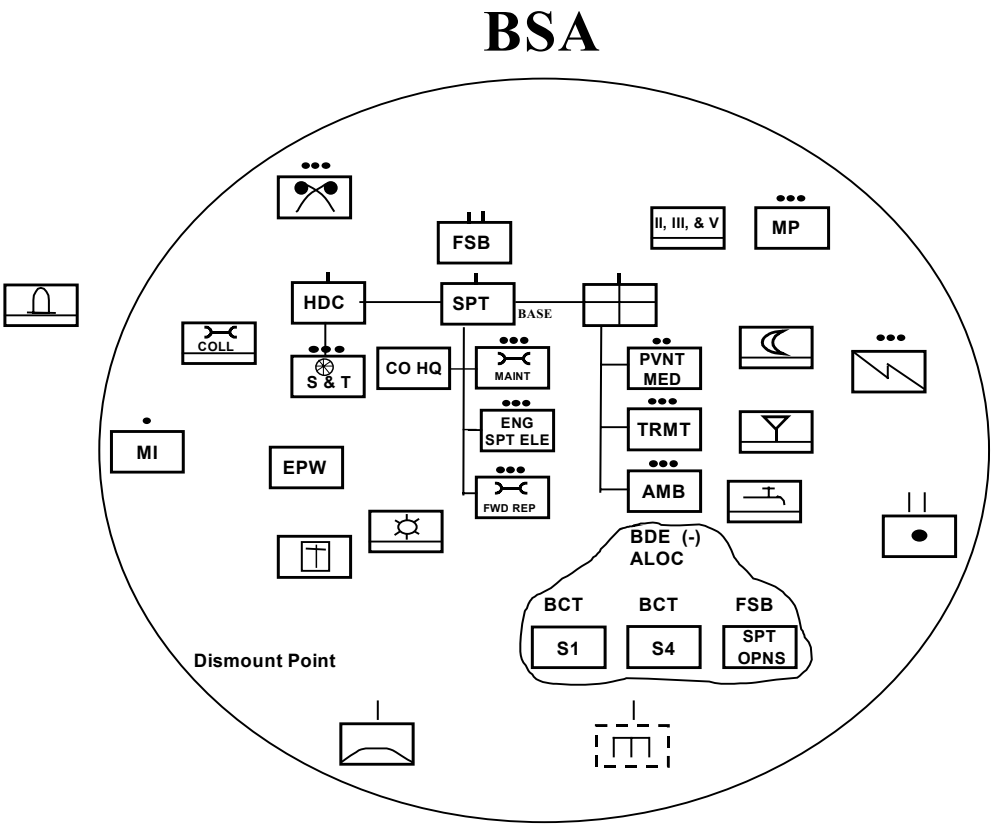


Figure 9-10. Sample BSA layout

INTERNAL SECURITY

9-150. 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-TC 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. Apprising corps CSS C2 elements and convoys, and direct communication to the TFSAs of threat warnings and the defensive posture within the brigade rear area is critical. 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 rear operation center (ROC) located in the sustainment cell in the DMAIN, 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 brigade rear. However, TOC 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. The FSB units should place machine guns and lightweight antiarmor weapons to cover obstacles and avenues of approaches. The FSB S3 must have a clear understanding of the defensive capability and key weapons that each tenant unit possesses as he prepares the BSA layout and security plan. Grenade launchers mounted on vehicles are effective fire suppression systems that can be quickly dispatched to threatened areas. Weapons systems evacuated for repair should be used to prevent a breach of the perimeter. Weapon systems to be repaired should be integrated into the defense plan.

9-151. Internal security of the BSA involves all soldiers. The ability to identify the threat and timely reporting to the FSB TOC is the key to survivability in the BSA. The FSB TSOP covers, as a minimum, procedures for the following internal security measures:

Recon and surveillance plan.
Dismount point operations.
Guard post operations.
Observation post (OP) operations.
Foot patrols.
Levels of alert (THREATCON).
Operational security (OPSEC).
Standard signals for BSA response.
Counter intelligence and essential elements of information.
Enemy prisoners of war.
STAND - TO.

DISMOUNT POINT

9-152. 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***
1st Day	_____	_____
2nd 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**_____

Appendix A

The Military Decision Making Process - A Combat Service Support Perspective

This appendix provides an overview of the military decision making process (MDMP) used by the CSS battle staff providing support to brigade and below echelons and is not intended as an all-inclusive description of the process. Refer to the appropriate tactical standard operating procedures for detailed information. Also, refer to FM 5-0 (101-5), Planning, Chapter 5, for more detailed information reference MDMP.

OVERVIEW

A-1. The MDMP must be integrated from top to bottom and from bottom to top in order to produce a synchronized concept of support that effectively supports the brigade tactical operation. The support battalion should have a CSS planner (liaison officer-LNO) who actively participates with the brigade S-1 and S-4 in the MDMP. Information must flow continuously between the brigade S-1/S-4, the support battalion, and the battalion task force S-1/S-4. At each level, the logistics estimate process should assess CSS capabilities, develop detailed requirements, and identify shortfalls as well as possible solutions. The logistics estimate process must be continuous and communication between the many CSS planners is essential. An integrated CSS concept of support must provide, at each level, the details of how a unit will both receive and provide support throughout an operation. It must provide enough detail so commanders know how they will be supported as well as how they and their subordinate units will execute the CSS portion of their mission.

A-2. The support battalion's challenge during the MDMP is to determine how they will support the brigade. Additionally, the support battalion staff must determine how they should support their internal units, how to configure and defend the BSA (based on a continuous intelligence preparation of the battlefield (IPB) process) and if, when, where, and how the BSA should relocate to support the brigade or protect support battalion CSS assets.

A-3. The CSS planners at all echelons must actively participate during each stage of the MDMP, and these planners must not only participate, but they must communicate with each other throughout the process. The following seven steps of the MDMP should be completed in order to ensure all units within the brigade produce complete, viable, and well-integrated orders:

- Receipt of mission.
- Mission analysis.
- COA development
- COA analysis (war game).
- COA comparison.
- COA approval.
- Orders production.

A-4. Throughout the MDMP, the brigade will be ahead of both the support battalion and the task forces in the planning process. Therefore, it's critical that the brigade planners provide as much information, as soon as possible, to subordinate units on what courses of action the brigade is considering. This information should come in the form of verbal and written warning orders. At this stage of the MDMP, it is also critical that CSS planners complete an updated logistics estimate. This will result in an accurate appraisal of their CSS capabilities, detailed requirements (how much of what class of supply, by specific type, where and when) and if there are shortfalls in capabilities. Proposed solutions should then begin to be developed.

A-5. As the MDMP progresses it is important that information continues to flow up and down among the CSS planners in the brigade. Logistics estimates must be continually updated. Courses of action must be developed and analyzed by the CSS planners to support the various courses of action that are developed for the concept of the operation by the brigade and task force planners.

A-6. The courses of action are compared, and one is recommended to the commander as the best option for providing support to the task force, support battalion, and the brigade. The commander selects the course of action which he feels best supports his concept of the operation. Throughout this stage of the MDMP, information must flow between the brigade, support battalion, and task force CSS planners. After the commander has made his decision, warning orders to subordinate units must be issued. Staffs at each echelon now produce a complete operations order. For brigade level CSS planners, this includes paragraph four (concept of support), a CSS annex/overlay and possibly a CSS matrix. For task force level CSS planners, this includes paragraph 4 (concept of support) and possibly a CSS annex/matrix with additional information on support arrangements. The support battalion should produce a full five-paragraph field order. Paragraph four for the support battalion should discuss the concept of internal CSS support. Additionally, this paragraph should be expanded upon in a CSS annex and possibly a CSS matrix. External CSS support to the brigade should be discussed in paragraph three of the support battalion base order, in an external CSS support annex, and possibly a CSS matrix. The support battalion order must also contain in the base order appropriate

annexes on how the BSA and CSS assets will be supported by the battlefield operating systems (BOS) of fire support, air defense, intelligence (to include a reconnaissance and surveillance plan) and mobility/survivability (to include NBC).

A-7. All the orders produced by the brigade must explain to the commanders how they will be supported throughout the operation. They must also provide enough detail so that the individuals charged with executing the CSS portions of the orders (i.e. forward support battalion company commanders and task force support platoon leaders) can successfully carry out their duties.

A-8. The MDMP begins when a mission is received from higher headquarters. Very rarely will this be in the form of a complete operations order. More likely it will begin after a verbal or written warning order is received. The commander, upon receiving a mission, should provide his staff with guidance as to how they should proceed with their analysis, and a warning order, in five-paragraph field order format, should be issued to subordinate units to allow them to begin to prepare for a new mission.

A-9. The staff begins mission analysis by developing their initial staff estimates based upon the higher headquarters order and their commander's guidance. Mission analysis also determines what the mission of higher headquarters is, what this equates to as a mission for their unit, and the situation/circumstances that may impact upon their unit's ability to execute a particular course of action that will be proposed to accomplish the mission. Each staff officer produces an estimate in his or her area. The results of mission analysis should include completed staff estimates, including an initial intelligence preparation of the battlefield (IPB) by the S-2. The staff will also produce a proposed restated mission for their unit. These products will be presented to the commander and he will provide additional planning guidance to include: number of courses of action he wants the staff to develop, initial commander's critical information requirements (CCIR), timeline, risk guidance, and rehearsals to be conducted. Additionally, the commander will provide his initial intent that will include the method and end state for the operation. A second warning order should be issued to subordinate units no later than the end of mission analysis.

COMBAT SERVICE SUPPORT CONTROL SYSTEM (CSSCS)

A-10. The CSSCS in the support operations section is a tool that can be used within the FSB to assist with the MDMP. The 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. 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. The 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).

A-11. The CSSCS also supports the decision making process with course of action (COA) analysis. Staffs can analyze up to three COAs for a 5-day period. Variables include combat posture, unit task organization, miles traveled, and geographical region.

A-12. The COA function produces two primary system reports to assist the decision support process. They are the COA analysis report and COA comparison report.

A-13. The COA analysis report lets you conduct an analysis for each day of the 5-day period to evaluate the projected status of Class III, V, and VII assets, and an overall daily status. The report also shows a readiness color code and a commander's evaluation for each day of the analysis. You can peel back selected fields of the report to obtain more detailed information to assist you in deciding whether to accept the system's evaluation or change the commander's evaluation.

A-14. The COA comparison report captures the data presented in the analysis reports for up to three COAs and presents them in a comparative format. As with the analysis report, you can peel back selected fields to get more information and change the commander's evaluation.

CSS CONSIDERATIONS IN MISSION ANALYSIS

A-15. The logistician's input during mission analysis primarily comes from the logistics estimate. The logistics estimate is a continuous process that begins during mission analysis and is continually refined and updated through mission completion. The logistics estimate does not have a doctrinal format at the brigade level. It must, however, address the following areas, at a minimum:

Requirements

A-16. The first step in the log estimate process is to determine the logistical requirements for the mission. To determine the requirements, you may use a number or combination of methods. Automated systems such as OPLOG PLANNER, LEW or the SURE program are good tools to use to estimate requirements. If you prefer to do the number crunching yourself, planning factors from the CGSC ST 101-6 (G1/G4 BATTLEBOOK) or the FM 101-10-1/2

may be used to determine your own estimates. Historical data from previous missions should also be used to determine or refine your requirements estimate. Be sure to include all customers when you determine the requirements: organic, attached, and any OPCON units for which you are designated to provide logistical support. Remember, no matter which method or methods you use, the results are only estimates and will have to be refined later based on the actual tactical plan. When you receive the OPORD from your higher headquarters, ensure you consider all specified and implied tasks which have logistical considerations. Also determine what movement and handling requirements there will be for all supplies, equipment, and personnel. Consider the terrain available for you to support from, as well as the terrain and distance you will have to support over. Finally, determine what critical resupply must be accomplished to ensure mission success.

Capabilities

A-17. To correctly determine the logistics capability of your unit, you must consider the capabilities of all the available CSS assets at your disposal. This includes all available CSS units assigned, attached, or OPCON, and the CSS capability organic to the maneuver units themselves. When determining the unit's CSS capability, be sure to consider the unit's current status in terms of personnel and equipment, as well as the projected status of each unit at mission execution. Analyze supply capabilities in terms of storage, distribution, and transportation capacities.

Comparison/Shortfall

A-18. Once you have determined your estimated requirements and the unit's CSS capability, compare them to determine any logistical shortfalls. If there are no shortfalls, go to the analysis step of this methodology. Shortfalls may occur in terms of storage, distribution, and transportation capability or may be caused by personnel or equipment shortfalls based on current on hand shortages or maintenance status. A shortfall may also occur if required facilities or terrain are not available or the plan does not provide enough time to prepare. If there is a shortfall, determine what the shortfall is in terms of short tons, gallons, or other units of measurement and when or where during the operation the shortfall occurs.

Analysis

A-19. Whether or not there is a shortfall, the analysis process must occur for all support operations. The CSS planner must determine: when the support operation must begin, how much time there is to prepare for the mission, the purpose of the support mission, the duration of the mission, and whether the mission can be supported from a fixed location or whether to echelon support forward in some

way. If there is a shortfall identified in the comparison of requirements and capabilities, you must also determine its cause, its significance and its potential impact on the tactical operation.

Solutions

A-20. Determine the most workable solutions based on your analysis. Do not assume away a shortfall by assuming that a higher headquarters will provide additional capability. Make every effort to find solutions based on internal assets first before requesting additional assets from higher headquarters. Ensure that all solutions are integrated into the MDMP to enhance continuity between the tactical decision making and logistical planning.

A-21. During course of action development, the CSS planners within the brigade must begin to draft possible ways to provide the brigade's concept of the operation with CSS. This is challenging because, at this stage of planning, the brigade probably has not selected a specific course of action for the upcoming operation. However, CSS planners should have the restated mission, commander's guidance and intent, and continuously updated staff estimates. This input should come from both the brigade and battalion levels. With this information, the CSS planners at various echelons (i.e. brigade S-1/S-4, support battalion and task force S-1/S-4) can begin to develop several options to support the brigade. Throughout this stage, all the CSS planners must communicate and the brigade S-1/S-4 must integrate this process. Concept of support options for the support battalion include: supply point distribution from the BSA, using a forward logistics element (FLE) during fast paced offensive operations, or using a logistics release point that stages outside the BSA for short periods of time to resupply the task force.

A-22. Based on the brigade's restated mission, the support battalion can begin to plan how they will provide CSS to the brigade, determine if, when, and how the BSA will move, and what the best method may be to defend the BSA. The support battalion must keep the brigade S-1/S-4 informed in order to prevent two different CSS plans from being developed. The task force S-1/S-4 must also begin to develop several options that could be used to support their battalions and ensure these are integrated into the brigade and support battalion planning. At the end of this phase, each echelon of CSS planners in the brigade should have developed course of action statements and sketches for each option that will be analyzed during the next stage of the MDMP.

CSS CONSIDERATIONS IN COA DEVELOPMENT

A-23. During COA development, the logistics planners must refine the logistics estimate they developed during mission analysis. Facts and assumptions developed during mission analysis must be verified and updated. CSS planners must identify any significant CSS considerations and requirements that have a major impact on

mission accomplishment. Additionally, the CSS planner must develop a draft concept of support during this phase of the MDMP.

COA Sustainment Feasibility

A-24. For each course of action, the logistics planner must access its sustainment feasibility. The sustainment feasibility is determined by whether or not the unit possesses the required resources to sustain the unit throughout the tactical operation. Tailoring your logistics estimate for each course of action can help make this determination. If requirements do not exceed capabilities, the sustainment of the course of action will generally be feasible. If any requirements do exceed capabilities you must again determine its significance and potential impact upon the mission. If the shortfall is a "WAR-STOPPER", and there are no workable solutions to the problem, then sustainment of the COA is not feasible. Ensure you have exhausted all possible means to solve the problem, to include support from higher headquarters, before you deem the COA not feasible.

Synchronization Requirements

A-25. The synchronization of CSS during COA analysis is critical to ensure continuous support during the operation. During the war game, the logistical planner will determine, based on the scheme of maneuver, what supplies and services must be where at a given time. This will generate critical CSS actions that must be accomplished to sustain the mission. He must consider time-distance factors and determine which support activity will be available to provide the required support. This is where the logistical planner begins to directly link the actions of task force logistics assets with the support battalion sustainment activities and division/corps resupply activities. He must ensure that all critical CSS activities are included in the synchronization matrix to successfully synchronize all levels of support.

Critical CSS Requirements

A-26. The logistical planner must determine the critical requirements for each sustainment function. Critical CSS requirements normally include high volume, high usage supplies. Class III, IV, and V tend to be critical during almost any tactical operation. Casualty evacuation is always critical, especially due to the limited availability of evacuation assets. Any essential "major muscle movements" required by CSS units, such as movement of CSS assets forward, pre-positioning of ammunition or fuel, setting up and executing a ROM, or reorganization must be identified.

A-27. During this phase of MDMP, the courses of action are compared using the synchronization matrices and notes taken for each evaluation criteria used. A decision matrix with the evaluation criteria and some type of weighting factor (e.g., numbers, +/-, etc.) should be used to record the results of the course of action comparison. A decision matrix can be used as an aid to obtain a decision from the commander as to what course of action will be selected.

CSS CONSIDERATIONS IN COA COMPARISON

A-28. In order to compare COAs and determine which is more supportable, logistical planners must calculate estimated attrition rates, project battle losses for critical weapons systems, and project personnel battle losses. The RSR for each COA must be refined and compared to any CSR that may be in effect. Quantities of supplies required, demands on transportation assets, and reconstitution requirements must be compared to determine which COA stresses the units' logistical system the most. An analysis of the risks to CSS assets and operations must be compared and considered.

A-29. During this phase of the MDMP, the CSS planner at each echelon should use his decision matrix to explain to the commander what course of action he recommends and why. After the commander has selected a course of action, finalized his intent and approved the final CCIRs, another warning order should be issued to subordinate units. At this stage the production of an order begins. The output for this stage is a complete five-paragraph field order and appropriate annexes to be issued to subordinate units.

CSS CONSIDERATIONS IN ORDERS PRODUCTION

A-30 The brigade logistic planners are responsible for paragraph 4 of the OPORD as well as the logistics annex (annex I). These products must be complete, concise and synchronize all levels of logistics support from top to bottom with the tactical plan.

Final Concept Of Support

A-31. The paragraph four consists of the final approved concept of support. Remember that this paragraph is written primarily to inform the commanders how they will be supported throughout the tactical operation, so do not include details on how the support elements are to execute the plan. Save all those details for the logistics annex. The concept of support should include a brief synopsis of the support command mission, support area locations to include the locations of the next higher logistics bases, the next higher levels support priorities, the commander's priority of support, significant or critical CSS activities, any significant risks, and the major support requirements in each tactical logistics function. If the

tactical concept of operation is phased, the concept of support should also be phased to facilitate changes of priorities and logistics focus during each phase.

Complete/Concise

A-32. It is essential that the OPORD be complete, concise, and include all critical tasks that must be accomplished to support the tactical mission. Ensure you consider the command and support relationships of all units within your area of operation and ensure all elements receive support. Ensure you address all of the tactical logistics functions and properly phase the support concept if the tactical concept of operation is phased.

Synchronized Top To Bottom

A-33. To ensure proper synchronization, include all critical tasks and coordination requirements that were developed during the war gaming phase. Consider developing a logistics synchronization matrix, if possible. Ensure that all priorities of support are in agreement with the scheme of maneuver and weight the main effort. Coordinate with the other battlefield operating system elements to ensure that there are no inconsistencies in logistics information within the maneuver, engineer, artillery, and CSS annexes. As subordinate OPORDs are developed, you must ensure that their support plans are consistent and executable within your support framework. Synchronization of resupply operations from the corps/division, to the support battalion, to the task force level is critical.

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
AIS	Automated Information System
AIT	Automatic Identification Technology

ALOC Administration and Logistics Center

AM Amplitude Modulation

AMC Aviation Maintenance Company/Army Materiel Command/Air Mobility Command

AMC-LSE Army Materiel Command-Logistics Support Element

AMEDD Army Medical Department

AMO Automation Management Office

AMSS Army Materiel Status System

AO Area of Operations

AOAP Army Oil Analysis Program

AOE Army of Excellence

AOR Area of Responsibility

APO Advance Planning and Optimization

AR Army Regulation/Armor

ARNG Army National Guard

ASA Aviation Support Area

ASAS All Source Analysis System

ASAS-RWS All Source Analysis System-Remote Work Station

ASCC/ARFOR Army Service Component Commander/Army Forces Commander

ASL Authorized Stockage List

ASMC Area Support Maintenance Company

ASP Ammunition Supply Point

ASWBL Armed Services Whole Blood Processing Laboratory

ATCCS Army Tactical Command and Control System

ATM Advanced Trauma Management

ATP Ammunition Transfer Point

AUEL Automated Unit Equipment List

AVIM Aviation Intermediate Maintenance

AVUM Aviation Unit Maintenance

AXP Ambulance Exchange Point

B

B Bulk

BAS Battalion Aid Station

BCC Battlefield Circulation and Control

BCOC Base Cluster Operations Center

BCT Brigade Combat Team

BD Battlefield Distribution

BDA Battle Damage Assessment

BDAR Battle Damage Assessment and Repair

BDE Brigade

BDR Battle Damage Repair

BF Battle Fatigue

BFSA Brigade Forward Support Area

BFVS Bradley Fighting Vehicle System

BII Basic Issue Items

BIT Built-In Test

BITE Built-In Test Equipment

BLAST Blocked Asynchronous Transmission

BN Battalion

BOS Battlefield Operating System

BRIL Baseline Resource Item List

BRT Brigade Recon Troop

BSA Brigade Support Area

BSC Brigade Support Company

BSS Brigade Surgeon Section

C

C2 Command and Control

C3 Command, Control, and Communications

C4ISR Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance

CA Civil Affairs

CASI/NES CSS Automated Information Management Interface/Network Encryption System

CANTCO Can't Comply

CAS Close Air Support

CCI Controlled Cryptographic Items

CCIR Commander's Critical Information Requirements

CCL Combat Configured Load

CDR Commander

CD-ROM Compact Disc-Read Only Memory

CE Communications-Electronics

CEB Clothing Exchange and Bath

CFS Call for Support

CHE Container Handling Equipment

CHL Combat Health Logistics

CHS Combat Health Support

CHU Container Handling Unit

CMCC Corps Movement Control Center

CMMC Corps Materiel Management Center

CMT Combat Medical Team, Contact Maintenance Truck

CNR Combat Net Radios

CO Company

COAs Courses of Actions

COE Common Operating Environment

COMSEC Communications Security

C of S Chief of Staff

CONOPS Continuity of Operations/Contingency Operations

CONUS Continental United States

COSCOM Corps Support Command

COTS Commercial Off the Shelf

CP Command Post

CRC Central Reporting Center/Control and Reporting Center

CROP Containerized Roll-In/Roll-out Platform

CSR Controlled Supply Rate

CSSCS Combat Service Support Control System

CULT Common Use Land Transportation

D

DA Department of the Army

DA DCSPER Department of the Army Deputy Chief of Staff for

Personnel

DAMMS-R Department of the Army Movement Management System-Revised

DAO Division Ammunition Officer

DA PAM Department of the Army Pamphlet

DASB Division Aviation Support Battalion

DISCOM Division Support Command

DIT Digital Interactive Training

DIVARTY Division Artillery

DMAIN Division Main

DMC Distribution Management Center

DMLSS Division Medical Logistics Standard Support

DMMC Division Materiel Management Center

DMOC Division Medical Operations Center

DNBI Disease, Non-battle Injury

DNVT Digital, Non-secure Voice Telephone

DOD Department of Defense

DODAAC Department of Defense Activity Address Code

DODAC Department of Defense Ammunition Code

DODIC Department of Defense Identification Code

DPD Deployed Personnel Database

DS Direct Support

DSA Division Support Area

DSB Division Support Battalion

DSESTS Direct Support Electrical System Test Set

DSS Division Surgeon Section

DSMC Division Support Medical Company

DSVT Digital, Secure Voice Telephone

DTG Date Time Group

DTO Division Transportation Officer

DTSS Digital Topographic Support System

DVE 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

FBCB2 Force XXI Battle Command Brigade & Below System

FDRP First Destination Reporting Point

F & E Fuel & Electrical

FFIR Friendly Forces Information Requirement

FLE Forward Logistics Element

FM Field Manual, Frequency Modulation

FMC Fully Mission Capable

FPF Final Protective Fires

FPL Final Protective Line

FRAGO Fragmentary Order

FRCP Flatrack Collection Point

FRS Forward Repair System

FS Fire Support

FSB Forward Support Battalion

FSC Forward Support Company

FSMC Forward Support Medical Company

FSO Fire Support Officer

FSSP Fuel System Supply Point

FST Forward Surgical Team

FUPP Full-Up Power Pack

G

GCCS-A Global Command and Control System-Army

GCSS-ARMY Global Combat Support System-Army

GMC Ground Maintenance Company

GMLR Guided Missile & Large Rockets

GOTS Government off the Shelf

GPS Global Positioning System

GS General Support

GSE Ground Support Equipment

GTN Global Transportation Network

H

HAVECO Have Complied

HAZMAT Hazardous Materiel

HCP Health Comfort Package

HDC Headquarters and Distribution Company

HE High Explosive

HEMTT Heavy Expanded Mobility Tactical Truck

HERCULES Heavy Equipment Recovery Combat Utility Lift and Evacuation System

HET Heavy Equipment Transporter

HF High Frequency

HHC Headquarters and Headquarters Company

HHD Headquarters and Headquarters Detachment

HMMWV	High Mobility Multipurpose Wheeled Vehicle
HNS	Host Nation Support
HQ	Headquarters
HSC	Headquarters and Supply Company
HSMO	Health Service Materiel Officer
HSSO	Health Service Support Officer
HTAR	Hot Tactical Aircraft Refueling System
hvy	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

LEN Large Extension Node

LHS Load Handling System

LIN Line Item Number

LMTV Light/Medium Tactical Vehicles

LNO Liaison Officer

LOC Line of Communication

LOD Line Of Duty

LOGCAP Logistics Civil Augmentation Program

LOGPAC Logistics Package

LOGSA Logistics Situation Awareness/Logistics Support Agency

LOGSITREP Logistics Situation Report

LOS Line of Sight

LP Listening Post

LPB Logistics Preparation of the Battlefield

LPXMED Logistics Processor External-Medical Module

LRP Logistics Release Point

LRU Line Replaceable Unit

LTF Logistics Task Force

LTO Logistics Task Order

LZ Landing Zone

M

MA Mortuary Affairs

MACOM Major Command

MACP Mortuary Affairs Collection Point

MAS Main Aid Station

MDMP Military Decision Making Process

MC Movement Control

MC4 Medical Communications for Combat Casualty Care

MCL Mission Configured Load

MCM Multi-Capable Maintainer

MCO Movement Control Office

MCOO Modified Combined Obstacle Overlay

MCS Maintenance Control Section, Maneuver Control System, Master Control Station, Maintenance Control Supervisor

MCSR Mission Condition Status Report

MCT Movement Control Team

MEDEVAC Medical Evacuation

MES Medical Equipment Set

METL Mission Essential Task List

METT-TC Mission, Enemy, Terrain, Troops, Time Available, and Civilian

MH Mental Health

MHE Materials Handling Equipment

MHZ Megahertz

MI Military Intelligence

MIG Metal Inert Gas (Welding)

MIA Missing In Action

MILVAN Military Van

MKT Mobile Kitchen Trailer

MLRS Multiple Launch Rocket System

MMMB Medical Materiel Management Branch

MOPMS Modular Packed Mine System

MOPP Mission Oriented Protection Posture

MOS Military Occupation Specialty

MP Military Police

MPL Mandatory Parts List

MRE Meal, Ready To Eat

MRM Maintenance Reporting and Management

MRO Materiel Release Order

MSE Mobile Subscriber Equipment

MSR Main Supply Route

MSRT Mobile Secure Radio Telephone Terminal

MST Maintenance Support Team

MTF Medical Treatment Facility

MTOE Modified Table of Organization and Equipment

MTS Movement Tracking System

MTV Medium Tactical Vehicles

MWR Morale, Welfare, and Recreation

N

NAI Named Area of Interest

NATO North Atlantic Treaty Organization

NBC Nuclear, Biological, Chemical

NC Node Center

NCO Noncommissioned Officer

NCS Net Control Station

NGO Non-government organizations

NIMA National Imagery and Mapping Agency

NLT No Later Than

NMC Non Mission Capable

NRTS Not Repairable This Station

NRT Near Real Time

NSL Non-stockage List

NSN National Stock Number

O

OCIE Organizational Clothing and Individual Equipment

OCOKA Observation, Concealment and Cover, Obstacles, Key Terrain, and Avenues of Approach

OEG Operational Exposure Guidance

OP Observation Post

OPCON	Operational Control
OPLAN	Operation Plan
OPLOGPLAN	Operations Logistics Plan
OPORD	Operations Order
OPSEC	Operations Security
OPTEMPO	Operational Tempo
ORGWON	Organization Work Order Number
OST	Order Ship Time

P

P	Package
P & A	Personnel and Administration
PA	Physician Assistant
PAM	Pamphlet
PARC	Principal Assistant Responsible for Contracting
PASR	Personnel Accounting and Strength Reporting
PBO	Property Book Officer
PDF	Protective Defensive Fires
PERSITREP	Personnel Situation Report
PIR	Priority of Information Requirements
PL	Phase line
PLL	Prescribed load list
PLS-E	Palletized Load System-Enhanced
PM	Provost Marshall/Program Manager
PMCS	Preventive Maintenance Checks and Services

PMM Preventative Medicine Measures

POC Point of Contact

POD Port of Debarkation

POE Port of Embarkation

POL Petroleum, Oils and Lubricants

POM Preparation for Overseas Movement

PSD Personnel Service Detachment

PSG Platoon Sergeant

PSS Personnel Service Support

PUMA Pocket Unit Maintenance Aid

PVNTMED Preventive Medicine

PVO Private Volunteer Organization

Q

QC Quality Control

QM Quartermaster

QRF Quick Reaction Force

R

R&S Reconnaissance and Surveillance

RC Reserve Components

RDD Required Delivery Date

RECON Reconnaissance

ROC Rear Operations Cell

RF Reaction Force/Radio Frequency

RFID Radio Frequency Identification Tag

ROE Rules of Engagement

ROM Refuel on the Move

RP Release Point

RS Religious Support

RSOI Reception, Staging, Onward Movement, and Integration

RSR Required Supply Rate

RSSP Ration Supplement/Sundries Pack

RTD Return to Duty

RX Reparable Exchange

S

S1 Adjutant (US Army)

S2 Intelligence Officer (US Army)

S3 Operations, Plans, Security, and Training Officer (US Army)

S4 Supply Officer (US Army)

S6 Communications Officer

S&S Supply and Services

S&T Supply and Transport

SA Situational Awareness

SAAS-MOD Standard Army Ammunition System-Modernized

SALUTE Size, Activity, Location, Unit, Time, Equipment

SAMS Standard Army Maintenance System

SARSS-O	Standard Army Retail Supply System –Objective
SATCOM	Satellite Communications
SCL	Strategic Configured Load
SEAD	Suppression of Enemy Air Defense
SEN	Small Extension Node
SHORAD	Short Range Air Defense
SIDPERS	Standard Installation/Division Personnel System
SINCGARS	Single-Channel Ground and Airborne Radio System
SIP	Systems Improvement Program
SJA	Staff Judge Advocate
SO	Special Operations
SOI	Signal Operation Instructions
SOP	Standing Operating Procedure
SP	Start point
SMFT	Semi-Trailer Mounted Fabric Tank
SPBS-R	Standard Property Book System-Revised
SPORT	Soldier Portable-System Repair Tool
SPT OPS	Support Operations
SRC	Standard Requirement Code
SRP	Soldier Readiness Processing
SSA	Supply Support Activity
SST	System Support Team
STAMIS	Standard Army Management Information System
STANAG	Standardization NATO Agreement
STE	Simplified Test Equipment

STE ICE Simplified Test Equipment/Internal Combustion Engine

STON Short Ton

T

TAA Tactical Assembly Area

TACAIR Tactical Air

TACCS Tactical Army Combat Service Support Computer System

TACSAT Tactical Satellite

TAMMIS-D Theater Army Medical Management Information System-Division

TAMMS The Army Maintenance Management System

TAV Total Asset Visibility

TB Technical Bulletin

TC Training Circular/Tank Commander

TC-ACCIS Transportation Coordinator’s-Automated Command and Control Information System

TC-AIMS II Transportation Coordinator's- Automated Information for Movements Systems II

TCF Tactical Combat Force

TCMD Transportation Control and Movements Document

TCN Transportation Control Number

TCP Traffic Control Point

TDA Table of Distribution and Allowances

TDD Time Definite Delivery

TED Turbine Engine Diagnostic

TF Task Force

TFE Tactical Field Exchange

TFM Tactical Field Maintenance

TFSA Task Force Support Area

TI Tactical Internet/Technical Inspection

TIGER Tactical Interactive Ground Equipment Repair

TM Technical Manual/Team

TMDE Test, Measurement, and Diagnostic Equipment

TMEP Theater Mortuary Evacuation Point

TMIP Theater Medical Information Program

TMT Transportation Motor Transport; Treatment Team

TMTC Transportation Motor Transport Company

TO Task Order

TOC Tactical Operations Center

TOE Table of Organization and Equipment

TOW Tube-launched, Optically Tracked, Wire-guided

TPS Tactical Personnel System

TPU Troop Program Unit

TQG Tactical Quiet Generator

TRADOC Training and Doctrine Command

TRP Target Reference Point

TSC Theater Support Command

TSOP Tactical Standing Operating Procedure

TTP Tactics, Techniques, and Procedures

TWV Tactical Wheeled Vehicles

U

UAV Unmanned Aerial Vehicle

UCL Unit Configured Load/Unit Commander's Report

UGR-A Unitized Group Ration-A

ULLS-(A/G/S-4) Unit Level Logistics System- (Air/Ground/Logistics)

UCMJ Uniform Code of Military Justice

UMCP Unit Maintenance Collection Point

UMO Unit Movement Officer

UMT Unit Ministry Team/Unit Maintenance Technician

UN United Nations

US United States

USACASCOM United States Army Combined Arms Support Command

USAF United States Air Force

USAR United States Army Reserve

UTO Unit Task Organization

V

VHF Very High Frequency

W

W Watt

WIA Wounded In Action

WILCO Will Comply

WIN Warfighter Information Network

WSM Weapon System Manager

WSRO Weapon System Replacement Operations

X

XO Executive Officer

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