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Headquarters
Department of the Army
Washington, DC, 20 September 1994

SUPPORT BATTALIONS AND SQUADRONS, SEPARATE BRIGADES AND ARMORED CAVALRY REGIMENT

1. Change FM 63-1,30 September 1993, as follows:

Remove old pages	Insert new pages
i and ii	i and ii
A-1 and A-2	A-1 and A-2
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2. A star (*) marks new or changed material.
3. File this transmittal sheet in front of the publication.

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Field Manual
No. 63-1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 30 September 1993

SUPPORT BATTALIONS and SQUADRONS, SEPARATE BRIGADES and ARMORED CAVALRY REGIMENT

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*This publication supersedes FM 63-1, 30 September 1983

Preface

This manual provides information on the structure and operations of the support battalion of the separate brigades and the armored cavalry regiment support squadron. It is directed toward the commanders and staffs of the support battalions/squadrons organized and operating under L-edition TOEs. It is also designed to be used by commanders of the support battalion/squadrons' subordinate companies/troops.

The manual outlines the functions and operations of each section within the support battalion and how the support battalion commander and staff integrate their activities. This includes both the logistics and health service support mission and the tactical responsibilities. The manual describes the many coordination links the support battalion maintains with supported and supporting units.

The separate brigades included in this manual are the heavy separate brigades and separate infantry brigades/theater defense brigades. The armored cavalry regiment is also included. Functionally, the support battalions of the HSBs and the support battalion of the SIB/TDB are similar. However, major functional and doctrinal differences between these separate brigades logistics and HSS operations and the ACR are pointed out in the text.

This manual is based on doctrine in FMs 1-114, 1-116, 7-30, 17-95, 71-3, 100-5, 100-10, and 100-15. FMs 1-114 and 1-116 provide detailed information on the regimental aviation squadron and regimental operations and support requirements. FM 7-30 provides the doctrine for the infantry brigade to use in combat. FM 17-95 describes how the cavalry operates. FM 71-3 is the doctrinal publication on armored and mechanized infantry brigade operations. It provides information vital to the support battalion commander's understanding of the units he supports. FM 100-5 outlines how the Army operates. FM 100-10 provides an overview of the CSS system for supporting the Army in the field. FM 100-15 discusses operations at the corps level.

Unless otherwise specified, the term "separate brigade" is interchangeable with the term "regiment." The term "support battalion" is interchangeable with the term "support squadron." The term "company" is interchangeable with the term "troop." Also the term "battalion" is interchangeable with the term "squadron."

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

Chapter 1
Supporting the Separate Brigades and the Armored Cavalry Regiment

Contents

SEPARATE BRIGADES AND ARMORED CAVALRY REGIMENT

The vast array of enemy forces and range of potential areas of conflict necessitate a tactical element (separate brigade or regiment) smaller than a division with its own support assets, capable of strategic and tactical deployments. The separate brigade allows the national command authority latitude in its force projection options. It also affords commanders of forward deployed forces a flexible asset which can be used in numerous roles and missions, such as reconnaissance, screening, and covering force operations.

SEPARATE BRIGADE ROLE

The separate brigade is a flexible unique fighting organization that provides its own DS. The separate brigades included in this manual are the heavy separate brigade and the separate infantry brigade/theater defense brigade. The separate brigade's main focus is to defeat the enemy. It uses effective maneuver, firepower, protection, and sound leadership through close combat and offensive action. It supports offensive, defensive, or retrograde operations as an independent force or part of a larger force. It may be attached to a division (less support) to concentrate combat power. It may also be placed under the control of a higher command such as a corps. It conducts limited independent operations under the direction of a joint task force or theater commander. It functions as a corps reserve force or as a corps rear protection force. It also functions as a security force on the flanks or in front of the corps.

ARMORED CAVALRY REGIMENT ROLE

The ACR is a separate corps maneuver unit. As a corps asset, it predominantly operates for the corps commander by performing reconnaissance, security, and economy of force missions. The regiment (like the separate brigade) is considered by the corps staff as a major element of corps maneuver combat power on a par with the division. The regimental staff works closely with the corps. The staff ensures that the regiment is adequately planned for in corps operations. The regiment may also be placed under OPCON of or attached to a division. This is done for operations when command relationships better support mission accomplishment. Some missions require the regiment to reinforce a division with a squadron. A reinforced ACS is normally assigned this task. The ACS is attached or placed OPCON to the division.

The ACR operates independently over a wide area. It also operates at extended distances from other units. The ACR is a highly mobile, armored force. It is capable of fighting a fully mechanized threat in a mid-to high-intensity environment.

The ACR is normally the foundation around which the corps covering force is built. As a covering force, the regiment is expected to destroy a significant number of enemy forces in the corps security area. This requires attacking, defending, and delaying as necessary to accomplish the corps commander's intent. The ACR may also become part of the corps reserve or perform rear area operations.

The ACR is an ideal force for use in an economy of force role. This allows the corps commander to concentrate forces at the decisive point on the battlefield. If assigned a defend mission in an economy of force role, the ACR requires minimum augmentation with combat (normally infantry), CS (artillery, engineer), and CSS assets. Commitment of the ACR to this mission normally requires other corps assets to assume the corps security function.

ORGANIZATION

The separate brigade has maneuver battalions. They are tank, mechanized infantry, infantry battalions, and

armored cavalry squadrons. Such units as the engineer company and the artillery battalion provide combat support to these combat units. The ACR also has a regimental aviation squadron to support the overall scheme of maneuver.

The separate brigade has two principal sections, the brigade base and the combat battalions. The brigade base depends on the type of separate brigade. The brigade base provides the capability for the brigade to support independent operations. The brigade base generally supports up to five combat battalions. Figures 1-1 and 1-2 show typical organizations of the separate brigade and the ACR. Units organic to the separate brigade include –

- A brigade HHC to provide C2 and limited CS assets to include MP, chemical, and AD elements (except ACR which has a chemical troop and ADA battery).
- Tank and infantry battalions to fight battles, destroy or disrupt enemy forces, and seize and hold terrain. (HSB and SIB/TDB)
- ACSs to defend, delay, and screen and for reconnaissance and security. (ACR)
- A chemical troop to provide decontamination, reconnaissance, and smoke support to units of the regiment. It contains a reconnaissance platoon and a smoke/decontamination platoon. Generally, smoke/decontamination assets are under regimental control while reconnaissance assets are decentralized. (ACR)
- A military intelligence company to assist in collecting, processing, and disseminating intelligence, and to support EW operations. The MI company provides the brigade with organic IEW assets. These assets are similar to those of a division MI battalion, on a smaller scale. The MI company contains collection and jamming assets, interrogation support, and GSRs. (HSB and ACR)
- A direct support field artillery battalion to provide fire support (except ACR which has a battery in each line squadron).
- An engineer company for combat engineer support.
- A combat aviation squadron to conduct all types of missions. (ACR)

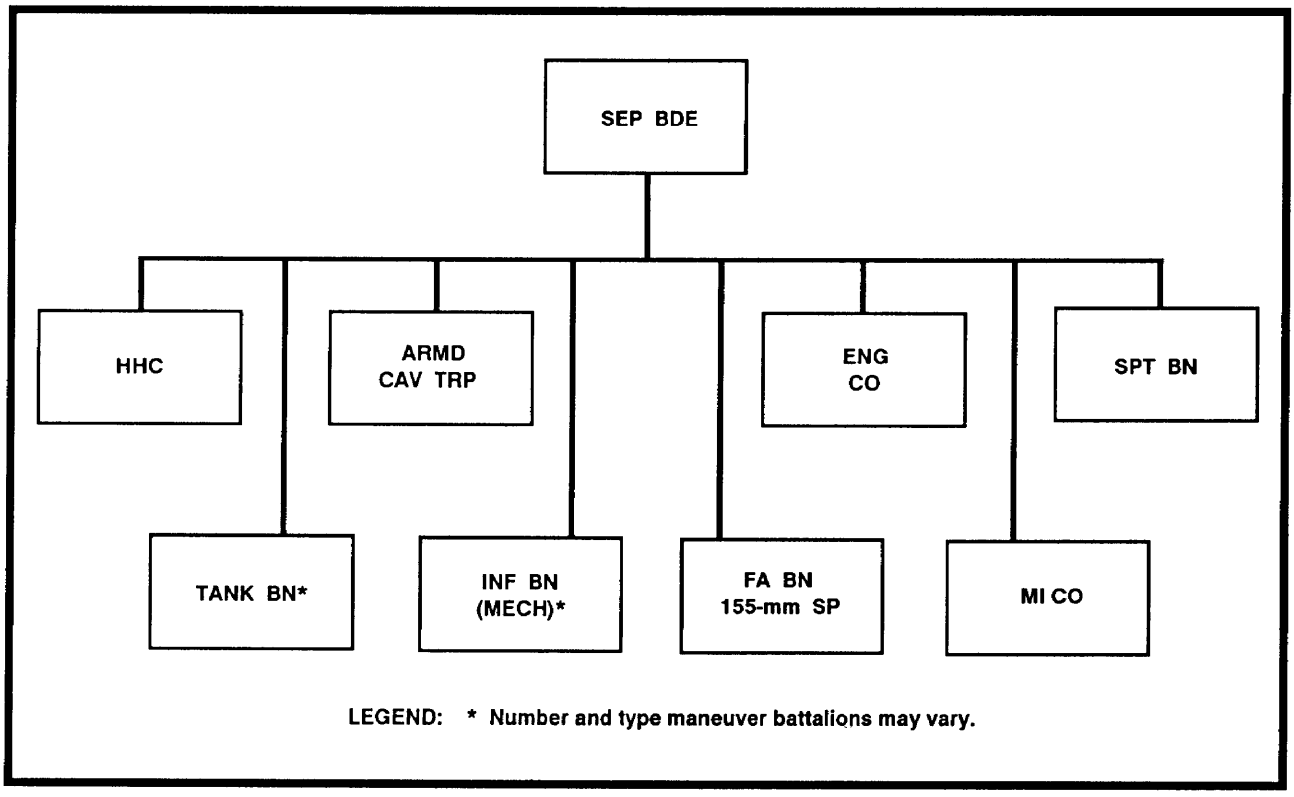


Figure 1-1. The separate brigade.

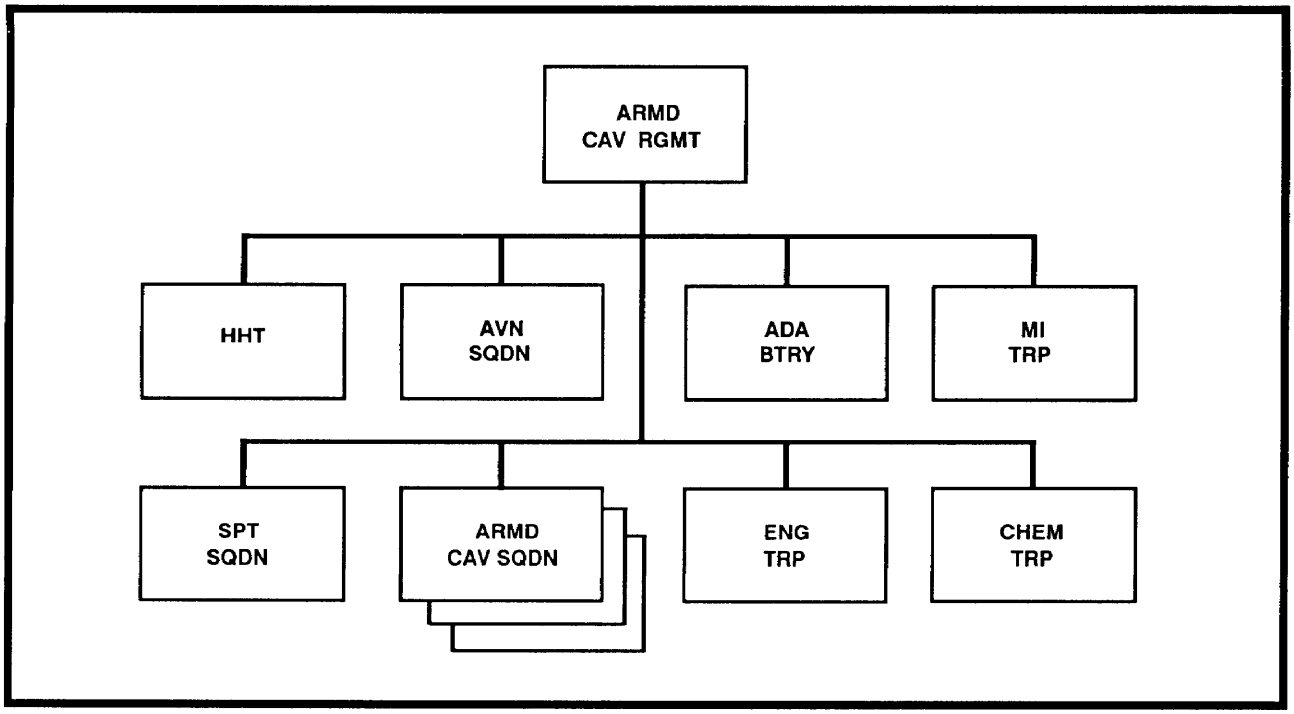


Figure 1-2. The armored cavalry regiment.

- An armored cavalry troop for reconnaissance, security, and economy of force operations. (HSB and SID/TDB)
- A support battalion of several support units, to provide CSS that links directly with the COSCOM corps support group.

Additional combat, CS, and CSS units may be attached to the separate brigade as required by the brigade's mission and operating circumstances. Examples include a chemical platoon, smoke platoon, and attack helicopter battalion.

SUPPORT PRINCIPLES

All of the above units require logistics on a battlefield unlike any encountered in the past. The battlefield is characterized by fluid, nonlinear operations and enormous demands for resources. CSS planners plan all resupply and services to support the brigade on a nonlinear battlefield. They also plan for rapid transition from one mission to another and extended lines of support.

Support of the brigade in such an environment is the challenge facing CSS planners and operators. The logistics tail should not inhibit the operations of the brigade. The separate brigade must be armed, fueled, fixed, and moved. Its soldiers must also be sustained to allow the brigade commander to take advantage of opportunities to achieve tactical advantage. This requires the support battalion commander and staff, CSS planners in the corps and within the separate brigade staff, and units to incorporate the sustainment imperatives in every action taken. The sustainment imperatives are anticipation, integration, continuity, responsiveness, and improvisation. These are not substitutes for the basic tenets of AirLand Battle doctrine; they complement them.

The fluid situations encountered in the AirLand Battle require that supporters *anticipate* needs to support the brigade commander's concept of operations. So the support battalion commander and staff develop a close relationship with the brigade staff. The support battalion commander also projects support needs. He projects unexpected changes in current and future operations by coordinating with brigade planners. The support battalion commander assisted by the S4 also anticipates the needs of the

unit as an operation is occurring. They coordinate to push support forward and keep the brigade commander abreast of CSS status and capabilities.

This close relationship with the brigade staff ensures that support operations are *integrated* with operations of the maneuver force. The brigade commander and staff plan tactical and CSS operations concurrently. The support battalion commander and staff provide the required input to the brigade planning process. They ensure the scheme of maneuver and fire support plan are supported. Maneuver and FA battalions and the support battalions maintain effective communications. They determine the logistics and medical requirements of the brigade and coordinate support activities. When the brigade is attached to a division, the support battalion commander and staff integrate the support plan into the support plan for the division. They carefully work out coordination requirements with the DISCOM.

Another imperative is *continuity* of sustainment. Maneuver forces receive continuous supplies and services to maintain their fighting strength. The brigade commander requires continuous support to maintain the initiative and to ensure breaks in support do not inhibit the depth of operations. Pauses for rebuilding impede momentum and rob the commander of the initiative. This represents a considerable challenge for the support battalion and other CSS elements in the brigade area, especially in view of the possibly large or extended AO. Continuity is required to ensure a lapse of support does not affect an operation.

The CSS system is also *responsive.* It is able to react swiftly and to "surge" for brief periods. The support battalion commander understands supported commanders' operational plans and intent in order to perform responsively. The support battalion commander tailors organizations and methods to meet the demands. He does not tie the support battalion to traditional support methods. He accepts deviation from plans routinely and is ready to respond quickly. The CSS system is as agile as the maneuver system. This allows the maneuver commander to successfully seize opportunities, exploit tactical success, or meet an enemy initiative.

Finally, CSS planners are prepared to *improvise.* They are able to devise innovative ways to support tactical plans and lessen risks, both to their own units and to those they support. No matter how carefully the support battalion planners and operators try to anticipate events, unforeseen contingencies arise in every conflict. However, leaders and staff should not interpret a guideline or technique as an absolute requirement. If it is not effective in maintaining combat power and momentum, support battalion personnel are not afraid to discard it.

The support battalion commander and operators encompass these imperatives in SOPs as they establish the focus for organization and operations of the logistics and HSS. FMs 100-5 and 100-10 discuss these imperatives in greater detail.

SUPPORT CONCEPTS

The support battalion provides support for elements in the brigade. It provides support on a forward and area basis. The support battalion plans for logistics and HSS in advance. It aggressively pushes forward to the units without delay imposed by reacting to requests.

FORWARD SUPPORT

The support battalion provides support as far forward as practical. Tactical and threat considerations determine the extent of the support forward doctrine. The corps or the support battalion provides supplies, weapon systems, and repair assets for easily reparable equipment to the field trains or beyond as expeditiously as practical. Personnel arm, fuel, fix and man forward weapon systems. The support battalion evacuates to the rear damaged equipment not easily reparable. However, it is easier to send MSTs and parts to a piece of inoperable, large equipment than to move this item to a maintenance shop. Evacuationof vehicles to the rear should be the last option. When required and feasible, resupply of critical items to the BSA is by air, The support battalion also sends medical supplies forward on empty medical troop ambulances.

In some cases the support battalion echelons its assets. This technique involves battalion elements operating from both the support area and a forward logistics base. The support battalion commander task organizes a multifunctional forward logistics element from support battalion assets to operate from a forward logistics base. The technique may be appropriate to support –

- Fast-moving offensive operations over significant distances.

- Early phases of contingency operations.
- Units geographically separated from the other units supported by the support battalion.

The FLE can get critical support assets closer to the supported units without taking the time to move the entire support area. This allows units to get key support without having to go all the way back to the support area. The FLE can also function as the lead element of a support area move. In this role, the element provides continuous support while the rest of the support battalion moves. The forward element prepares (within its capabilities) the FLB to become the new support area. Once the rest of the support battalion closes on the base, the FLE may then move forward again. This allows the battalion to provide uninterrupted forward support as the force continues to advance.

The composition of the FLE varies with a number of factors. Planners consider including at least bulk fuel, ammunition, maintenance, HSS, and evacuation assets. The FLE also includes a member of the support battalion's S2/S3 staff or support operations branch (support squadron) to coordinate operations. He needs the capability (communications equipment and SOI) to communicate with both the supported units and the support area operated by the support battalion. Supported units have to know where the FLB is, what support is available there, and when the base is operational. The support battalion staff ensures the OPORD or logistics overlay is available to supported units and includes these details. Support battalion planners also plan for and coordinate the security of the FLB. They request MP or ADA support as required.

Support forward doctrine maximizes combat time by minimizing repair, resupply, and evacuation time. This allows the maneuver battalion to keep its own scarce CSS resources to provide effective unit-level support. They are ready to move quickly if the battle dictates. One of the support battalion's tasks is to prevent, as much as possible, maneuver units moving to the rear to pick up supplies. The support battalion also ensures units do not use scarce resources to move back assets that no longer contribute to combat power.

AREA SUPPORT

The support battalion is responsible for DS logistics and HSS within the brigade area. A support battalion element supporting a battalion also provides area support to units operating near or as part of the battalion task force. The support battalion supports any non-brigade elements in the area within its capabilities. Corps CS or CSS units requiring support and operating in the brigade area may exceed the capability of the support battalion. In such cases, the support battalion coordinates with the CSG in its area for support beyond its capability.

SEPARATE BRIGADE LOGISTICS AND MEDICAL SYSTEM

The support battalion is part of the overall logistics system (and medical system) which supports all elements of the brigade. The logistics structure of the separate brigade is designed to link into a COSCOM. The COSCOM provides GS supply, reinforcing DS maintenance, motor transport, field services, airdrop, and health services. The ammunition and petroleum distribution systems in the COSCOM forward CSG provide GS levels of support to the support battalion. Other support is provided by throughput distribution from the rear CSG.

The support battalion is the operator providing the support link between COSCOM units and the supported units in the brigade area. The COSCOM in coordination with logistics planners in the brigade pushes support forward to the BSA based on requirements. Specifics on such support are described later in this manual. Units in the separate brigade area normally are not required to return behind the brigade trains for support. MSTs provide DS in forward tactical unit areas. Personnel station support battalion ambulances at battalion aid stations. There also are forward tactical refueling points.

The support system does not end with the support battalion. The support battalion is essentially a DS-level support organization. In most cases, individual units such as maneuver battalions are responsible for unit-level support. Also, elements such as teams may operate away from their parent units. Unless the elements are attached for logistics, parents units are responsible for providing unit-level support to those elements. Mission requirements may exceed the organic support capabilities of the parent units. In this case, the unit coordinates for support with the brigade rear CP. The brigade tasks a subordinate unit to provide unit support. However, if it does, the tasked unit is likely to require

additional assets from the parent unit. These assets probably include vehicles and drivers for Class III and V and maintenance personnel, Class IX items, and tools.

Unit-level support includes food service and distribution of supplies to companies and other subordinate elements. It includes unit maintenance. It also includes unit-level HSS, movement of organic assets, and unit-level mortuary affairs. Mortuary affairs is limited to search, recovery, and evacuation of remains at unit level. The assets available to provide unit-level support vary among the units in the brigade, as follows:

- The separate brigade HHC/HHT has food service, unit maintenance, and limited supply distribution assets.
- The field artillery battalion in direct support of the separate brigade also comes with assets to perform unit-level support of the battalion, as covered in FM 6-20-1. The service battery has battalion supply and maintenance assets and Class I, III and V resupply. The battalion also has a medical section. In the ACR, the FA battery has maintenance and ammunition assets.
- The engineer company has food, supply, and ammunition assets. The company also has a maintenance section.
- The ADA battery in the ACR normally locates in the regimental area. The battery has ammunition-hauling capability. It also has unit maintenance and limited refueling capability. It receives medical support on an area basis from the medical troop. The separate brigade headquarters includes an ADA platoon. The platoon has an ammunition team to haul Class V. The platoon leader ensures the missile teams receive support by coordinating with the leaders of the elements the teams are tasked to support.
- The MI company of the HSB and troop of the ACR include CSS assets. The company provides unit-level supply, food, and ammunition. The company also provides unit-level maintenance including maintenance assets for electronic countermeasures. For the MI unit, CSS maybe a particular problem due to the limited assets and the wide dispersion of small teams throughout the brigade area. The company headquarters coordinates with the brigade S4 to receive meals and ammunition in conjunction with support to the nearest maneuver element. The company support element distributes them. Company headquarters also coordinates with the brigade S4 to receive fuel from the nearest maneuver element. If this is not possible, the MI company relies on shuttling 5-gallon cans from the BSA to forward sites.
- The chemical troop of the ACR brings organic CSS assets. The troop headquarters provides supply and Class V assets. The troop also has a maintenance section.
- The RAS, organic to the ACR, comes with assets to perform unit-level support. The headquarters and headquarters troop has a supply section and automotive maintenance section. The headquarter also has a food service section and Class III/V platoon. The AVUM troop has an aircraft maintenance platoon and component repair platoon.
- The maneuver battalions have a full complement of unit-level assets. Assets are deployed in either unit or echeloned trains. A complete discussion of their operations is in FMs 71-2 and 17-95.

SUPPORT BATTALION ORGANIZATION AND MISSION

The support battalion is the DS logistics and HSS operator in the brigade. It provides an uninterrupted flow of logistics and HSS to the brigade. The battalion provides supply, maintenance, motor transport, and medical support to units. When augmented, it also provides field services. The support battalion elements have the same deployment capability as the rest of the brigade. The support battalion missions require the capability to support incrementally and be highly versatile and mobile as the METT-T vary.

The support battalion is structured to support a particular brigade. For example, the support battalion of the heavy separate brigade, armored, contains the logistics and medical resources to support two tank battalions and one mechanized infantry battalion as well as the other elements of the brigade. Additional maneuver battalions may be assigned or attached to the brigade. In such cases, the separate brigade requires additional support assets.

Generally, all of the separate brigades require the same CSS. The support battalions all have maintenance,

supply and transportation, and medical companies. However, like companies, for example, S&T companies of the HSB, ACR, SIB/TDB, are not identical. Each company of the support battalion provides support best suited for its type of brigade.

The logistics structure of the separate brigade links to a COSCOM. The direct linkage between the separate brigade support battalion and the COSCOM remains in effect, even when the separate brigade is attached to a division. The division does not have the resources to support another brigade. When the brigade is attached to a division, the DISCOM coordinates the logistics effort for the entire division. The support battalion sends status reports to the DISCOM to keep the DISCOM apprised of the logistics situation. Because the attachment of the separate brigade to a division is not permanent, logisitics arrangements facilitate the eventual detachment of the brigade from the DISCOM.

Figures 1-3, 1-4, and 1-5 show the support battalions and squadron organizations. As shown, they have a–

- Headquarters and headquarters company/troop.
- Supply and transportation company/troop.
- Medical company/troop.
- Maintenance company/troop.

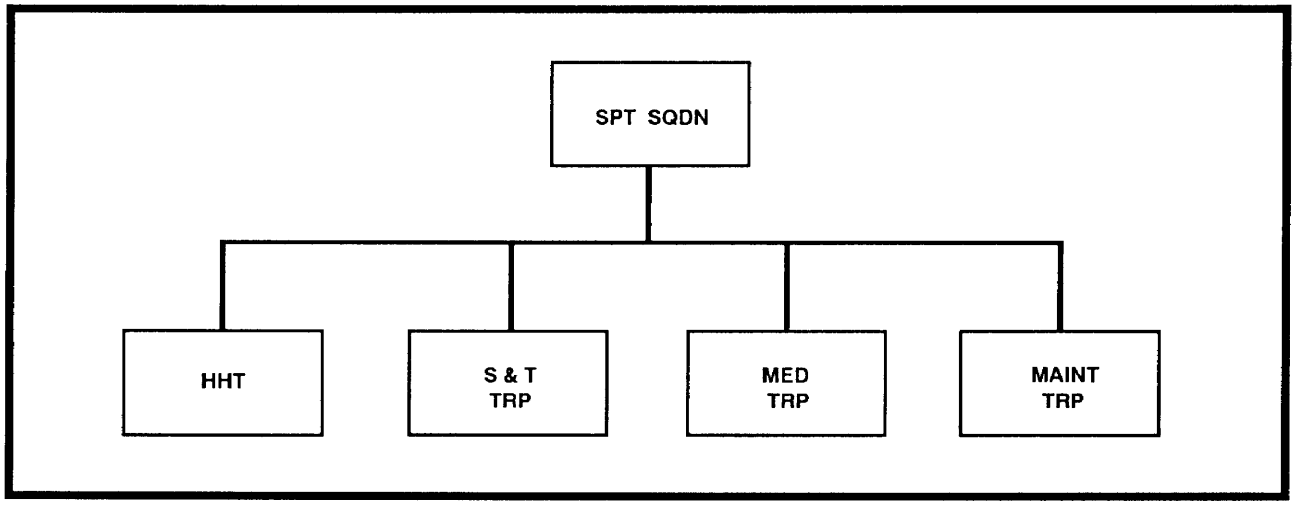


Figure 1-3. Organization of an ACR support squadron.

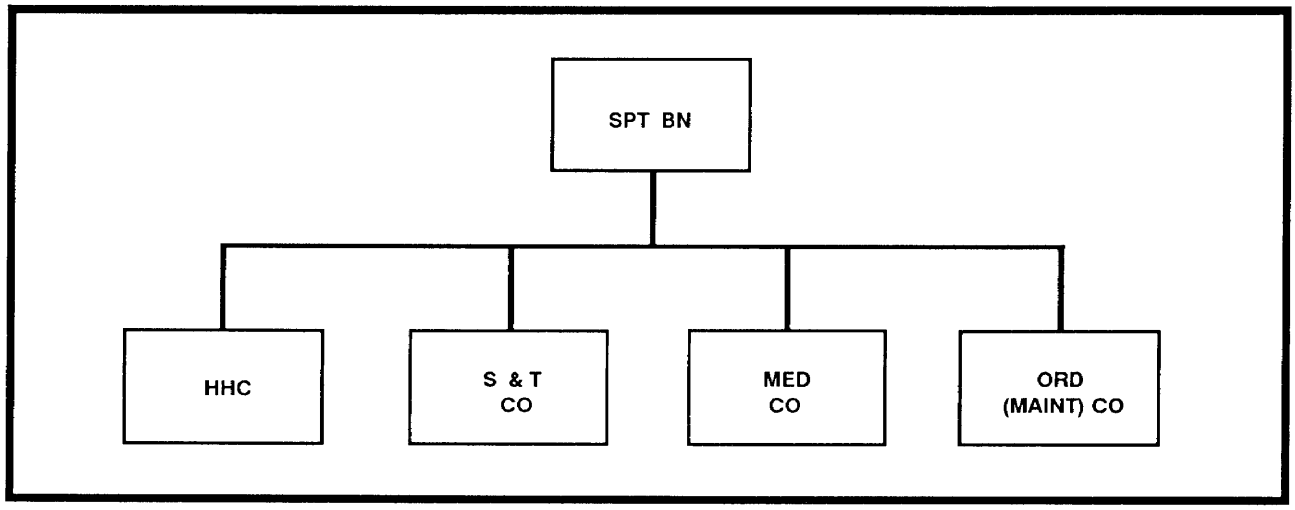


Figure 1-4. Organization of a separate infantry brigade/theater defense brigade support battalion.

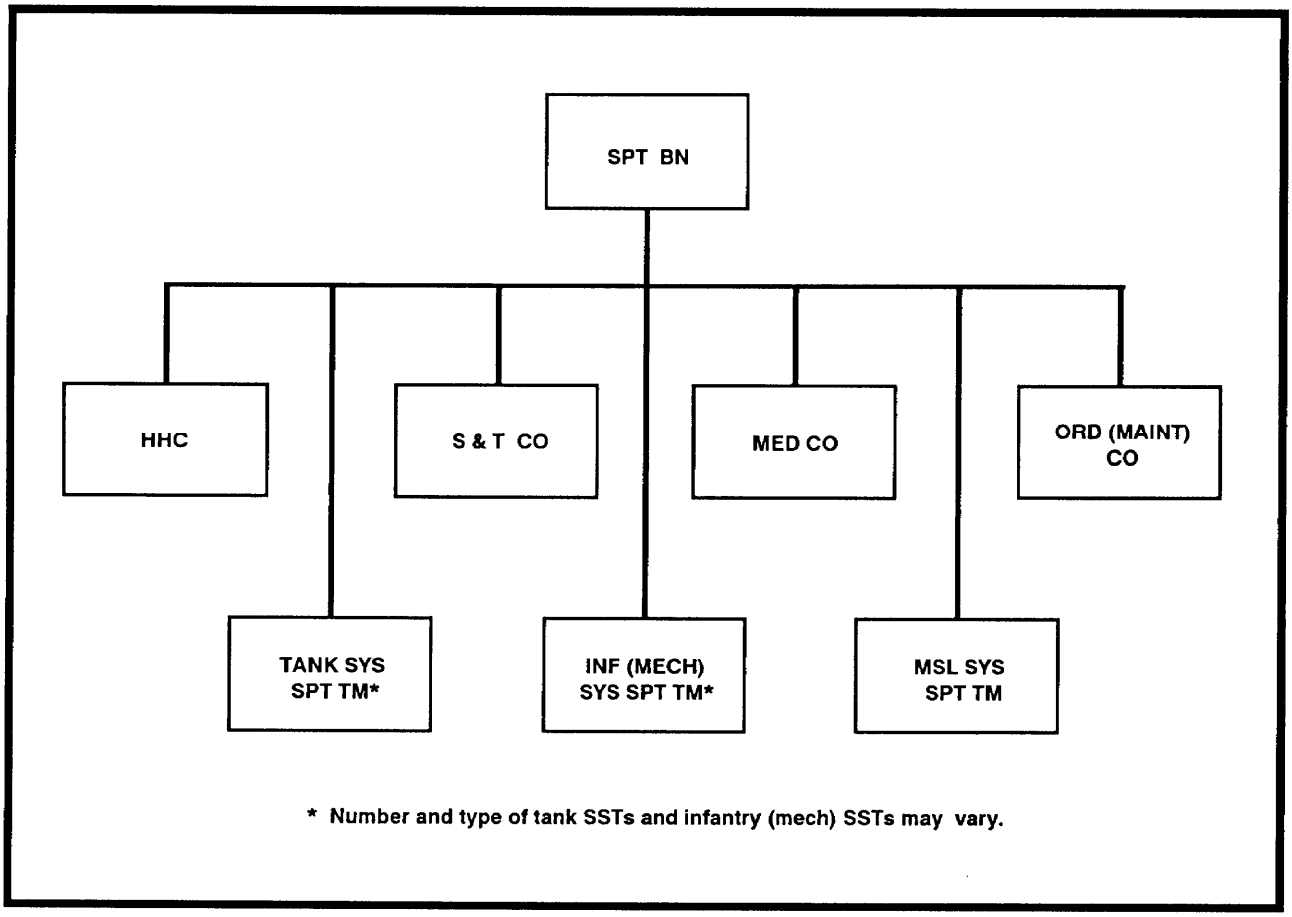


Figure 1-5. Organization of a HSB support battalion.

Chapter 2
Combat Service Support Planning

Contents

PLANNING GUIDELINES AND RESPONSIBILITIES

Success on future battlefields depends on how well CSS commanders and planners support the AirLand Battle. They meet the need generated from different types of operations and conflicts. In the separate brigade, the brigade S1 and S4 and support battalion commander and staff and company commanders have the primary responsibility of CSS planning.

Logistics and HSS planning are fully integrated into all operations planning. Logistics is synchronized with the concept of the operation. Logistics and HSS planning are continuous and concurrent with ongoing support execution. CSS planners ensure support during all phases of an operation. The CSS plan is as detailed as time permits. The SOP is the basis for battalion CSS operations planning conducted to determine specific requirements and prepare for contingencies.

Planners and operators understand the mission statement, intent, and concept of the operation. They know what each of the supported elements is doing. They know when and how they are doing it. They know what type and quantities of support are needed. They also know the priority of support, by type and unit. They recognize that in providing CSS for combat operations, they are continually involved in making decisions based on risk/benefit analyses. That is, they continually balance benefits derived from particular support concepts versus the risks.

In order to make these judgments, support battalion commanders and planners need to weigh various considerations. They base the considerations on the particular type of tactical operation to be supported. They also keep in mind the dynamic nature of the AirLand Battlefield and the need for flexibility.

There are several planning tools available. FM 101-5 discusses the logistics estimate for CSS planning. FM 8-55 is a comprehensive reference for HSS planning. FM 101-10-1 contains detailed planning data for combat operations.

The support battalion, along with unit-level support units, supports the brigade across the entire depth of the battlefield. However, at brigade level close, deep, and rear operations are practically indistinguishable. They are conducted with the same assets.

CLOSE OPERATIONS, OFFENSE

There are different types of offensive operations. They are movement to contact, hasty attack, deliberate attack, exploitation, and pursuit. However, the support battalion commander organizes in ways that permit him

to change from supporting one type of operation to supporting another. The support battalion commander does this without interruption of service. Cavalry units normally perform reconnaissance and security missions in support of corps and division offensive operations. If required, cavalry units perform offensive operations as an economy of force for the corps or the division.

In some situations, one type of operation requires a change in emphasis of support. The support battalion commander and staff anticipate requirements and maintain continuous contact with the brigade staff. To have as much advance notice as possible and to ensure the separate brigade commander's course of action is supportable, the headquarters of the support battalion monitors tactical nets at all times. In planning for an attack, the support battalion ensures support equipment is ready. It also ensures supplies are in position and coordination is made to meet transportation needs.

As the attack progresses, the availability of adequate supplies and transportation to support the attack becomes more critical. Supply lines lengthen and communications are strained. Stay-behind forces attack support units to delay or stall the separate brigade offense. There are requirements for repair and replacement of weapon systems. The support battalion commander and staff anticipate these problems. They also maintain countinuous contact with the brigade staff. Communication links between the separate brigade main CP and the support battalion remain operational. All elements of the support battalion prepare to move forward by echelon.

SUPPLY

The most critical supplies are Class III, V, and IX. To handle high fuel consumption, personnel build up forward stocks. They also prepare the Class III point to move forward rapidly to setup forward tactical refuel points. Class III and V are prepositioned in depth at subsequent positions or at LRPs for pickup by unit first sergeants. Support battalion units prepare to support forward but remain mobile to rapidly displace as the battle develops.

Though ammunition expenditure may not be as high as with a heavy defense, responsive resupply is essential. A significant problem is maintaining this support over extended supply lines. The support battalion ensures ATP elements are as far forward as tactically feasible. There is planning for forward movement of the ATP and coordination for transportation assets. The support battalion also coordinates with the artillery battalion S4 or maneuver squadron S4 for the ACR to preposition ammunition on request at designated firing positions.

Other supply considerations include–

- Forward positioning of essential support battalion elements. These forward logistics elements may include ammunition, POL, and maintenance elements. See Chapter 1.
- Weapon systems replacement.
- Movement at night.
- Preconfigured push packages of essential items if communications break down.
- Maximum use of throughput.
- Increased use of airlift/airdrop for resupply (especially for the covering force), especially for Class I, packaged Class III, Class IX.
- Potential use of captured supplies, especially vehicles, fuel, and medical supplies.
- Supply or resupply of Class VIII.
- Increased use of MREs.
- Use of controlled exchange and cannibalization as a source of repair parts.
- Availability of host nation support, particularly procurement of Class III bulk and packaged item transportation assets, building supplies, barrier material and in some cases sundry items.
- Obstacle-breaching and bridging materiel requirements.

TRANSPORTATION

The offense heavily taxes transportation assets. Long lines of communications and high requirements for selected supplies and personnel replacements stress the system. The support battalion uses transportation assets carefully to ensure mobility to advance with the attack and to push support forward. It also plans to move refuel-on-the move equipment. The support battalion in coordination with the brigade rear and main CPs coordinates the movement of the support battalion to ensure continuous support. Early in the transportation planning process, the support battalion plans for use of nonmedical transportation assets to assist in the movement of casualties during mass casualty situations.

MAINTENANCE

Maintaining momentum also requires having in the battle as many weapon systems as possible. Therefore, emphasis is on BDAR and rapid return of equipment to the brigade. BDAR and evacuation of combat vehicles are done efficiently and by priority. This precludes leaving valuable assets in the hands of the enemy.

Prior to the attack, personnel inspect equipment, perform required maintenance, and make up equipment shortages. Personnel replenish to the desired level the repair parts stockage and establish reserve stocks of critical items.

During the attack organizational mechanics perform repairs as far forward as possible based on the tactical situation. During intense combat, some inoperable equipment is left in place as the attack progresses. Recovery personnel and mechanics form trail parties to repair or evacuate equipment left behind by the main attack forces. MSTs include mechanics who make rapid and informed decisions on what can be repaired on site. They also determine what to evacuate, what to cannibalize, and what to abandon. MSTs use controlled exchange of parts prior to recovery operations. If they decide to abandon equipment, MSTs render the equipment useless to the enemy.

MSTs work closely with the supported battalion's BMO to make maximum use of lulls in the battle. MSTs get as much equipment mission capable as possible before action resumes. In fast-paced actions, the maintenance control officer acts on requirements from the MSTs. He coordinates air and ground transportation through the support battalion transportation officer to bring repair parts forward and evacuate damaged equipment.

HEALTH SERVICE SUPPORT

Deliberate attacks are likely to result in high casualty rates. High casualty rates and long evacuation lines stress the medical resources of the brigade and may require them to be augmented. The type of offensive maneuvers, as well as the enemy capability, influences the character of patient evacuation work load. The support battalion pushes Class VIII forward. It is also ready to provide prompt evacuation in fast-moving situations. The support battalion identifies predetermined ambulance exchange/patient collection points along the axis of advance and evacuation routes. Elements without organic medical resources operating within the brigade AO receive HSS on an area basis from the supporting medical element.

In exceptional cases, increasing evacuation demands require the use of non-HSS transportation assets. When using nonmedical assets, the support battalion coordinates for reinforcing medical personnel to provide en route care. Using transportation assets this way intensifies the burden on the already stressed transportation system.

FIELD SERVICES

The mobility of offensive operations causes the temporary suspension of some field services. These field functions are laundry, CEB, and bakery. However, mortuary affairs operations intensify. The support battalion ensures adequate mortuary affairs supplies are available. The other field service that assumes greater importance in the offense is airdrop. It is required to increase support mobility. Although airdrop support comes from the corps, the support battalion staff plans request procedures, drop zone selection and control, recovery of supplies, and evacuation of airdrop equipment.

CLOSE OPERATIONS, DEFENSE

SEPARATE BRIGADE DEFENSIVE ROLE

Separate brigade defensive operations break the momentum of the enemy's attack while maintaining the capability to shift to the offense with little notice. The HSB, SIB/TDB, or ACR conducts a static defense or varying degrees of a more mobile dynamic defense against a variety of threats and in differing terrain. The tactical mobility of the HSB, SIB/TDB, or ACR makes it well suited for the dynamic defense.

The support battalion commander supports the wide range of options available to the brigade commander conducting defensive operations. Without sacrificing support, the support battalion commander locates support battalion support points out of reach of possible penetrations in protected and concealed locations. Elements are also out of the way of potential retrogrades. Support battalion units disperse as much as possible without impairing command and control or security. They use built-up areas as much as possible. Support units defend against an enemy thrust through their area. The support battalion commander in conjunction with the brigade S3 plans ADA coverage and emphasizes passive measures.

During the preparation of the defense, priority of protection goes to those units preparing positions and obstacles. Once the positions are prepared, priority shifts to protection of the reserve, BSA/trains and CP

locations, and FARPs. CSS considerations for defensive operations include –

- Cache limited amounts of Class III and V on subsequent positions.
- Plan for increased use of Class IV and plan for transport of these materials.
- Plan to reorganize to replace lost CSS capability.
- Resupply during limited visibility.
- Use MSTs well forward (UMCP) to reduce the need for further evacuation of damaged vehicles.
- Echelon CSS assets in depth.
- Plan mobility operations to maintain MSRs.
- Plan to displace often.
- Emphasize recovery and evacuation of items of equipment that require extended repair time.

Other CSS considerations for supply, HSS, transportation, field services, and maintenance are in the following paragraphs for the ACR and separate brigade.

SUPPLY

Supply operations are most intensive during the preparation stage. The support battalion plans to preposition critical supplies (particularly fuel, ammunition, and barrier material) far forward and in successive defensive positions. Supply personnel position and secure supplies out of the flow of the battle. As soon as the support battalion knows a defense is planned, it begins coordination with the COSCOM. They coordinate to have obstacle materiel throughput by corps assets as close to the emplacement sites as possible.

Throughout the defense, Class V expenditures are likely to be high. Supply personnel make plans to upload as much materiel as possible with the maneuvering units. Requirements are also high for chemical filters, MOPP gear, and decontaminants. In many defenses, however, consumption of fuel is low relative to rates during an offense.

TRANSPORTATION

Transportation is most critical while preparing for a defense. Stockpiling supplies and shifting personnel and equipment before the operation taxes the system. The support battalion's major role in this area is to maximize use of its limited resources. It also coordinates additional transportation needs for support operations.

MAINTENANCE

The maintenance company takes all required steps to place as many weapon systems as possible in serviceable condition. Operators, crews, MSTs and the maintenance company perform any necessary repairs authorized at their level of repair. Once defensive operations begin, the principles are the same as for the offense. However, in some defenses where lines are not extended, forward support is maximized by consolidating all maintenance company assets, including the SSTs, in the base shop. Forward support also means sending out small, highly mobile MSTs. These MSTs perform quick, on-site repairs or component exchanges.

HEALTH SERVICE SUPPORT

Casualty rates are likely to be lower than in an attack. However, enemy action and the initial direction of maneuver to the rear complicate forward area acquisition of patients. Planners set priorities for evacuating patients on the basis of the location of the probable enemy main effort. Planners designate predetermined ambulance exchange points. The medical company commander/brigade surgeon also coordinates with the S2/S3 transportation officer. (In the ACR, the surgeon coordinates with support operations officer.)

FIELD SERVICES

The field service functions of CEB and mortuary affairs operate routinely where the tactical situation permits. Mortuary affairs units evacuate the dead quickly. The support battalion staff ensures that laundry and CEB facilities in the BSA are far enough in the rear and out of the way of tactical units.

RETROGRADE OPERATIONS

A retrograde operation is an organized movement to the rear or away from the enemy. Retrograde operations gain time, preserve forces, avoid combat under undesirable conditions, or draw the enemy into an unfavorable position.

Retrograde operations may be particularly complex for the support battalion because of the many activities that are taking place concurrently. Maneuver elements at a given time are defending, delaying, attacking, or withdrawing. All of these various kinds of action are supported under the overall retrograde operation.

To ensure uninterrupted support in any retrograde, support sites are well to the rear. The support battalion displaces early and when possible at night. Echeloning support battalion elements allows them to continue to provide support at old sites until new sites are operational. The support battalion moves as soon as possible any assets not essential to supporting forward elements.

Separate brigades and ACRs are frequently involved in delays. In a delay, forces are likely to be spread out over a wide front with little depth. As a result, support battalion assets are widely dispersed. To improve C2 in such cases, support battalion elements such as MSTs are OPCON to supported units.

SUPPLY

To avoid the unnecessary destruction, loss, or hauling of supplies, managers control the flow of supplies forward to only the most combat essential. They evacuate all other supplies early. Managers use push resupply with a priority toward fuel and ammunition. Planners also consider supply of barrier material and fog oil to provide smoke at obstacles. Operators place supplies at preplanned fallback points along the withdrawal routes. This simplifies resupply, reduces road congestion, and permits early withdrawal of supply units. In a delay, with less depth of forces, planners anticipate less stockpiling of barrier material and ammunition. In all retrograde operations, transportation assets moving to the rear move any supplies which are already forward but not required by the delay force.

TRANSPORTATION

Retrograde operations stress transportation resources. The support battalion continues to move essential items forward. It evacuates nonessential personnel and items early to avoid congested roads later. The support battalion makes sure all transportation assets moving resources forward assist in the evacuation effort. The transportation officer and BMMC coordinate with each other for movement needs. COSCOM MCTs are critical to controlling movements. Emphasis is on keeping supply and evacuation routes open.

MAINTENANCE

Maintenance planning emphasizes support forward while moving most of the maintenance company rearward. Maintenance also emphasizes evacuation of equipment over forward repair. The support battalion uses tanks and other fighting vehicles whose weapon systems are inoperable to tow other vehicles with inoperable motor systems. Time for repairs is limited. The MSTs and contact teams concentrate on exchange versus repair and maximize cannibalization. Since command and control is difficult, MST leaders take the lead to keep the maintenance control officer aware of the team's location, resource status, and Class IX requirements.

HEALTH SERVICE SUPPORT

HSS in retrograde movements may vary widely depending upon the operations, the enemy reaction, and the situation. The effect of time on treatment and evacuation is significant. The number of patients removed from the battlefield depends upon the time and means available. As the available time decreases, the battalion and brigade surgeons evaluate the capability to collect, treat, and evacuate all patients. When the patient load exceeds the means to move them, the tactical commander makes the decision as to whether or not patients are to be left behind. The surgeon keeps the tactical commander informed about the need to reach a timely decision. The tactical commander leaves medical personnel and supplies with patients who cannot be evacuated.

FIELD SERVICES

Any laundry and CEB units in the separate brigade area move to the rear as soon as possible. Commanders temporarily suspend nonessential services. Deception planners integrate facilities of suspended activities into their plans.

DEEP OPERATIONS

Deep maneuver is a high-speed, short duration, audacious operation. Planners reorganize maneuver forces to meet specific objectives. In particular, the ACR participates in deep operations of the corps as a maneuver force. The ACR also conducts its own deep operations using the aviation squadron, EW, and indirect fire. These forces can either carry all resources needed during the operation or be supported via a surface or an air LOC.

Planners carefully plan the support of deep maneuver. Early in the planning phase, the support battalion commander provides information to the brigade commander on logistics and HSS assets. The support battalion

probably has to be augmented with additional assets to support a deep maneuver by the brigade. Once the attack is started, innovative thinking and rapid decision making are key elements the support battalion commander uses to maintain the momentum.

The support battalion may accompany the brigade with the minimum assets to haul Class III and V supplies. With this option, the support battalion folds into the brigade movement formation, protected by adjacent combat elements and the inherent security offered by speed of movement. This method allows the brigade commander flexibility. He has support well forward when critically required.

Maneuver units carry as much Class III and V supplies as possible. Once across the FLOT, only limited emergency aerial resupply and evacuation are feasible. Units (by predetermined plan or SOP) dispose of equipment that is unable to maintain the pace of the operation.

The brigade commander may also augment the maneuver battalions with Class III and V supply assets from the support battalion. Each battalion then supports itself with its organic and attached assets. This increases speed of resupply and security, thus enhancing decentralization.

Remaining support battalion assets are in a position and state of readiness so that once an MSR is open and available, these assets immediately resupply and restore combat power.

Support of deep operations depends on the availability of transportation assets. With ground LOCs, MSRs need to be open and secure. Ground transportation moves supplies in support of units moving to the line of departure as well as to support those units once they move forward.

REAR OPERATIONS

The primary purposes for conducting rear operations are to secure the force and neutralize or defeat enemy operations in the rear. Rear operations also ensure freedom of action in close and deep operations. Rear operations protect necessary CS and CSS from disruption. The brigade commander is responsible for the protection of the brigade rear. The support battalion commander is responsible for the protection of the brigade support area. Support battalion facilities and supplies must be safe from ground, air, and missile attack. The support battalion prepares to support projected operations without decreasing the support to currently engaged units. Effective planning requires open communication lines and quick reactions on the part of the support commander. Further information on rear operations is in Chapter 5.

OUT-OF-SECTOR SUPPORT OPERATIONS

Out-of-sector CSS is that CSS required to adequately support a US Army force deployed within the theater but outside the US sector. Contingency plans, general war plans, or operation orders include provisions for such deployment of US Army units. These units are deployed either unilaterally or as a part of an allied combat formation. Plans for the deployment of US Army units outside of the US sector include provisions for their CSS. Consideration is given to the following:

- Size and mission of the force.
- Deployment location of the force in relation to other US units.
- Support capability of the allied force to which the US force maybe assigned.
- Support capability of the host nation.
- Self-supporting capability of the US force.

SIZE AND TYPE OF FORCE

The size and makeup of the force dictate the type of support units require and the organization of the support. Normally, the brigade deploys out of sector in its entirety or as part of a larger force. However, when only part of the brigade deploys out of sector, and it cannot be supported from the US sector or by the allied force in which assigned, support battalion elements are included. These elements are organized into a provisional support platoon or company. If US forces or the allied force to which the brigade is assigned cannot provide backup CSS to the support

battalion, the support battalion may be augmented by COSCOM or TAACOM units.

MISSION

Planners consider the mission of the brigade force when tailoring its CSS. For example, if a brigade is deployed out of sector and is the forerunner of a larger force, additional CSS elements are deployed.

SUPPORT CAPABILITY OF ALLIED FORCE

Before a US separate brigade deploys out of sector, negotiations are conducted with the allied force to which the US force is assigned to arrange for common item and other logistics. This may include transportation, maintenance, and Class I, III, IV, V, VIII, and possibly Class IX supplies. As a minimum, a letter of agreement is concluded if time permits. However, the rapid mobility of forces may preclude formal written agreements prior to initiation of support by allied forces. The separate brigade obtains the balance of its support from the host nation and from US resources. The separate brigade has teams attached to accommodate handling of contracts with local national organizations/firms.

HOST-NATION SUPPORT

The theater commander and staff decide to deploy a US separate brigade out of sector and conclude negotiations with the allied force to which the brigade is assigned. They then conduct further negotiations with the host nation to obtain the required logistics. If agreements exist between either the US and the host nation or between the allied force and the host nation, such agreements are applied. Higher headquarters obtains the balance of the support from US sources.

CONDUCT OF PLANNING

The theater army commander plans for the deployment and support of US separate brigades out of sector. He does this either unilaterally or in coordination with allied commands. The US theater army commander develops unilateral plans to support US-declared contingencies. He develops plans in coordination with allied commanders or with the direction of the allied command to which the theater army is assigned. Such plans support multilateral operations and require approval through US channels.

LOW-INTENSITY CONFLICTS

LIC does not describe a specific activity or operation. Instead, it is an environment in which operations in four general categories occur:

- Support for insurgency and counterinsurgency.
- Combatting terrorism.
- Peacekeeping operations.
- Contingency operations in LIC.

The involvement of a separate brigade in a LIC ranges from small teams providing humanitarian support to an entire separate brigade deploying independently. It may be a part of a larger force such as a heavy augmentation to a LID. The level of development of the theater and the expected duration of the mission may require that the support battalion receive additional assets to perform functions that the COSCOM normally does for the brigade. If the brigade deploys as part of a larger force like a division, the role of the support battalion and its relationship to its higher headquarters is clearly spelled out in the OPORD. The brigade is not likely involved in combatting terrorism beyond its normal security operations.

During support for insurgency and counterinsurgency, brigade support consists of small teams. These teams provide general supply, maintenance, ammunition, HSS, and transportation support to indigenous force tactical operations.

The whole brigade needs to be aware of the political considerations, legal constraints, and local customs and traditions. Planners coordinate public affairs plans, command information, CA plans, and PSYOP with the host nation and US embassy.

The support battalion role in such operations includes two elements. First it provides support to the teams themselves. Secondly, it has to provide support to the host country to improve military and civil organizations. Major roles, however, in humanitarian assistance and civil action projects are beyond the capability of the support battalion. The brigade S1/AG, S4, and support battalion commander and staff coordinate with the brigade S5 to determine the requirements that local resources can meet. Force planners provide corps or EAC assets for requirements that the support battalion and local resources cannot meet.

Support to counterinsurgency may involve the separate brigade participating in a foreign internal defense where it acts as a security force. In such situations, support battalion operations are very similar to those during conventional operations. In early stages the support battalion needs to emphasize supply of construction and barrier material to prepare bases. Support battalion movements require additional security as they travel along supply lines that are subject to interdiction. Ammunition requirements center around small arms ammunition and mines.

The separate brigade participates in PKO under the auspices of an international organization. This is done in cooperation with other countries or unilaterally. In all cases, the peacekeeping force remains neutral to keep its credibility and acceptability. In some cases, neutrality is not in question. When that is true, host-nation contractors are used for maintenance of military and commercial equipment, fresh foods, dining facility operations, laundry, CEB, and transportation. When the appearance of neutrality is a factor, host-nation support is not a significant source of support. In these cases, force planners include assets to perform these functions or find an independent contractor. Also, because the support battalion may have to support all members of a PKO force, planners consider the type and content of foods for religious and cultural reasons. Finally, since the force is neutral, the medical element may not undertake independent and unplanned medical civic assistance programs.

Separate brigades conduct contingency operations throughout the operational continuum. Support battalion considerations for contingency operations in general are presented later in this chapter. In LIC, contingency operations involve crisis avoidance or crisis management. They are sudden and joint in nature and require close coordination with all Services. They occur in areas of the world that have limited host-nation resources and airfield and port capabilities. Specific types of operations include:

- Support to US civil authorities.
- Military support to counterdrug operations.
- Disaster relief.
- Security assistance surges.
- Noncombatant evacuation operations.
- Rescue and recovery operations.
- Shows of force and demonstrations.
- Operations to restore order.
- Unconventional warfare.
- Strikes and raids.

Since contingency operations are usually of short duration, nonmission essential support is limited. The support battalion leaves behind nonessential assets. The battalion does this to maximize the assets it brings with it to conduct essential services. The battalion also leaves behind assets to conduct operations that can be performed by HNS resources.

FM 63-6 has additional information on CSS for LIC operations. FM 8-42 provides an in-depth discussion of medical operations in low intensity conflict.

SECURITY OPERATIONS

Separate brigades and ACRs perform security missions. The missions provide information about the enemy and terrain. They preserve the combat power of maneuver forces to be concentrated at the point of decision. Screen, guard, and cover missions protect the main body and provide early warning. These missions also free the main body units to concentrate combat power. The separate brigade plans and performs successful security operations keeping five fundamentals in mind:

- Orient on the main body.
- Perform continuous reconnaissance.
- Provide early and accurate warning.
- Provide reaction time and maneuver space.
- Maintain enemy contact.

SCREEN

A screening force maintains surveillance and provides early warning to the main body. It impedes and harasses the enemy with supporting indirect fires. It also destroys enemy reconnaissance elements within its capability.

The ACR as a whole is seldom assigned a screen mission. However, squadrons within the ACR perform screen missions as part of a regimental mission. Separate brigade elements may use similar techniques.

When they do, the support battalion uses the same techniques described below for the RSS.

Stationary Screen

Armored cavalry squadrons establish successive screen lines. Their organic CSS assets support extended frontages and stay mobile. They also have to support extended operations. Therefore, the RSS has to provide supplemental transportation to the squadron. It provides additional supplies. It also provides maintenance capability to make the squadron more self-supporting. Any support assets sent to supplement squadron trains are accompanied by transportation to retain mobility.

Moving Screen

An armored cavalry squadron conducts a moving screen when the main body is moving either in the attack or in retrograde. If the squadron is screening for the regiment, the RSS is with the main body. Squadron trains may move with the RSS for protection and to enhance support coordination.

The squadron may also screen for another unit. The RSS and RS4 coordinate with that unit's CSS element to have squadron trains move with the CSS element in the main body. Only essential elements of the combat trains are likely to accompany the cavalry squadron. The RSS provides additional transportation for mobility if required.

Separate brigade elements may also use similiar techniques. Battalion trains along with any required augumentation from the support battalion maintain a central location behind the screen line, responding to calls for the evacuation of the wounded and for damaged vehicles. Battalion trains always move to the next screen line as the force prepares to move to its next screen line.

GUARD

A guard mission is normally assigned to a squadron or battalion. A guard force accomplishes all the tasks of a screening force. However, its operations differ from a screening operation. It prevents enemy ground observation of and direct fire against the main body. It reconnoiters, attacks, defends, and prevents enemy direct fire against the main body. A guard force normally operates within the range of main body indirect fire weapons. The commander deploys a guard force over a narrower front than a screen to permit concentration of combat power.

In fast-moving situations, elements of the support squadron or battalion operate well forward to ensure continuing support. These elements typically include ammunition, bulk fuel, EMT, and medical evacuation assets. They also include on-site repair teams and equipment recovery arid evacuation resources. The ACR employs squadron support aircraft for CSS operations. Priorities are set by the regimental S3 section in coordination with the squadron S3 and S4.

COVER

The separate brigade conducts covering force operations. It normally forms the central element of the corps commander's covering force. A covering force accomplishes all the tasks of screening and guard forces. It operates apart from the MBA to develop the situation early. It deceives, disorganizes, and destroys enemy forces. A covering force is tactically self-contained. It is capable of operating independently of the main body.

A covering force in a defense conducts operations to either defend against or delay an attacking enemy force. It is tasked to force the enemy to prematurely deploy and commence his attack. It identifies the enemy's main effort. A covering force also reduces the enemy's strength by destroying specific maneuver units or stripping away essential CS units.

Because of the usual necessity for a covering force to fight a major engagement, the separate brigade is normally provided with additional combat, CS, and CSS units. If the elements come from a division, they come with their organic CSS assets as well as a slice of the DISCOM. Other support assets have to come from the COSCOM.

The brigade commander positions forward in the covering force area only those CSS assets immediately essential to the operation. Key items are bulk fuel, ammunition, limited maintenance, and HSS. COSCOM HETs may also be necessary to evacuate heavy equipment. Aeromedical evacuation assets maybe deployed in the covering force area. The tactical commander determines if the casualties are held until linkup rather than being evacuated out. Medical treatment assets are normally positioned at a larger site rather than in the covering force area.

CSS assets are withdrawn when no longer required. They are also withdrawn when the risk of their loss becomes unacceptably high. CSS for the covering force with a defend mission requires the propositioning of supplies. It also requires forward positioning of

maintenance and an increase in barrier materials and ammunition. The support battalion relies on the corps to preposition supplies and to deliver barrier materials to emplacement sites. A delay mission requires the allocation of more time or more assets to preposition supplies at additional delay positions.

CONTINGENCY OPERATIONS

The separate brigade responds to a variety of contingencies. It reinforces US and allied forces deployed anywhere in the world. The separate brigade also deploys alone to areas of minor conflict. There may not be US or allied bases. The brigade also deploys as part of a contingency corps or larger sized force. In such cases, it has a normal combat role or a role as a rear operations force.

Support requirements are different for each contingency operation. Each contingency mission requires intensive CSS planning. Support battalions of the separate brigade prepare to support operations in any environment and under any set of circumstances.

Unless in-country support is available, the contingency force takes with it the assets required to support itself until establishing lines of communication. Regardless of the support package the separate brigade deploys with, it eventually requires supply replenishment, replacements, and maintenance support beyond its organic capability.

During early phases of contingency operations, the support battalion may echelon its assets. This involves using a forward logistics element and forward logistics base. The forward logistics element may include Class I, III, and V. See support concepts in Chapter 1.

Support of contingency operations is phased. It is critical the planners synchronize the deployment of separate brigade units, supplies, and CSS C2 with the increase in combat capabilities.

Some considerations for support of contingency operations are —

- Prior to its deployment, the separate brigade establishes request procedures for each phase of the operations. The separate brigade cannot carry all necessary classes of supply. The support battalion needs augmentation before deployment (such as, trucks, HETs, MHE, container-handling capability, POL haul capability, and ROM kits) from corps. The separate brigade support battalion is plugged into a support base as soon as it arrives in a new AO.
- The separate brigade has attached units requiring support of different types of equipment. Supply planners need to identify early the density of this equipment and the required Class IX. It is also necessary for the COSCOM to load this data into its supply management system to preclude rejection of requisitions.
- The separate brigade considers the work load captured weapons and ammunition place on the force structure. The work load may be immense for receipt, storage, safeguarding, controlling, and movement of captured items.
- Personnel planners for mortuary affairs prepare remains evacuation flow diagrams. The plan identifies each point and the responsible person at each point as the remains change custody.
- In a contingency area, the separate brigade (early) identifies the types of fuel available. This way, there is less fuel filter consumption.

RECONNAISSANCE OPERATIONS

The main purpose of reconnaissance is to gain information of tactical importance about the enemy, weather, or terrain. Terrain information includes terrain features and trafficability. It also includes natural and man-made obstacles and other aspects of the environment. Reconnaissance also determines the attitudes, activities, conditions, strengths, and locations of significant numbers of civilians.

The ACR normally performs reconnaissance in a wide zone. The regiment may have three ground squadrons abreast and the RAS forward. The regimental commander establishes adequate control measures to ensure synchronized reconnaissance. He also decentralizes execution to the squadron commanders. If the separate brigade is given a similar mission the same considerations apply.

The ACR accomplishes reconnaissance as an aspect of offensive cover. It also accomplishes reconnaissance by directing squadrons to perform the mission. Reconnaissance is the primary mission of the RAS. When assigned a zone reconnaissance mission, the corps commander allows the regimental commander considerable freedom of action. This allows the reconnaissance effort to pull the corps main body along the lines of least resistance and seize opportunities as they occur.

During reconnaissance operations, the depth of the zone or anticipated duration of the operation dictates arrangement of CSS assets. It also dictates how many assets are forward. The RSS is positioned properly and is mobile enough to support the reconnaissance mission. Class III and V are the major concerns. Certain general considerations guide planning and preparation. The emphasis on any particular consideration varies with the mission assigned. Emphasis, priorities, and requirements may also shift as the operation is underway. The availability of adequate supplies and transportation to support the operation becomes more critical as the operation progresses. MSRs lengthen, communications are strained, and requirements for repair and replacement of weapon systems are increased. Maintaining the momentum of the operation is the overriding consideration in supporting reconnaissance. Some general planning considerations in supporting a reconnaissance operation are —

- Echelon squadron trains. Combat trains remain mobile.
- Position a portion of each essential CSS asset, such as ammunition, POL, and maintenance, in the combat trains.
- Ensure basic loads remain replenished.
- Plan for an increased consumption of POL.
- Use push packages of preplanned and preconfigured essential logistics items.
- Plan for increased vehicular maintenance, especially when operating over rough terrain.
- Use maintenance support teams well forward.
- Plan use of airlift and airdrop for resupply.
- Suspend most field service functions.
- Select supply routes, LRPs, and subsequent trains locations for the entire operation. Plan alternative routes and means.
- Prepare for increased casualties, additional evacuation, and increased mortuary affairs requirements.
- Upload in advance as much as possible logistics assets required for the operation.
- Plan for increasing distances and longer turnaround times for MST operations.

HEAVY/LIGHT OPERATIONS

Effective integration of light and heavy forces maximizes the capabilities of each type of force by using the advantages of one type to offset the limitations of the other. Not all situations are suitable for light-heavy/heavy-light operations. In considering integration of light and heavy forces, planners match the force to the METT-T.

The Army categorizes forces as heavy on the basis of their ground mobility. Heavy forces include mechanized infantry, armored, and cavalry forces. Heavy forces are most effective where battles are fought over wide areas of relatively unrestricted terrain. They seek to engage targets at the maximum ranges of their weapon systems. Engagements are fast-moving and cover large areas of the battlefield.

Light forces provide versatility and strategic flexibility through their capability for rapid deployment. However, once they deploy, light forces have limited mobility and firepower. Light forces achieve maximum advantage in close terrain where enemy forces cannot attack them beyond the range of their weapons. In such terrain, they can deny the enemy unhindered movement. Light forces are most effective when given an offensively oriented mission.

In addition, light forces fight at night and in limited visibility. Heavy forces are most vulnerable at night. They are especially vulnerable in restricted and close terrain where enhanced optics are of limited use.

When task organizing heavy and light forces, commanders and staff recognize and consider these capabilities and staff planning considerations of each organization. There is no set formula for task organizing heavy forces and light forces. However, there are some basic considerations for employing light forces in conjunction with heavy forces that are applied. Considerations for developing the proper

command/support relationship for any mix of light and heavy forces are —

- The size and mission of the force.
- The distance of the deploying force from the support base of its parent unit.
- The support capability of the receiving force. This capability is particularly important to consider in the case of light forces. The different types of light forces have significantly different support capabilities.
- The relationship between the deploying support element and the receiving unit.
- The source of support for each force.
- The self-supporting capability of the deploying force.

As a general rule, light forces cannot support the demanding logistics requirements of heavy forces. Light forces do not have the assets to move the large quantities of supplies and equipment heavy units require. Nor do they have the maintenance assets to support heavy equipment. Special arrangements are also required when a heavy unit supports a light one. The light force has equipment that the heavy support unit does not normally support. Also, light forces lack an ability to move significant amounts of reserve stocks. This means that planners arrange for rapidly supplying packages of critical supplies to light units. These packages (which include Class IV and V items such as wire, mines, and survivability items) are carefully planned in advance.

A separate heavy brigade can be placed OPCON to a light division for a long duration. It has CS and CSS assets integral to its organization. A separate brigade also receives its CSS from corps. In this situation, the heavy separate brigade takes its normal corps slice of CS and CSS assets. This allows the light division to control the heavy separate brigade, but not become overburdened with support operations.

As with the separate heavy brigade operating with a light division, the preferred option for a light brigade operating with a heavy division is a separate infantry brigade OPCON to the heavy division. The separate infantry brigade support battalion links directly to the COSCOM and coordinates with the heavy DISCOM support operations branch. If it is attached, the heavy division requires more support from the COSCOM. Also, increased equipment densities exceed the maintenance capabilities of the division and require additional assets from corps.

A light battalion maybe attached or OPCON to a heavy brigade. A light battalion attached to a heavy brigade is the preferred option when combining light and heavy forces at this level. However, when the light battalion is task-organized to a HSB, planners in the HSB understand that light fighters are exactly that – light. The more they have to carry, the slower they move and the smaller the advantage of their relative mobility in restricted terrain. Heavy force support planners recognize that providing too much support forward involves considerable risk.

The preferred relationship of a heavy battalion task-organized to the separate infantry brigade is OPCON. In such cases, the heavy battalion continues to coordinate support requirements with its parent brigade S4. The distance between the heavy battalion and its parent brigade support base is a key consideration in determining whether the battalion is supported through an OPCON relationship. Another consideration is the mission of the remaining elements of the brigade.

Regardless of the C2 relationship, a CSS liaison element should accompany the unit operating under a new controlling headquarters. It coordinates support and ensures information flows between the deployed unit to the controlling headquarters. This information includes —

- Critical fuel and ammunition requirements.
- Status of each class of supply to include water.
- Maintenance requirements and backlog.
- Class IV, V and IX requirements and availability.
- Movement requirements and available transportation assets to include aircraft.
- Availability of medical treatment and evacuation assets.
- Locations of support elements.
- Status of support personnel.
- Anticipated support problems.
- Compatibility of automated equipment.
- Unique equipment.

NIGHT OPERATIONS

Support battalion commanders anticipate a substantial amount of their units' work being done at night or in limited visibility. They plan for the equipment needed and the precautions necessary to perform the mission in such conditions. For these types of operations, they consider —

- Reducing electromagnetic emission. Support activities are a major source of such emissions. Support battalion commanders continually emphasize the role and use of wire, messengers, and sound and visual signals.
- Appropriating civilian buildings to reduce thermal signatures.
- Lightproofing shelters.
- Using filtered lights.
- Using night vision devices.
- Using roving patrols and listening posts and observation posts with either attached military police or organic personnel.
- Eliminating all but essential noise.

In addition, the BSA is susceptible to a night attack. This may further slow down logistics and HSS activities.

Use of chemical lights may be applicable. Possible techniques include the use of–

- Chemical lights to light CP areas, eliminating generator noise and thermal signature.
- Chemical trip flares which create no fire hazard but illuminate targets, mark target reference points, or mark ranges.
- Magnetic holders to allow placement of colored chemical lights on vehicles.
- Chemical lights to illuminate areas of vehicle engine compartments for night repair.
- Chemical light holders to regulate the amount and direction of light.

SUPPLY

Supply planners anticipate high consumption of batteries, flashlights, and illumination rounds during night operations by their supported brigade. Also units use additional fuel to run vehicle-mounted night sights.

Use of prestocked supplies requires careful coordination. Personnel are able to find locations in limited visibility. Personnel take care to ensure that prepositioning does not signal an attack.

Use of MHE is more dangerous at night. MHE operators train to use night vision goggles. They also load supplies on transportation assets during the day to be delivered at night. External SOPs require supported units to provide additional walking guides or personnel to load supplies onto trucks.

TRANSPORTATION

When brigade units conduct night operations, each vehicle has a detailed strip map and an assistant driver. They use available night vision devices. Personnel mark MSRs clearly.

Aerial resupply requires a directional light source to guide helicopters. Personnel use directional strobe lights or bean-bag lights (and in emergencies, chemical lights.)

MAINTENANCE

Unless prohibited by the tactical commander, maintenance company elements work in lightproof shelters with subdued visible light. Personnel drop tarps and tentage over weapons and vehicles to provide expedient shelters. When available, they use night vision devices to repair critical items that cannot be fixed in the shelter. They preposition equipment, tools, and repair parts and mark them for easy use.

BDA is difficult. Therefore, personnel place recovery vehicles forward during night attacks. They move equipment to a location where they perform assessment more easily. Recovery personnel reconnoiter routes during daylight so they rapidly recover vehicles to the MCP.

HEALTH SERVICE SUPPORT

Light discipline requirements affect HSS operations much as they do supply and maintenance operations. Extensive treatment operations require lightproof shelters. Patient acquisition is more difficult. Units employ some sort of casualty-marking system such as luminous tape or filtered flashlights.

Limited visibility slows evacuation. This requires additional ground ambulances to compensate. In the offense, ambulances move forward with the BASs. However, personnel have to accomplish this movement carefully to avoid signaling the enemy. Personnel use predesignated AXPs and patient-collecting points.

NBC OPERATIONS

Certain threat forces have built up their combat capability to employ NBC weapons and to survive and fight in an NBC environment. Their doctrine clearly envisions employment of chemical weapons with either nuclear or conventional weapons. Their forces are large, well equipped, and well trained in NBC operations and defense. In addition to specialized NBC troops, other threat combat and CS forces receive extensive NBC training. Therefore, it is imperative that support battalion personnel are capable of operating in such an environment.

Contamination avoidance, protection (individual and collective), and decontamination are the basic defense against NBC hazards. Support battalion personnel train in these defensive measures to minimize the effects of NBC attacks. FMs 3-3, 3-4, 3-5, 3-100 and 8-10-4 have details.

The NBC environment poses a challenge to the separate brigade CSS system. In an NBC environment, personnel casualties increase, compounding the mortuary affairs and HSS work load. Equipment and supply distribution points support damage from nuclear blasts and fires caused by thermal radiation. Maintenance needs increase sharply, quickly depleting levels of supplies and equipment. Demands for repair parts increase, while fewer people are available to continue the support mission. In an NBC environment, logistics and HSS personnel have to work in full protective equipment for extended periods, resulting in lower productivity. It is necessary to augment the brigade to provide adequate decontamination systems and support.

NBC PLANNING

The S2/S3 section is responsible for developing the NBC defense plan. The section reviews the tactical SOP. The section also reviews the brigade NBC vulnerability analysis to develop the plan. The plan includes an NBC defense requirement forecast. It also includes a set of priorities for decontamination of support battalion assets. The S2/S3 section directs preparation for an NBC attack. It identifies reinforced C2 procedures and components of and procedures for NBC defense teams. In developing the defense plan, the branch coordinates with the following elements:

- Support battalion S1 and medical company for medical evacuation and treatment support. A team of nonmedical personnel accomplishes the patient decontamination mission prior to treatment and evacuation.
- Support operations section (ACR) for alternate support methods.
- Communications section for alternate lines of communication.
- COSCOM for additional decontamination support.
- All subordinate elements for dissemination of the NBC defense plan.

The defense plan for NBC operations is flexible and receives wide dissemination. NBC operations require increased emphasis on —

- Contamination avoidance.
- Increased dispersion of units.
- Plans for alternate methods of supply, services, and HSS. Planners should expect interruptions in the LOCs.
- Balance of the need for increased movement against the capability to perform the mission.
- Continuation of CSS with reduced resources.
- Possible changes in basic loads.
- Plans to increase the CSS capability by the addition of NBC decontamination teams as required.
- Provisions for rapid augmentation or movement of HSS units, on-site emergency treatment, and timely evacuation of large numbers of patients.
- Traffic control to prevent development of potential targets resulting from traffic congestion.
- Plans for the rehabilitation of critical routes as soon as possible after damage.
- Plans for the procurement of civilian manpower and materiel resources. Such resources supplement separate brigade capabilities in rear operations and CSS functions.
- Plans which reflect that the tempo of all operations slow down. Plans should also reflect that some activities come to a halt in an NBC environment. This occurs because individuals or units have to operate in protective clothing, equipment, or facilities. In addition, personnel change work procedures to lessen contamination.

- Significant increases in demand and consumption of individual and unit NBC clothing, equipment, and supplies.
- Provisions for a team of nonmedical personnel to decontaminate patients under supervision of medical personnel.

CONTAMINATION AVOIDANCE

The main defensive measure against NBC hazards is contamination avoidance. This reduces and sometimes eliminates requirements for protection and decontamination. Measures include –

- Taking passive measures such as dispersion, cover, concealment, deception, camouflage, and OPSEC.
- Tasking soldiers to chemical detection and radiological monitoring/survey teams. These teams obtain information about contamination hazards. Advance warning is vital to avoidance. They deploy remote and local automatic alarms to provide early detection, warning, and identification of NBC hazards. The support battalion places and maintains the NBC contamination marking signs in the BSA. FM 3-100 covers NBC marking in depth.
- Limiting contamination spread. Personnel take measures before, during, and after an NBC attack to limit the spread and exposure to other individuals, equipment, and area. These include prescribing levels of MOPP.
- Relocating to an uncontaminated area. Unless the attack consists of a nonpersistent chemical agent, the BSA is generally moved as soon as the tactical situation allows to minimize exposure to residual hazards. If the battalion commander makes the decision to remain in place, the contamination hazard is lessened or avoided as much as possible. The support battalion commander works with brigade rear and main CPs to analyze the units' situations to determine if immediate relocation to a clean (uncontaminated), alternate location is necessary and possible. He gives primary consideration to the current tactical situation and protection offered by present position. He also considers the increased exposure to the hazard caused by relocation and the possibility of further NBC attack. The degree of decontamination required and the impact of continuing to provide support in partial or full protection also affect the decision.

PROTECTION

The support battalion S2/S3 directs his unit's response to an NBC attack in coordination with the brigade S2/S3. The battalion S2/S3 alerts higher, adjacent, and subordinate units, including aid stations and mortuary affairs units, of NBC attacks and hazards. The S2/S3 also files NBC reports in accordance with SOP and the OPLAN/OPORD.

On the individual soldier level, the best protection against a nuclear attack is to be well dug in with overhead cover. Deeply dug foxholes, caves, tunnels, or storm drains provide good protection. Most buildings do not. Basements of concrete or steel framed buildings are adequate if available. Personnel react immediately to the initial sign of attack, a flash. They drop to the ground or into a foxhole immediately without trying to move to cover. They close their eyes, put arms near or under their bodies, and keep helmets on. They stay down until the shock wave has passed and returned. Once it passes, injuries are treated and preparations are made for ensuing fallout. Personnel monitor the area and appropriate actions are taken. Improvements are made to shelters and food and water are placed in protected areas.

The basic individual protection against a biological agent attack is the wearing of the protective mask with hood attached. The duty uniform and gloves provide additional protection against bites from vectors. Such vectors include mosquitoes and ticks that carry disease microorganisms. Adequate protection against biological toxins such as "yellow rain" requires MOPP 4.

In a chemical environment logistics personnel wear MOPP gear for extended periods, which results in lower productivity. All soldiers know the signals and alarms and react to them quickly. Detection teams are designated in advance to survey contaminated areas.

DECONTAMINATION

When personnel, equipment, and areas within the BSA are exposed to NBC contamination, decontamination measures are taken as soon as possible. Decent amination is the process of making any person, object, or area safe by absorbing, destroying, neutralizing, and making harmless the contaminant. It is the removing of chemical or biological agents or radioactive material. Decontamination stops the erosion of combat power and helps the unit avoid casualties. Results of fallout surveys, tactical plans, and NBC warnings and predictions from the brigade determine the decontamination steps.

SUPPORT MISSION IMPLICATIONS

When the enemy uses nuclear weapons or chemical/biological agents, the support battalion undergoes unusual demands. Planners set priorities in advance to ensure effective logistics during an NBC attack. Normally, planners give supply of ammunition, fuel, food, water, and chemical defense equipment and essential maintenance the highest priorities. The following paragraphs discuss these demands and the measures to counter an NBC attack.

Supply

In an NBC environment, the most critical supply items are issued on an automatic basis. Emergency resupply is by air. There is a marked increase in contaminated supplies. Personnel check (monitor) supplies exposed to contamination before use or issue. They do not normally issue contaminated stocks. Until fully decontaminated, they are segregated from clean stock. In emergencies, when no other stocks are available, supply personnel issue certain contaminated supplies. However, they issue contaminated supplies only if it would give the receiving unit a decisive tactical advantage. They issue contaminated supplies first to units similarly contaminated. Only under the most dire circumstances do they issue contaminated stocks to an uncontaminated unit. The issuing and receiving commanders jointly decide to issue contaminated items. Supply personnel try to avoid the spread of contamination. They clearly mark contaminated stocks using standard NBC markers.

Class I. Supply personnel do not normally provide Class I to units operating in or near contaminated areas. Units carry enough MREs to conduct operations without daily resupply. Also, emergency nutrients that soldiers consume while wearing the protective mask are issued in an active NBC environment. Units store rations under protective coverings or in containers to prevent or reduce contamination. They limit decontamination efforts to removing the containers and carton overwrap. They normally do not use contaminated rations. Veterinary personnel provide technical help and advice on the use of rations.

Water. Supply points do not issue, and units do not use, contaminated water. Preventive medicine personnel monitor water prior to issue and use. Purification operations practice avoidance in all but extreme emergencies. If personnel suspect that a water source is contaminated, they mark it with standard NBC markers. No one uses that water source until personnel test it, treat the raw water from the source with a ROWPU if necessary, and determine that it is safe to use. Sometimes personnel cannot treat contaminated water for drinking purposes. In that case, they dispose of it in a manner that prevents secondary contamination. Water personnel also mark the area. They monitor all water treatment, storage, and dispensing equipment frequently for possible contamination.

Class II. Selected Class II items, such as chemical defense equipment, receive priority of issue to selected units on an NBC battlefield. The brigade commander gives highest priority support to units located in contaminated areas. He gives the next priority to units that recently left contaminated areas. He gives the third priority to units deployed in forward areas.

Class III. Class III supply is critical in an NBC environment. More frequent unit moves increase consumption. In emergencies, corps units deliver directly to tactical units and forward arming and refueling points. Emergency resupply to isolated units is by air. Supply personnel disperse storage locations and activities. They protect ancillary equipment to the same extent as major items of equipment. Storage tanks and bladders protect bulk petroleum to a large degree. However, supply personnel take precautions to reduce contamination on tanks and bladders.

Class IV. Selected high-usage Class IV items come in shipping containers for protection against NBC effects. This reduces handling and allows for responsive support. Supply personnel may issue contaminated or partially decontaminated Class IV items when properly identified. The user decontaminates contaminated Class IV items.

Class V. In NBC conditions, supply personnel separate Class V supplies from other commodities. They keep them as mobile as possible. Protective covers lessen exposure to nuclear and chemical contamination. Ammunition support elements decontaminate ammunition under their control. Large-scale decontamination requires additional support. If the situation requires the issue of contaminated stocks, supply personnel use the standard NBC markers. ATP personnel prepare to operate in contaminated areas if no uncontaminated areas are available.

Class VII. In NBC conditions, corps heavy materiel supply companies decontaminate Class VII items before issue. If supply points have to issue contaminated items, the receiving unit is responsible for decontamination. Before issue of contaminated items,

supply personnel put the standard NBC marker on the item. They make every effort to avoid abandoning Class VII items due to contamination.

Class IX. Supply personnel normally issue contaminated Class IX items only in emergencies. In such cases, personnel issue these items for critical weapon systems. Before issue, personnel mark the items with standard NBC markers. They check repair parts, especially sensitive electronic parts, for damage before issue.

Transportation

There may be contaminated supply routes. However, personnel use these supply routes with the use of protective equipment. Vehicles using these routes also require decontamination. This is very time consuming and causes delays in delivery of cargo. Therefore, personnel take special precautions to avoid contaminated supply routes.

Personnel use NBC reconnaissance and strict traffic control measures to aid in contamination avoidance. This limits the spread of contamination and exposure to other individuals, equipment, and areas. Detours and rerouting, however, increase turnaround time and require more cargo vehicles.

Use of Army aviation assets for resupply of forward areas increases on a contaminated battlefield because of the increased need for dispersion. This is based on METT-T. Resupply by air is often more effective than ground means. Aviation personnel are capable of flying over obstacles and contaminated areas. An additional mission of all aircraft is medical evacuation. Personnel prepare assets to perform that mission when medical evacuation assets are overloaded during mass casualty situations. Contamination avoidance for transportation is the same as that for supply.

Maintenance

Avoiding contamination of equipment is easier than decontaminating it. Decontamination is time consuming. It also causes corrosion and damage to some types of equipment. Providing overhead cover for equipment and supplies significantly reduces liquid contamination of such material.

Petroleum products trap chemical contamination. They collect in bolt threads, hydraulic fluids, and closed assemblies. Hence, a vehicle may be safe to drive without MOPP 4 but not be safe to repair. Also, since oil, grease, and dirt degrade the effectiveness of chemical overgarments, mechanics keep as clean as possible. Wet weather gear helps but causes heat buildup. As much as possible, maintenance company elements operate in protected areas like underground garages and concrete buildings.

Using units decontaminate their own equipment within their capabilities. Equipment turned over to maintenance personnel should be as free of contamination as the using unit can make it. When using units cannot decontaminate equipment, they mark the equipment with the type and the date/time of contamination. If possible, they mark the specific areas of equipment contamination to alert maintenance personnel of the danger. They also segregate contaminated material.

Sometimes using units cannot decontaminate damaged or inoperable equipment that is critical to the battle. Maintenance personnel prepare to repair it at a contaminated MCP. Use of a contaminated MCP limits contamination and combines contaminated repair assets. It also extends repair times and contaminates previously uncontaminated tools, test equipment, and repair parts. A contaminated MCP is similar to a hasty decontamination site. It is far enough forward to limit the spread of contamination, yet far enough back to buy time for MOPP IV-clad mechanics.

FM 43-12 has more on NBC maintenance operations.

Health Service Support

The NBC environment taxes available health service support assets due to —

- Mass casualties.
- Loss of medical personnel, facilities, and equipment and supplies.
- Contamination of medical personnel, facilities, and equipment and supplies.
- Necessity for using MOPP.

The NBC environment requires augmentation of medical personnel, facilities, equipment, and supplies. If medical personnel anticipate an NBC environment, they coordinate for medical augmentation before the operation.

When the separate brigade commander plans an operation, the brigade surgeon reviews current health and radiation exposure status of units involved. He also reviews the exposure predicted in the commander's plan.

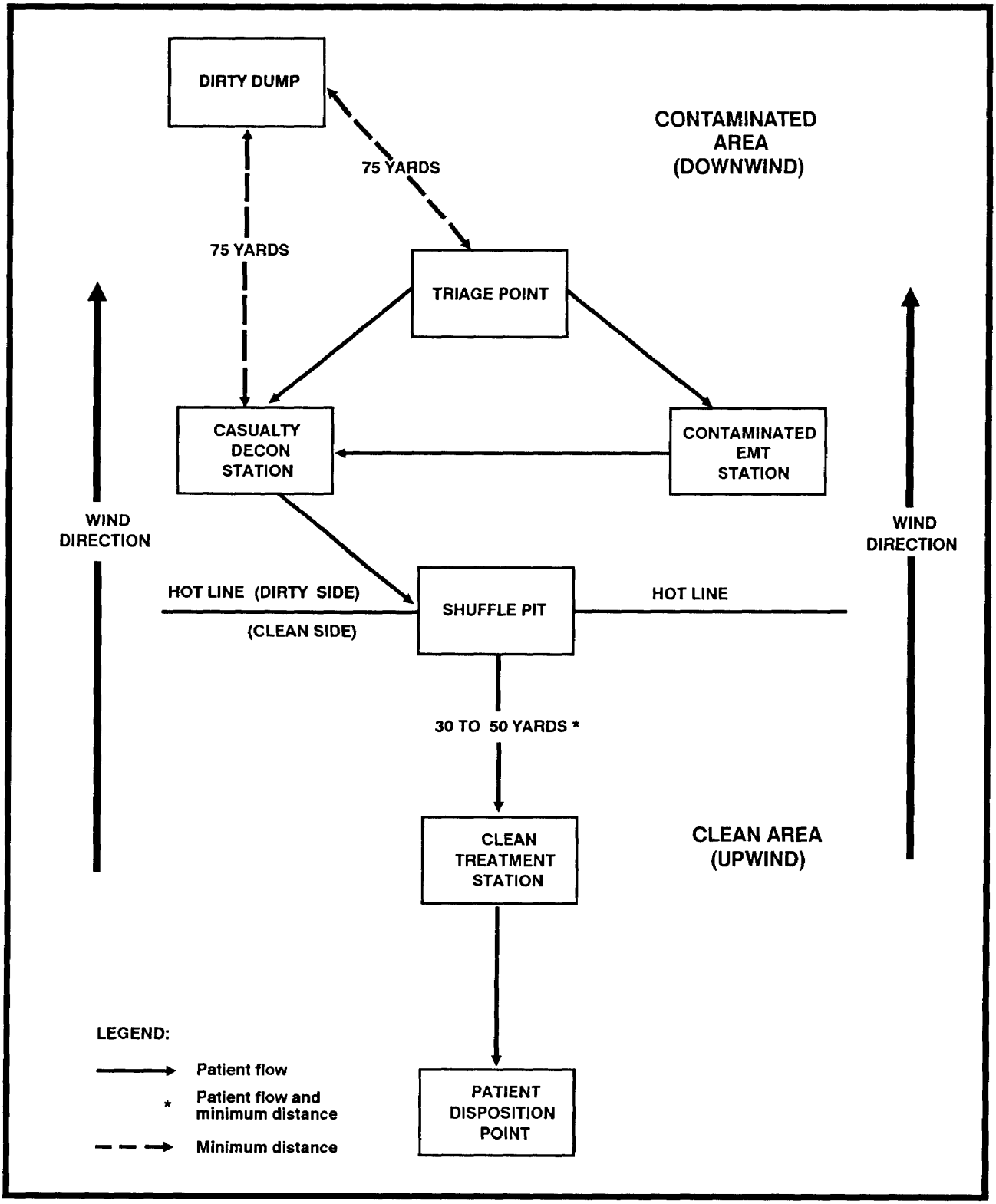


Figure 2-1. Layout of a chemical agent patient decontamination station, in an uncontaminated area, without collective protective shelter.

The brigade surgeon gives the commander general estimates of the–

- Reduction in effectiveness of personnel due to exposure to radiation.
- Number and time-phasing of casualties that may occur.
- Resulting medical work load and the requirements for medical units to perform it.

Contamination is one of the major problems in providing HSS in an NBC environment. Medical units take necessary action to avoid contamination and lessen the initial effects of nuclear weapons. They protect medical supplies and equipment from contamination with chemical agent resistant coatings or protective coverings. They disperse Class VIII stocks to prevent or reduce damage caused by NBC weapons. They decontaminate contaminated items before issue to using units. Personnel do not normally issue contaminated stocks. Until fully decontaminated, they are segregated from clean stock.

Each physically capable individual carries out required decontamination of himself and his equipment as soon as possible. Personnel set up conveniently located decontamination stations at MTFs. (See Figure 2-l.) Medical personnel decontaminate patients before evacuation by aircraft or ground vehicles. Medical units only decontaminate patients who have reached MTFs and are unable to perform self-aid. If MTFs have to decontaminate patients, decontamination support is essential. Without it, a significant degradation of HSS results if treatment and evacuation personnel have to man decontamination stations.

Personnel do not admit patients to MTFs in contaminated clothing or blankets. Occasionally, a contaminated patient requires immediate treatment. No decontamination procedure should prevent lifesaving procedures. HSS personnel treat a contaminated patient in the contaminated treatment area. See FMs 8-285 and 8-10-4 for treatment of chemical patients. Other detailed doctrine on medical operations in NBC conditions appears in TM 8-215 and FM 8-9.

Personnel base treatment and evacuation of NBC patients on manifested signs and symptoms. SOPs govern the use of prophylactic measures following known or suspected biological or chemical agent attack. Following a nuclear attack, individuals who suspect radiation injury may reach the MTF seeking medical attention. Suspected nuclear radiation injury alone, without specific symptoms and physical signs, does not justify evacuation. Ordinarily, in nuclear and conventional warfare, burns and traumatic injury are the basis for early medical care and evacuation.

Field Services

In an NBC environment, each unit recovers its remains. Recovery teams handle all remains within a contaminated or suspected contaminated area as if they are contaminated. Recovery teams take adequate precautions when handling these remains. Team members attach NBC tags to remains contaminated by NBC agents. Remains that are contaminated by biological agents may also be contagious. If this is the case, team members attach to the remains a standard paper tag with the word “Contagious.” Personnel solely base the decision to evacuate remains from a contaminated area on the ability to decontaminate the remains and personal effects. If team members cannot decontaminate remains and personal effects, they are buried at the recovery site using emergency burial. FM 10-63 has procedures for burying contaminated remains. If NBC personnel have time and assets, the remains and personal effects are decontaminated. After an NBC specialist clears and checks, the decontaminated remains and personal effects are evacuated to a collection point.

Commanders curtail renovation operations in an NBC environment in favor of higher priority missions. In addition, they curtail laundry service in an active NBC environment except clothing decontamination and support of critical functions such as HSS.

Chapter 3
Command and Control

Contents

PRINCIPLES

The support battalion and subordinate commanders use the C2 system to plan, direct, and coordinate the activities used to accomplish the logistics and HSS mission. Commanders measure the efficiency of a C2 system by the extent to which their intentions are carried out. They also measure the efficiency by the ability of their staff and subordinate commanders to cope with changes quickly and effectively. An effective C2 system requires the following:

- Clearly defined functional responsibilities for all aspects of command and control.
- Sound knowledge of the tactical situation and the operational commander's intentions.
- Personal involvement and appraisal by the commander and staff of the logistics and tactical situation.
- Familiarity with the responsibilities of higher, lower, supported, and supporting units. This includes the kind of support needed and what support each level can provide.
- Close contact and exchange of information at higher, lower, adjacent, supported, and supporting levels.
- Clearly written directives, reports, orders, and studies. However, the commander should not rely strictly on written communications.
- Understanding of the organic communications of the separate brigade to include radio nets and access to the area signal system.
- Effective operational CSS communications network in particular and overall corps communications in general.
- Good understanding of automation and information systems. This includes the organization and operations of the logistics and HSS automated functions and the communications which support the system.

The support battalion and subordinate commanders are responsible for the C2 of organic and attached elements. They–

- Plan and conduct the operations of organic and attached logistics and HSS units with the same care as that used in planning and conducting tactical operations.
- Consider the capabilities and limitations of the organic logistics and HSS system and its reinforcing support. The main interest is to ensure logistics and HSS are sufficient to support and preserve the force.
- Make policies and decisions known to all organic elements in time to ensure support for planned operations.
- Give subordinate commanders the resources and authority to accomplish the mission.
- Ensure subordinate commanders are well trained in communications and decision making. Also ensure they understand when and in what circumstances they have the prerogative to act.

A C2 system consists of organizations, processes, and facilities. The organizations are the internal and external units with which support battalion elements interact to accomplish their missions. The processes are the techniques and procedures the commanders and their staffs use. Facilities are the CP and supporting automation and communication systems.

ORGANIZATIONAL RELATIONSHIPS

To perform their C2 functions, the support battalion commander and his staff develop and maintain a variety of relationships. They include relationships with –

- Higher organizations – Separate brigade.
- Supported organizations –Elements of the separate brigade.
- Subordinate organizations – Support battalion companies.
- Supporting organizations – Corps support battalion forward corps support group, and COSCOM support operations staffs.

SUPPORT BATTALION AND BRIGADE HEADQUARTERS

The support battalion is a subordinate command of the brigade headquarters. The support battalion commander is the principal logistics and HSS operator of the brigade and executes the brigade DS-level CSS plan. As discussed later in this chapter, the support battalion commander and staff develop a close relationship with the brigade S4. Typically, the support battalion CP colocates with the brigade rear CP. The support battalion commander provides technical support and advice to the brigade commander on CSS matters. The support battalion keeps the brigade headquarters aware of the support status in the brigade area. He also is aware of anticipated requirements beyond the capability of the support battalion. The brigade commander gives the support battalion commander support priorities. He also gives direction on support operations, battlefield locations, security, and movement.

The brigade commander plans all aspects of brigade operations, including logistics. The brigade S4 assists in the area of logistics. He provides logistics information to the commander and acts as the brigade's logistics planner. As such, he coordinates the status of supplies and equipment with the maneuver battalion XOs and S4s. He also coordinates with representatives of CS elements attached and assigned to the brigade. The brigade S4 maintains continuous contact with the support battalion commander to provide update of brigade status. He also maintains contact with the BMMO to keep track of the support battalion's capabilities. To maintain this coordination, the brigade rear CP normally collocates with the support battalion CP. The brigade S4 has a representative there at all times. The support commander and staff understand the brigade commander's intent and translate current developments into future requirements. They anticipate required changes to the support battalion's organization, employment, and operations.

SUPPORT BATTALION AND SUPPORTED BRIGADE UNITS

The support battalion also forms a close relationship with the supported battalions and other attached and assigned units. This close relationship with supported units ensures planners integrate support battalion operations with the operations of the supported forces. The support battalion and supported units work out the day-to-day details of logistics operations in the brigade. These include specific requirements and time schedules. For routine operations, the support battalion companies also develop relationships with supported unit CSS operators such as support platoon leaders, battalion maintenance officers, and medics.

Support relationships have to be adjusted in extreme circumstances. For instance, if a unit is cut off from its parent unit, the senior maneuver commander reorganizes logistics assets. He puts all assets, both unit and DS level, under the centralized control of the senior logistics or other designated individual. If the whole brigade with the support battalion is cut off, the support battalion commander is normally in control. He takes several actions. He gathers information on all available assets as well as the personnel and equipment in the supported force. He advises the maneuver commander, who selects the best alternative – break out, defend encircled, attack deeper, or exfiltrate. On the basis of the commander's intent, the logistician rations key supplies and authorizes cannibalization. Also he develops plans to destroy equipment and develops a casualty evacuation plan.

In addition to its support relationship to the brigade, the support battalion has terrain management and security responsibilities. For these functions, it has operational control over all elements located in the BSA. The brigade S3 has staff responsibility for the overall security of the brigade. The support battalion commander has responsibility for the security of the BSA. This topic is discussed in depth in Chapter 5.

SUPPORT BATTALION HEADQUARTERS AND SUBORDINATE COMPANIES

The support battalion commander maintains close personal contact with his subordinate company commanders. He depends on them to provide timely information on the status of their companies. In addition, the company commanders understand the support battalion commander's intent to perform their roles with initiative. They enhance this understanding through frequent face-to-face discussion.

The company commanders are likely in the vicinity of the support battalion CP to facilitate coordination. However, they do not tie themselves to one spot. They command their companies from the locations where they can best assess and influence the support operation. These commanders use verbal orders, radio, visual signals, or wire among themselves, the support battalion staff, their platoon leaders, and the supported elements.

SUPPORT BATTALION AND CORPS UNITS

A number of corps elements may operate in the brigade area. Examples of such units include –

- Engineer battalion.
- Military intelligence teams.
- Field artillery battalion.
- Air and ground ambulances and medical units.

If the corps elements are in the brigade rear and the number of personnel and items of equipment to be supported are small enough, the support battalion supports them on an area basis. If the numbers are substantial or dispersion taxes the support battalion's assets, the COSCOM has to augment the support battalion. In all cases, these corps units receive HSS from the nearest medical facility regardless of unit affiliation. If the separate brigade deploys with a division, corps units operating in the separate brigade area obtain logistics from the CSB/logistics task force employed in the DSA.

Where the separate brigade deploys to an undeveloped theater of operation, the corps commander attaches a corps slice to the separate brigade. The corps slice includes logistics and HSS elements. These elements support corps combat, CS, and CSS elements which accompany the separate brigade. Depending upon METT-T, the corps slice could consist of DS supply company elements and MSTs. It could also include truck platoons, CEB teams, and HSS elements.

In addition to corps elements which operate in the brigade area, corps forces may move through the area. For instance, corps units withdrawing from a covering force mission may pass through the brigade area. The support battalion coordinates movement through the area. It also provides minimal support to assist the units in reaching their destination. Support most likely is supplemental maintenance and fuel.

SUPPORT BATTALION AND THE SUPPORTING CORPS SUPPORT BATTALION/CORPS SUPPORT GROUP

The support battalion normally ties directly into the corps support system. The support battalion S2/S3 (the support operations staff in the ACR) coordinates with the support operations staff of the CSB designated by the CSG OPORD to provide support on –

- ASP support to the separate brigade ATR
- Reinforcing DS maintenance (including MST support) to the battalion maintenance company.
- Designated field services (CEB, laundry teams).

For other support, the support battalion S2/S3 coordinates with the support operations staff of the supporting forward CSG on –

- GS ammunition support (CSA to ATP).
- GS bulk fuel support to the support battalion Class III point.
- GS-level supply (depending on the forward CSG task organization).
- Mortuary affairs support.

As discussed in Chapter 5, the support battalion transportation officer goes through the brigade transportation officer to request transportation support from the supporting MCT. An MCT is collocated with a forward CSG which tasks truck units providing logistics.

PROCESS

The support battalion commander and staff use the C2 process outlined in FM 101-5 to make decisions and supervise the execution of orders. A summary of this process appears here. The process is a continuous one;

the support battalion commander and staff are always involved in estimating and planning. However, the focus becomes more precise when the support battalion receives a mission.

In some cases the support battalion commander deduces the mission. Usually, he receives planning guidance and a restated mission from the brigade commander. When he receives or deduces the mission, the support battalion commander and staff begin mission analysis. The support battalion staff identifies the tasks required to accomplish the mission. It issues a warning order to all support battalion elements, along with the support battalion's planning guidance.

Planning guidance includes the brigade commander's intent and a restated mission. It includes specific courses of action to develop or eliminate from consideration and assumptions. It includes constraints (to include time limitations) and critical information required. It also includes specific considerations such as the probability of NBC attack, implementation of deception plans, and rear operations. The support battalion staff uses planning guidance to prepare estimates. Therefore, the support battalion commander ensures that the nature of his planning guidance does not bias staff estimates.

The support battalion commander and staff plan continuously. Yet, it is not until they receive the brigade commander's decision on the tactical employment of brigade units that they finalize the concept of operations. Working with the brigade S4 and the support battalion medical company commander/brigade surgeon, the support battalion staff determines the logistics and HSS structure. They determine —

- What type of support is required.
- What quantities of support are required.
- What is the priority of support,
- What logistics and HSS resources are available.
- Where the logistics and HSS resources are located.
- When the logistics and HSS resources are available to supported units.

An in-depth discussion of planning for HSS is in FM 8-55. Logistics planning factors are in FM 101-10-1/2.

Such logistics and HSS planning is as detailed as time permits. Sound SOP and contingency plans greatly assist in the development of specific plans. When SOPS are comprehensive, they have to change only to accommodate specific requirements or circumstances. In any case, planning concentrates on those areas most vital to successful mission accomplishment of the supported brigade.

On the basis of staff estimates, the support battalion commander determines the supportability of courses of action to accomplish the mission. Once the support battalion staff finalizes the support plans, the XO gives guidance on preparation of the OPORD/OPLAN. The S2/S3 consolidates the input. He then publishes and distributes the OPORD/OPLAN after the support battalion commander approves it.

After the S2/S3 distributes the OPORD/OPLAN, the support battalion commander and staff supervise its execution. The primary purpose of the staff is to assist subordinate units to carry out the intent of the support battalion commander's order. The support battalion staff refines plans and orders as the situation changes. Information comes back to the command section through reports and personal observations of the battalion/company commanders and staff and the BMMO. On the basis of this information, it evaluates instructions as required.

One final point is key. Time is often the critical factor in the C2 process. FRAGOs on previous orders are often preferable to new orders. Also, SOPs layout a simplified OPORD process that meets the commander's needs. This process may include an easy-to-use, fill-in-the-blank OPORD format. The format is on the unit's automated system.

FACILITIES

C2 facilities include CPs and supporting automation and communications systems. These facilities process and transmit information and orders necessary for effective C2. A discussion of the support battalion CPs and C2 automation is below. Chapter 4 contains information on communications.

AUTOMATION

Automated systems throughout the brigade allow commanders to manage information to optimize use of limited resources. The systems include the machinery, programs, specialists, and organizations which process data through the use of computers. The command control,

and subordinate system that includes a CSS control system integrates data bases to support cross-functional decision making.

Command, Control, and Subordinate System Structure

CCS2 provides the means of interfacing the five battlefield control functions of maneuver, air defense, CSS, intelligence/EW, and fire support. The Army Tactical Command and Control System interfaces these five battlefield control functions. (Note: Initial fielding begins in the first quarter of FY 94.)

The CSS Control System of the ATCCS is an automated system that provides logistics, medical, and personnel command and control information. It rapidly collects, analyzes, projects, and distributes this information to the commander. This allows the commander to make timely and sound tactical decisions. This information also helps CSS commanders perform their command and control functions. In addition, this information helps combat support commanders to execute their missions. The CSSCS retrieves data from CSS subordinate units and feeder systems, called Standard Army Management Information Systems. The CSSCS is employed at armored cavalry regiment, separate brigade, division, corps, and echelons above corps.

There are four CSSCS devices in a separate brigade and five in an ACR. In the ACR, the regimental combat aviation squadron has a fifth device. This device provides visibility on aviation logistics concerns. Each device responds to information requirements generated by the support battalion commander, the brigade commander, and the other ATCCS nodes at brigade level. It also provides the means for the brigade commander and staff to disseminate information, such as OPLANs, orders, and inquiries, to the support battalion. The interface with the other CCS2 nodes (fire support, air defense, IEW, and maneuver) permits integration of all battlefield control functions to synchronize activities. Figure 3-1 depicts CSSCS in support of the separate brigade/ACR.

Support Battalion. CSSCS devices in the support battalion are the support battalion S2/S3 CSSCS and the BMMC CSSCS. The support battalion devices collocate in the support battalion CP complex in the BSA. They communicate via LAN.

The support battalion S2/S3 CSSCS device is the ATCCS CSS node at the separate brigade echelon. This node communicates with the brigade S3 ATCCS MCS in the main CP via MSE.

The STAMISs (SIDPERS, SARSS-2, SPBS-R, SAAS-DAO, SAMS-2) interface with the support battalion S2/S3 CSSCS and the BMMC CSSCS. The SIDPERS locates in the support battalion S2/S3 CSSCS. SARSS-2, SPBS-R, SAAS-DAO, and SAMS-2 locate in the BMMC CSSCS. They communicate via direct connection, LAN, or magnet media exchange. Other STAMISs (TAMMIS, SARSS-1, SAMS-1) locate in the OPFACs of the support battalion companies. Because of their dispersion throughout the BSA, they communicate with the battalion CSSCS via CNR or magnetic media exchange.

Brigade Staff. CSSCS devices in the brigade headquarters are the S4 CSSCS and the S1 CSSCS.The S4 CSSCS device locates in the CSS cell of the main CP. CSS personnel (S1, S4, S5) share this device. The S1 CSSCS device locates in the rear CP, and the S1, S4, S5 personnel in the CP also share this device.

The STAMISs (SIDPERS, DAMMS-R) interface with the brigade staff CSSCS devices. They collocate within the OPFAC. They interface via direct connection LAN or magnetic media exchange.

Functional Systems

The CSS automated systems provide information to CSSCS for command and control purposes. Yet, they continue to perform the functional missions for which they were originally designed. These systems operate on TACCS or the ULC hardware. The support battalion uses the systems below:

- SIDPERS operates on TACCS and automates strength accounting, assignment, organization record keeping, personnel record keeping, and labor-intensive military personnel operations within the S1 section of the support battalion.
- SPBS-R automates the property accountability and reporting requirements of ARs 710-2 and 710-3. It provides the brigade with a state-of-the-art automated property book that improves Class VII accountability and asset visibility. The SPBS-R operates on TACCS in the Class VII section of the BMMC. SPBS-R on TACCS interfaces with SARSS-1, ULLS, and CSSCS.
- ULLS operates on the ULC and provides automation of logistics functions at the unit and battalion levels. The unit maintenance application has been developed. (In addition, an S4 consolidated

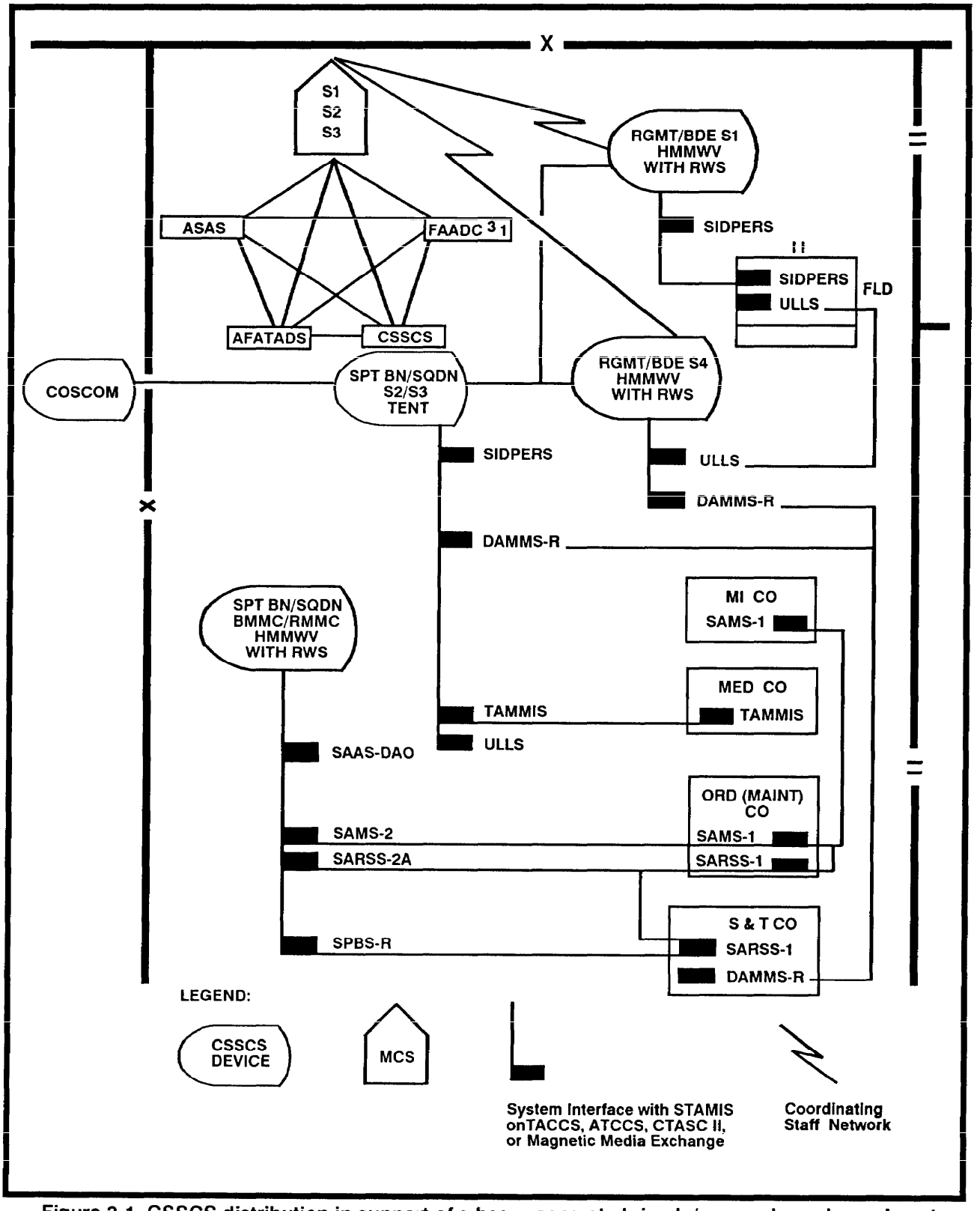


Figure 3-1. CSSCS distribution in support of a heavy separate brigade/armored cavalry regiment.

logistics component is currently under development.) ULLS interfaces with CSSCS, SARSS-1, SAMS-1, SPBS-R, SAAS-DAO, and other applicable STAMISs.

- SARSS-1 operates on TACCS hardware in the support battalion's S&T and maintenance companies. The system automates Class II, III (packaged), IV, VII, and IX supply actions. It performs time-sensitive functions such as receipt, storage, issue, replenishment, inventory adjustments, supply performance reporting, and excess identification, as well as maintaining accountable stock record balance. During normal distribution operations, SARSS-1 interfaces directly with SARSS-2A on TACCS at the BMMC. In contingency operations, SARSS-1 may operate in the autonomous mode without SARSS-2A support and interface directly with the DAAS to route requisitions directly to the wholesale supply system. In addition to interfacing with SARSS-2A, SARSS-1 interfaces with ULLS, SPBS-R, SAMS-1, DAMMS-R, CSSCS, and PWIS.
- SARSS-2A operates on TACCS in the BMMC. It is in the Class I-IV supply section, repair parts branch of the materiel section, and property book and Class VII section. In the BMMC, SARSS-2A receives asset balance reports from SARSS-1 and routes unfilled requisitions received from subordinate SARSS-1 activities to the appropriate source of supply. It also performs lateral transfers, substitutes item identification release, and submits catalog changes to SARSS-1. It also maintains asset balance visibility for all SARSS-1 subordinate activities. SARSS-2A interfaces with subordinate SARSS-1, CSSCS, higher echelon SARSS-2A/B, and other designated STAMISs. SARSS-2A replaces the DS4 run on the DAS3.
- SAMS-1 operates on TACCS in the support battalion's maintenance company. The system automates maintenance production control, providing immediate job order and backlog status information. It provides, through file inquiry, repair parts and shop stock asset status. It screens production parts requirements against on-hand assets and automatically generates, edits, and passes requests to the supply system via an interface with SARSS-1.
- SAMS-2 operates on TACCS hardware in the BMMC materiel section. The system receives SAMS-1 data and provides immediate production and supply requirements to managers. It gives daily visibility of deadlined equipment. The materiel condition status report module displays parts required for production and readiness by either unit or weapon system. In addition to the SAMS-1 interface, SAMS-2 interfaces with other appropriate SAMS-2 (for example, BMMC to CMMC) and SAMS-3 devices, and other designated STAMISs.
- SAAS-DAO operates on TACCS hardware in the BMMC. It provides an automated management information system to support the management and distribution of ammunition requirements within the separate brigade and ACR. It interfaces with SAAS-1/3 at the CMMC and SAAS-4 at the ASP.
- DAMMS-R operates on TACCS hardware in the HHC of the support battalion. It interfaces with the transportation officer assigned to the S4 section of the brigade headquarters. The brigade transportation officer automated mission performance also requires a DAMMS-R on TACCS interface with the support battalion S&T company DAMMS-R operating on ULC. The system provides in-transit cargo movements data, mode asset status, hold/diversion status, movement information, transportation status reports, container reports, ETA forecasts, and transportation intelligence.
- TAMMIS-D operates on TACCS in the medical company of the support battalion. The system provides timely, accurate, and relevant information through the MEDPAR-D and MEDLOG-D subsystems. MEDPAR-D provides automated capabilities in treatment and disposition data, unit medical administration, ICRS, medical C2, and system setup/maintenance. MEDLOG-D automatically generates medical supply requests and processes materiel receipts. It also accumulates cost summary data and manages due-in supplies. There is also an ADTMC module which assists the aidman in the proper treatment and/or disposition of disease cases.

COMMAND POST

The dynamics of the modern battlefield – speed, complexity, and lethality – require the very highest

level of organization and operational efficiency within any CP structure. Automated and manual information systems minimize the time required for administrative processing of information. The systems ensure the accurate portrayal of the tactical situation. The systems also prevent needless verification of data. They make information immediately available to the commander and members of the staff.

The CP is the control center for command and administration of the battalion and its attached units. SOPs control routine day-to-day CSS operations. Also, the SOPs define staff responsibilities and interrelationships. The battalion staff coordinates CSS operations that require special attention and resolves conflicts between subordinate units and between subordinate and supported units.

The support battalion commander and S2/S3 in coordination with the brigade S4 select the location of the BSA. The brigade S3 approves the location. Positioning of elements within the BSA is the responsibility of the support battalion commander.

Certain officers and staff elements normally operate in the support battalion CP. These include the commander and the XO; the S1, S2/S3, and C-E staff officers; the BMMO; the automation management officer; and personnel of the staff sections supporting these principal staff officers.

Personnel normally operate in a two-shift mode to permit continuous operations. Table 3-1 is an example of how the battalion CP positions could be organized into two shifts. This is only an example of minimum staffing. During intense activity, all available personnel are required for short periods. However, maximum staffing cannot continue indefinitely. The support battalion commanders and staffs consider fatigue and sleep loss that occur during combat. Lack of sleep causes fatigue, thus, providing a major source of battlefield stress. Leaders are particularly susceptible. Principles to minimize fatigue include:

- Developing and enforcing specific sleep plans.
- Planning at least 3 to 4 hours of sleep every 24 hours. Even at this rate, performance, especially decision-making skills, becomes degraded in several days.
- Giving priority of sleep to those whose decision making is critical to the mission.

Table 3-1. Support Battalion CP Organized in Two Shifts.

Peak Activity	Reduced Activity
S2/S3 ofr	S2/S3 ops sgt
Support ops ofr (ACR)	Bn comm chief
Maint materiel ofr	Swbd op
Automation mgt ofr	Senior maint supv
Supply and services ofr	Spt ops sgt (ACR)
Bn C-E chief	S2/S3 typist
Transportation ofr (HSB/SIB/TDB)	
Movements control ofr (ACR)	
Intelligence sgt	
NBC NCO	
Support/staff maint technician	
Materiel mgt ofr	
Clerk typist	

A key consideration in determining the location of the CP is the ability of the site to provide good communications with higher, lower, and adjacent organizations. Considerations include the capability to remote radios and to use terrain to mask transmissions. FM 24-1 has details. The support battalion locates the CP near routes which allow relatively easy access into the area. It avoids prominent terrain features and major road junctions to prevent the enemy from readily determining the CP location.

When possible, the support battalion locates the CP in built-up areas. Barns, garages, and warehouses eliminate the need for extensive camouflage. Use of built-up areas also reduces infrared and electromagnetic signatures and reduces the requirement to move as often.

Built-up areas may not be available. If they are not, the support battalion locates the CP on the reverse slope. This location provides cover and concealment from both ground and air observation fires. The ground is firm enough to support vehicle traffic, have good drainage, and provide enough space to disperse vehicles.

The CP travels light and is able to move often. A CP is a major source of electromagnetic and infrared energy. If the CP does not move often, its location is fixed and targeted. The larger and more elaborate the CP setup, the less rapidly the CP can move. However, the more frequently the CP moves, the more command, control, and communications suffer.

When the CP does move, it displaces by echelon. Once an interim operational capability is established at the new location, the remainder of the CP elements move.

The commander may lay the CP out in a number of different arrangements, still allowing the CP to perform its functions effectively. In a built-up area, the layout conforms to the structure of the available buildings. Figure 3-2 (ACR) depicts a dual shelter configuration in a field environment. The S2/S3 and RMMC perform their communications, intelligence, operations and logistics missions from these two vans. Figure 3-3 (separate brigade) has S2/S3 operations in a van and BMMC operations in a tent. The brigade rear CP collocates with the support battalion CP to ensure the best possible communications and coordination.

A standard interior arrangement of the CP is desirable. It helps visitors locate specific staff sections and simplifies displacement and reestablishment of the CP. An orderly arrangement groups those elements that frequently work together. Also, agencies that have considerable traffic locate near entrances. Agencies that require special security precautions (such as, the communications center) arrange to centrally locate.

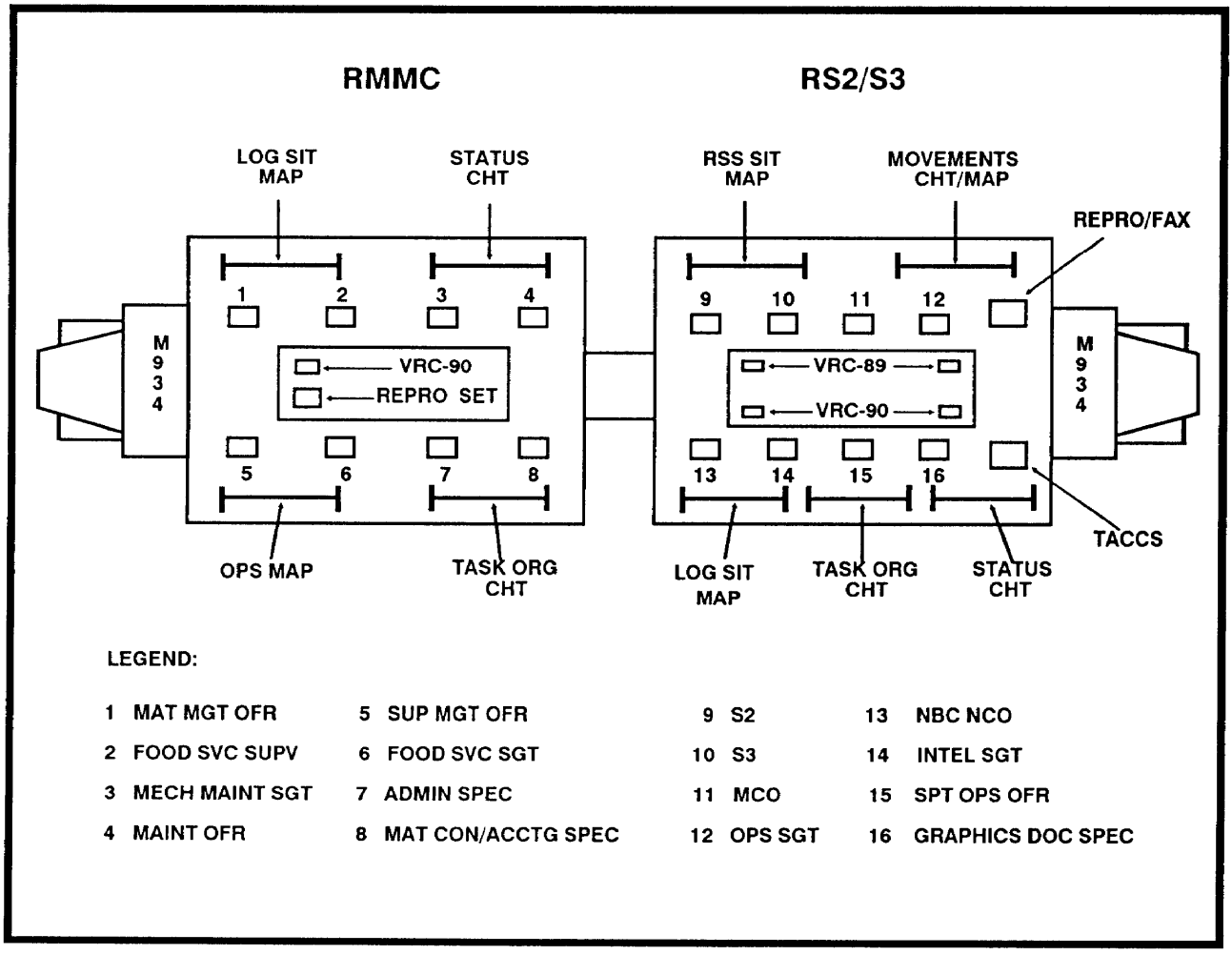


Figure 3-2. Support squadron, ACR, command post.

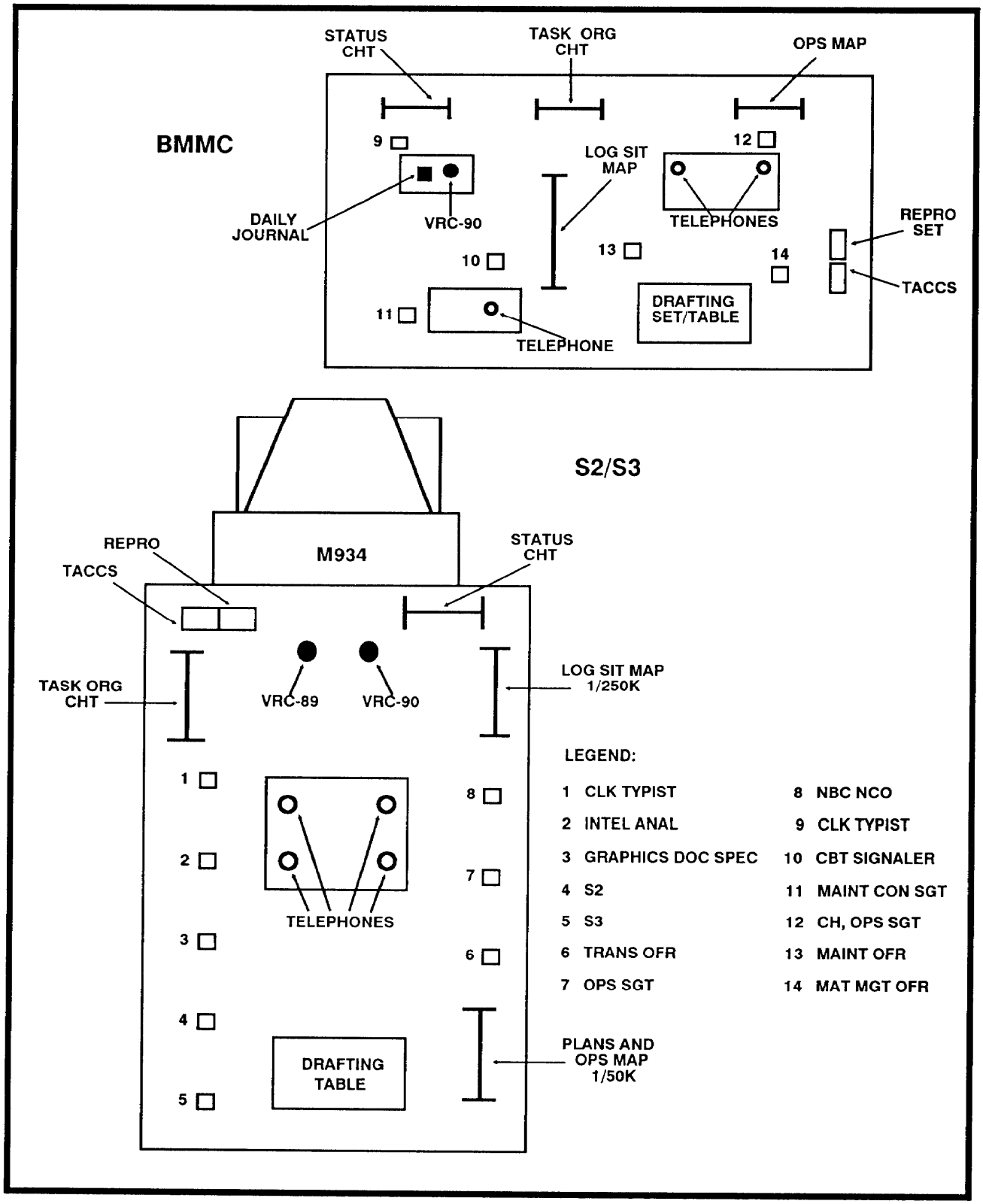


Figure 3-3. Support battalion, separate brigade, command post.

Chapter 4
Communications

Contents

PRINCIPLES AND DEVELOPMENTS IN COMMUNICATIONS SYSTEMS

Communications systems are essential for gathering and disseminating data. Personnel need them to plan and execute operations. Commanders use them to perform C2 functions and to supervise performance. Effective management of support battalion functions depends on adequate communications to keep abreast of changing situations and requirements.

The support battalion relies on both its organic communications assets and the support of the corps signal battalion. Communications equipment and systems in the corps are changing. The MSE system is replacing the old area communications system described below. SINCGARS and IHFR are replacing the current FM-VHF (AN/VRC-12) series radios and AM-SSB (AN/GRC-106) radios.

These changes affect how the support battalion units connect to the area system. Under the old area system, the brigade extension platoon in the area signal company provides signal facilities to the brigade. Services include –

- Automatic telephone central office and switching facilities for trunk and local telephone circuits. The area telephone system is common-user. It is automatically switched and designed as transparent to the users. Dial-up services include not only voice service but also data transfer and facsimile. The services also include other forms of electronically formatted information. Cable/wire installation teams install the internal cables and local telephone circuits. They lay cable/wire to tagged junction boxes. Subscribers install local telephone circuits to the junction boxes. If time permits, the cable/wire teams help install wire in the brigade LOC/TOC.
- Secure multichannel LOS communications terminals for access to the automatic switched network. The LOS multichannel is the most common and most frequently used system in the brigade. The BSA is normally in the brigade multichannel system in the initial deployment of the multichannel system. However, this depends on the timing of the BSA moves through the operational area. It also depends on the BSA locations relative to the threat force.
- Net-radio interface facility for secure single-channel FM radio access into the brigade automatic switched network. The basic single-channel radio net which passes CSS information is the administrative and logistics net.
- Secure single-channel HF RATT terminals for entry into the GP RATT net. The GP RATT net provides hard-copy communications traffic and extended distance communications for the BSA.
- Secure multichannel TACSAT terminal at the brigade for access to the automatic switched network over extended distances. TACSAT assets supplement existing LOS multichannel systems. When tactical situations disperse the brigade beyond any service by LOS, the TACSAT communications network is essential. It is the primary means of connection between the forward elements of the brigade and the various support bases.

MOBILE SUBSCRIBER EQUIPMENT AREA COMMUNICATIONS SYSTEM

MSE is the new area common user voice communications system within the corps. It is the backbone of the corps system and deploys from the corps rear boundary forward to the maneuver battalion main CP. The MSE system is comprised of four functional areas:

- Area coverage.
- Wire subscriber access.
- Subscriber terminals.
- Mobile subscriber access.

AREA COVERAGE

Area coverage means MSE provides common user support to a geographic area as opposed to dedicated support to a specific unit or customer. Under MSE, signal elements deploy node centers across the corps. They are under the control of the corps signal officer.

At corps level, the area signal battalion operates four of these nodes. Connected to these nodes, via LOS radios, are small extension node switchboards and large extension node switchboards. The following switchboards are organic to the corps signal battalion

- 40 SEN switchboards capable of supporting 41 subscribers each.
- 1 LEN switchboard capable of supporting 176 subscribers.

There are an additional 24 SENs and 1 LEN in the corps signal brigade's signal support battalion.

The corps signal officer/signal brigade commander determines the location of switchboards based on the commander's intent, customer requirement and other factors of MEIT-T. A habitual relationship is established and maintained between extension nodes including LOS teams and the CPs of corps combat units, that is ACRs or artillery brigades. This is not the case if those units revert to a reserve mission. In that case, the supporting extension switch team is assigned another support mission until their habitually associated CP becomes active again.

WIRE SUBSCRIBER ACCESS

Wire subscriber access points provide the entry point (interface) between fixed subscriber terminal equipment owned and operated by users and the MSE area system operated by signal units. The interface points are —

- The signal distribution panel (junction box) J-1077. Each panel provides up to 13 subscriber access points.
- The remote multiplexer combiners which provide up to eight subscriber access points.

Beyond these two interface points, the using units install and operate freed subscriber terminal instruments as well as install and maintain the WF 16-field wire from the instruments to the interface points into the area system.

FIXED SUBSCRIBER TERMINALS

The support battalion uses subscriber terminals that are digital nonsecure voice telephones. These provide full duplex digital, 4-wire voice and a data port for interfacing the AN/UNC-7 facsimile for informal record traffic, the TACCS computers for CSS STAMISs, the AN/UGC-144 (the single subscriber terminal) for formal record traffic and the unit-level computers for the unit-level logistics STAMISs.

MOBILE SUBSCRIBER TERMINAL

The MSE terminal is the AN/VRC-97 mobile subscriber radiotelephone terminal. This MSRT, which consists of a very high frequency radio and a digital secure voice terminal, is a vehicle-mounted assembly. It interfaces with the MSE system through a radio access unit. The MSRT provides mobile subscribers access to the MSE area network. MSRTs also operate in CPs to allow access to staff and functional personnel. The MSRT user has a KY68 telephone connected to the radio mounted in his vehicle. As long as the radio unit has LOS contact with the RAU, and the operator has properly affiliated, it connects to the area system. The operational planning range is 15 kilometers from any RAU.

COMBAT NET RADIO SYSTEM

Three separate radio systems determine the design of the combat net radio structure; each has different capabilities and transmission characteristics. The three systems are —

- Single-channel objective tactical terminal.
- Improved high frequency radio.
- Single-channel ground and airborne radio.

SCOTT is a stand-alone transportable tactical satellite communications terminal which is transparent to the brigade. The other two systems, IHFR and SINCGARS,

provide the primary means of voice transmission of C2 information and the secondary means for data transmission, which is required if data transfer requirements are not met by the MSE system or couriers.

Current CNR equipment in the support battalion consists of the AN/GRC-106 and the AN/VRC- 12 series radios. The IHFR and SINCGARS series respectively replace these radios. For a description of the new radios, refer to FM 24-24. SINCGARS is a new family of VHF-FM radios. These radios are designed for simple, quick operation using a 16-element keypad for push-button tuning. They are capable of short-range or long-range operation for voice or digital data communications. The planning range is 8 to 35 kilometers. They also operate in a jam-resistant, frequency-hopping mode which is changed as needed. IHFR is a family of high frequency radios consisting of the AN/PRC-104 manpack radio and the AN/GRC-193 vehicular radio.

SUPPORT BATTALION RADIO NETS

This section discusses radio nets in the support battalion and support squadron. Tables 4-1,4-2, and 4-3 list the nodes in each net.

SUPPORT BATTALION COMMAND/OPERATIONS NET

The principal radio net operated by the support battalion headquarters is the support battalion command/operations net. The headquarters uses the net to command and control the elements of the support battalion both from a command standpoint and from a CSS mission perspective. The net control station of this net is the S2/S3 site in the CP. In addition, headquarters personnel/sections monitor the following nets:

- Support battalion commander – brigade command/operations net.
- S2/S3 – brigade administrative/logistics net. (Remote to support battalion command net radio in S2/S3 with AN-GRA 39.)
  - – brigade operations/intelligence net.
  - – COSCOM/DISCOM command/operations net (AM).

Table 4-1. Support battalion radio nets (heavy separate brigade).

Cmd/Ops	S & T Co	Maint Co	Med Co
NCS: S2/S3	**NCS: Co Cdr**	**NCS: Maint Con Sec**	**NCS: Co Cdr**
Bn Cdr	Maint Sec	Co Cdr	Trmt Plt HQ
Bn XO/CSM	Sup Plt HQ	Autmv/Armt Plt HQ	Trmt Sqds
S1 and S4	Cl I and Water Sec	Autmv Maint Sec	MH Tm
C-E Ofr	Petrl Plt HQ	Armt Maint Sec	PVTMED Sec
Maint Mgt Ofr	Petrl Distr Sec	Arty Spt Tm	Amb Plt HQ
Ammo Tech	TMT Plt HQ	Gnd Spt Plt HQ	Amb Sqds
Ammo Sup Sgt (ATP)	Light Cgo Trk Sqd	Svc Sec	
Bde Ammo Ofr	Medium Cgo Trk Sqd	Elct Maint Sec	
Mat Mgrs	HET Trk Sqd	CCI Rep Sec	
Mat Ofr, Maint Mgt Tech, Sup Mgt Tech	Rec, Stor, Iss Sec	Msl Spt Tm	
HQ Co Cdr	ATP	Sys Spt Tms	
Maint Co	Tankers	GSE Rep Sec	
S&T Co		Storage Sec	
Med Co			

Table 4-2. Support battalion radio nets (SIB/TDB).

Cmd/Ops	S&T Co	Maint Co	Med Co
NCS: S2/S3 Sec	**NCS: Co Cdr**	**NCS: Maint Con Sec**	**NCS: Co Cdr**
Bn Cdr	Maint Sec	Co Cdr	Motor Pool
Bn XO	Rcvy Opr	Autmv Maint Plt HQ	PVTMED Sec
S1 and S4	Sup Plt Ldr	Autmv Maint Sec	Trmt Plt HQ
S2/S3	Wtr Trmt Supv	Armt/Elect Plt HQ	Trmt Sqds
Mat Mgt Ofr	Wtr Purif Tms	Armt Maint Sec	Amb Plt HQ
Retrans Tm	ATP Sec Ch	Maint Tech	Amb Sqds
Ammo Ofr	POL Plt Ldr	Msl Rep Sec	MH Tm
Bde ATP NCO	Tankers	Maint Spt Plt HQ	Opt Tm
Mat Ofr	Petrl Distr Supv	Gnd Spt Rep Sec	
HQ Co Cdr	Trmt Plt Ldr	Svc/Rcvy Sec	
S&T Co	Lt/Mdm Cgo Trk Sqds	Maint Spt Plt	
Med Co	Rec, Stor, Iss Sec	Inf Spt Tms	
Maint Co		Arty Sys Spt Tm	
		Cl IX Sec	

Table 4-3. Support squadron radio nets (ACR).

Cmd/Ops	S&T Trp	Maint Trp	Med Trp
NCS: S2/S3 Sec	**NCS: Trp Cdr**	**NCS: Maint Con Sec**	**NCS: Trp Cdr**
Sqdn Cdr	Sup Plt Ldr	Trp Cdr	Trmt Plt HQ
Sqdn XO	ATP Sec Ch	ACS Maint Spt Plt HQ	Trmt Sqds
S1	Wtr Sup Supv	ACS Maint Spt Tms	Amb Plt HQ
S3	Wtr Sup Sps	Autmv/Svc Plt HQ	Trmt Plt HQ
Comm Ofr	Petrl Plt Cdr	Autmv Maint Secs	Amb Sqds
S4	Petrl Distr Sec	Svc Sec	
HQ Trp Cdr	TMT Plt HQ	Msl/Armt Plt HQ	
S&T Trp Cdr	Lt Cgo Sqds	Msl Spt Sec	
Med Trp Cdr	HET Sqd	Armt Maint Sec	
Maint Trp Cdr	Mdm Trk Sqd	Gnd Spt Plt HQ	
Mat Ofr, Maint Tech, Mat Mgt Supv	Maint Sec	Elct Maint Sec	
	Cl I-IV-VII Sec	Gnd Spt Equip Rep Sec	
Ammo Tech	Tankers	ADP Maint Sec	
Regt Ammo Ofr		F&E Sec	

Collocation of the support battalion CP and the brigade rear CP helps to overcome perpetual shortfalls in radios. This collocation allows the support battalion access to the brigade administrative/logistics net and to the brigade command net.

SUPPLY AND TRANSPORTATION COMMAND NET

This command net provides C2 for the S&T company headquarters and the supply, petroleum, and TMT platoons. In the petroleum platoon, every third tanker unit has a radio for control purposes. In the ATP, the section chief and each forklift have radios to expedite the transloading of Class V to units. Due to the isolation of the ATP and the requirement for corps management of Class V, additional CNR capability is located at the ATP. The BAO representative at the ATP has an FM radio (AN/VRC-46 or AN/VRC-90) to coordinate the flow of Class V with the BAO located at the BMMC. When MSE is deployed, an MSRT also locates at the ATP thus providing access to the corps Class V structure.

MAINTENANCE COMPANY COMMAND NET

The maintenance company net provides C2 for its maintenance elements which operate throughout the brigade area. Elements of this net enter customer nets to coordinate mission requirements.

MEDICAL COMPANY COMMAND NETS–FM/AM

The medical company net provides C2 for medical treatment and evacuation throughout the brigade sector. The medical company's dual net capability at platoon and squad level provides for coordination with supported units and medical air evacuation. The company also has an AM-IHFR combat net radio that nets with the division medical operations AM net. If the company is not deployed with a division, medical regulating and aeromedical evacuation coordination require a high-frequency radio (long range) net. At a minimum, it needs to tie into a medical group or medical brigade regulating net.

SIGNAL SECURITY

As part of the overall operations security program, support battalion elements consistently practice signal security. A vital consideration is siting of transmitting antennas. Sites enable communications while minimizing the enemy's ability to intercept and locate transmissions. Considerations include –

- Remote antennas away from CPs by at least 1 kilometer.
- Construct and use directional antennas.
- Use terrain features, such as hills, vegetation, and buildings, to mask transmissions.

Other guidelines on signal security include the following:

- Maintain radio or radio listening silence, using radio only when absolutely necessary.
- Distribute codes on a need-to-know basis.
- Use only authorized call signs and brevity codes.
- Use wire and messengers whenever feasible.
- Use available secure voice/RATT devices.
- Maintain net discipline and control.
- Use authentication and encryption codes specified in the current SOI.
- Keep transmissions short (less than 20 seconds).
- Report all COMSEC discrepancies to the net control station.
- Use lowest transmitter power output consistent with good communications.
- Avoid significant surges in traffic on single-channel radio nets.

COURIERS

Courier service, although slow, is a reliable means of exchanging information. A support battalion element performs this service, not a signal unit. Due to the length of CSS transmissions and the high density of elements inthe BSA, personnel use couriers and wire communications when practical. This lessens the security risks of substantial radio use.

Chapter 5
Security And Terrain Management

Contents

RESPONSIBILITIES

Commanders fight the AirLand Battle throughout the depth of the battlefield. Operations in the rear include efforts to secure and support the force, neutralize or defeat enemy operations in the rear, and ensure freedom of action in 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 rear area. This type of planning is part of operational planning for offensive and defensive missions,

The support battalion commander is responsible for BSA security and terrain management. His goals in this area include the following:

- Secure the BSA and facilities.
- Minimize enemy interference in C3.
- Minimize enemy interference in support operations.
- Ensure freedom of movement of friendly troops throughout the BSA. This involves control of dislocated civilians which is coordinated with the brigade S5 through the brigade headquarters.
- Defeat Level I threats and respond appropriately to Level II and III threats as discussed in this chapter.
- Provide and coordinate area damage control.

The support battalion coordinates with the deputy commander or brigade S3. This coordination ensures the BSA security plan is integrated into the plan for the entire rear area.

COMMAND AND CONTROL

The support battalion commander is responsible for BSA security. As such he has command and control of all elements in the BSA for defense and positioning. Normally, the BSA is a base cluster with the support battalion commander as the base cluster commander. The major elements in the BSA become unit bases. The senior individual in each base is the base commander. The support battalion SOP covers as many defense procedures as possible. Each base has specific responsibilities in the OPORD.

All ground units entering the brigade area report to the brigade rear CP and the support battalion CP. They receive information for routes, terrain, communications, and CSS. The rear CP contacts the main command post to confirm the operational aspects of the coordination.

The S2/S3 section of the support battalion CP is the base cluster operation center. The support battalion CP and the brigade rear CP collocate within the BSA defensive perimeter. Alternate BCOCs are also designated. Possibilities include the support battalion company CPs and maneuver battalion field trains. In urban terrain, the support battalion S2/S3 may have to establish subordinate base clusters and BCOCs within the BSA. One of these BCOCs is the alternate BCOC for the whole BSA.

Each base sends a representative to the BCOC staff meetings. In addition, the BCOC issues a situation report on a regular basis, twice daily if possible. The report provides intelligence updates, reporting requirements, and impending BSA movement orders.

SECURITY

Security operations enable the support battalion to perform its foremost function – support the force. Each unit in the BSA provides its own local security and assists in the security of the BSA. The support battalion commander ensures that his units are proficient and trained in basic tactical skills.

ORGANIZATION FOR SECURITY

The base cluster operations center provides the command and control to plan, coordinate, and supervise base cluster operations. It interfaces with the rear CP on terrain management, movements requirements, and security operations. The BCOC positions units assigned to the cluster into bases and designates the base commanders. Factors in the BSA layout discussion in this chapter apply here. In addition, the support battalion commander ensures units selected for collocation complement each other. A viable base requires a mix of weapon systems and adequate planning. It also requires supervisory personnel and varied communications assets.

COMMUNICATIONS

Communications for security are conducted by wire, radio, signals, and personal contact. The primary means is wire. Each base is linked to the BCOC by wire. The BCOC operates a switchboard 24 hours a day. Responsibilities for the laying of wire from companies to the BCOC are not necessarily based on the doctrine of higher to lower. Planning for wire nets takes into consideration the unit's capability to perform this mission and the work load is delegated accordingly.

Ideally, the support battalion also operates a separate rear operations radio net. However, availability of radios may not permit this. Therefore, if wire communications are lost, units monitor the support battalion command/operations net. If communications by these means are lost, the tenant activities are responsible for sending a messenger to the BCOC to provide coordination.

In addition, units in the BSA cannot rely on wire and FM communications to relay alert status. Too much time passes before every soldier receives the message. The support battalion commander specifies in an SOP readily recognizable signals that are easy to initiate. For example, the warning for an NBC attack could be a metal-on-metal signal. This signal is relayed quickly by voice, hand and arm movements, or horn blasts. Detailed information and instructions follow by radio, wire, or messenger. The all-clear signal is only passed via command channels.

INTELLIGENCE

Like all other Army forces, the support battalion performs IPB. The support battalion interest is twofold. First, the support battalion knows the importance of valuable information in support planning. Second, commanders are responsible for the security of their units. Intelligence information is also essential for battlefield deception operations. Essentials of IPB are briefly discussed. Detailed information on IPB is in FM 34-130.

Terrain

The support battalion and subordinate commanders know what possibilities the terrain offers to both friendly and enemy forces. This analysis is vital to support battalion units in view of the limited weapons available and numerous personnel and equipment in the area. The support battalion commander relies heavily on the brigade rear CP for passing information on terrain analysis from the brigade main CP.

The support battalion S2 personnel use OCOKA to analyze terrain. OCOKA refers to observation and field of fire, concealment and cover, obstacles, key terrain, and avenue of approach.

Radios, ground and air observers' vision, and air defense target acquisition require line of sight. Brigade direct fire weapons fields of fire also require LOS.

Concealment is protection from air and ground observation. Cover is protection from effects of fire. In built-up areas, brigade elements are likely to occupy buildings to maximize cover and concealment. Buildings significantly reduce heat signature. However, planners also consider soundness of buildings and the surrounding road net for support and security operations.

Obstacles are natural and man-made features that stop, impede, or divert movement. To ensure freedom of movement

for friendly forces in the rear, support battalion planners know all existing obstacles and the effects of removing, overcoming or bypassing them. Weather effects on trafficability also act as obstacles.

Any feature providing a tactical advantage is key terrain. Whether a particular feature is key or not varies with the tactical situation. However, commanders consider the following as possible key terrain: bridges, fording sites, high ground choke points, and road junctions.

Avenues of approach are ground and air routes by which a force may reach an objective or key feature. Considerations for avenues of approach in the area are their capabilities to support movement and to allow rapid enemy movement into the rear.

Weather

Weather affects mobility and the functioning of virtually all items of equipment, as well as the performance of personnel. Planners consider terrain and weather concurrently. Again, support battalion planners depend on the brigade rear CP to pass weather analysis information from the brigade weather section. The five aspects of weather affecting planning are temperature and humidity, precipitation, wind, clouds, and visibility.

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.

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. Support battalion planners 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 have severe effects on mobility.

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.

Clouds affect air operations. This includes logistics air missions, and also our own close air support, as well as the enemy's ability to conduct airborne or air assault operations.

Though poor visibility limits employment of airborne forces, agents and special purpose force operations often rely on it to reduce the effectiveness of rear area security. Poor visibility hinders control and reduces effectiveness of reconnaissance, surveillance, and target acquisition.

Threat Evaluation and Integration

Detailed information on the threat is in FMs 100-2-1, 100-2-2, and 100-2-3. Threat evaluation is a detailed study of the enemy forces. It considers threat organization, tactical doctrine, equipment, and support systems. The support battalion interest for security purposes is in rear area threat evaluation. In coordination with the brigade rear CP, the support battalion S2/S3 prepares a doctrinal template to reflect the enemy's air assault, airborne, operational maneuver group, and special purpose force employment doctrine. An unconventional warfare situation map and population status overlay depict other rear area threats such as insurgents, guerrillas, terrorists, agents, and potential civil unrest. 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 concentrations of enemy sympathizers. The overlay also shows the locations where psychological operations are effective.

The support battalion passes any information it has on the threat to the brigade rear CP to assist in its evaluation. Sources of information include local authorities, local civilians, and displaced civilians. The support battalion uses information from base commanders within the BSA, MPs, truck drivers, customers, and any other elements moving into the area. Intelligence analysts integrate the threat evaluation with weather and terrain factors to determine how the threat is likely to operate in the rear area and pass relevant information to the support battalion.

The support battalion commander uses this information to identify specific areas of interest. These may include—

- Landing and drop zones.
- Key road junctions.
- Forest paths.
- Small groups of individuals attempting to move through or evade detection in the BSA.
- Guerrilla and insurgency sites.
- Terrorist operating areas.

Detailed information on IPB is in FM 34-10.

BSA LAYOUT

A number of factors determine the elements located in the BSA. The support battalion commander and staff coordinate with the brigade S4 to determine who is in the BSA. The BSA is that portion of the brigade rear area occupied by the support battalion CP and organic, attached, or supporting units. The location of the BSA and the support battalion is contingent on the tactical situation and the location of the COSCOM CSS installations. The location is also contingent on the MSR, terrain in the AO, and security considerations. The brigade S3 approves the location of the BSA with advice from the S4 and support battalion commander.

The BSA is made up of a combination of small logistics points and unit bases. The BSA may not be one large contiguous area. It could be several smaller areas interspersed across the rear. During tactical operations, the BSA is under the tactical control of the support battalion commander.

In the ACR, the RSS commander locates the RSA in the security area or in the regimental rear area. He may also locate the RSA in a brigade rear area or in a division area based on METT-T. In any case, the commander locates the RSA approximately 25 kilometers behind the FLOT. This distance is beyond the range of threat cannon artillery. The RSA is under the tactical control of the support squadron commander.

The list below is a representative example of brigade elements that could be expected to locate in the BSA:

- Support battalion CP.
- Brigade rear CP.
- S&T company CP.
- Class I point.
- Water point.
- Class III point.
- Class II, III (packaged) IV and VII point.
- Ammunition transfer point.
- Salvage collection point,
- Mortuary affairs collection point.
- Maintenance company CP.
- Maintenance shops.
- Class IX point.
- Medical company CP.
- Medical clearing station.
- Class VIII point.
- Smoke platoon.
- Decontamination platoon.
- Reconnaissance squad.
- Military police platoon (-).
- EPW collection point.
- Military intelligence company (-).
- ADA battery (-). (ACR only)
- Engineer company (-).
- Field artillery battalion field trains. (HSB and SIB/TDB)
- Maneuver battalion task force/cavalry squadron trains.
- ACR aviation elements.
- Signal team.

In addition to these brigade units, the BSA includes a number of COSCOM elements operating in support of the brigade. These COSCOM elements may include maintenance teams, CEB teams, air or ground medical evacuation elements, or engineer units. Information on these are available on the brigade OPORDs. Figure 5-1 shows a sample layout of the BSA/RSA.

Some of the BSA tenants are always located in the BSA. Examples of these tenants are the brigade rear CP and the support battalion company headquarters. Others move in and out of the BSA depending on METT-T. The maneuver battalion task force field trains are not always located in the BSA. In some cases, trains are not echeloned. In other cases, field trains locate closer to the battalion troops than to the support battalion elements. In such cases, it is not feasible to integrate them into the BSA security plan. At other times, terrain features make such integration impractical. In short, although the field trains normally locate in the BSA, they are not there when support or tactical considerations make another location more favorable.

In all cases, the composition of BSA elements does not remain static. The support battalion tracks and controls changes. To accomplish this, all ground units entering the brigade area send a representative to report to the brigade rear CP and support battalion CP. Together, they coordinate movement routes and positioning for units locating in the BSA. They also coordinate communications, support requirements and procedures, and security responsibilities and arrangements. Guards at points of

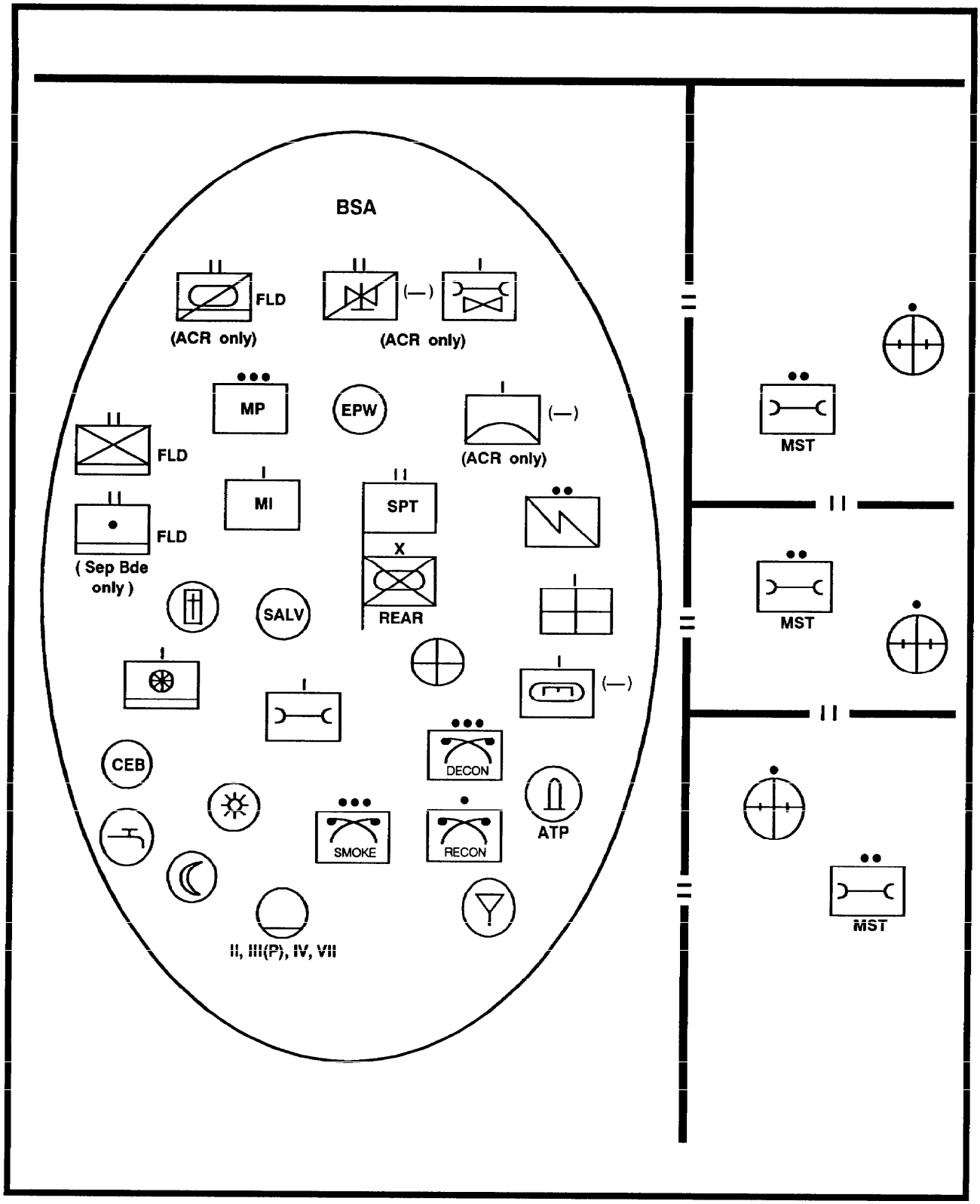


Figure 5-1. Sample BSA/RSA layout.

entry into the BSA direct representatives of entering units to the rear CP/support battalion CP location. Also, base commanders notify the BCOC of all LOGPAC arrivals and departures. Movement of displaced civilians and local civilians is also controlled.

Changes are also constantly taking place within the elements. MSTs in the UMCPs vary in composition. Medical evacuation elements constantly move in and out of the BSA. Supply elements continue their resupply efforts. Personnel available for defense actions are extremely limited within certain bases. Base commanders keep the BCOC informed of their situations.

Locations of elements within the BSA vary depending on METT-T. The support battalion commander, in coordination with the brigade S3 and S4, determines the new locations. They also order the movement of support battalion elements in the BSA. Some general guidelines they consider include —

- Position the brigade rear CP/support battalion CP near the center of the BSA for C2 and security reasons.
- Position field trains forward in the BSA near routes between supply points and combat trains.
- Ensure field trains and other bases 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 (C3 constraints and extended perimeter). In general, the BSA occupies an area 4 to 7 kilometers in diameter, though METT-T may dictate otherwise.
- 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, road junctions) but near evacuation routes and an open area for landing air ambulances.
- Ensure maintenance shops, along with parking and equipment holding sites are on firm ground.
- Position the ATP adjacent to the maintenance company site to allow the maintenance company, which has the most self-defense assets in the support battalion, to provide protection for the austerely staffed ATP.
- Position the ATP near the rear of the BSA and near but off the MSR. Then 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 maintenance company, along the most threatening avenues of approach,
- Ensure the limited defensive capabilities (M-16/9mm only) of the medical unit is considered in its placement within bases or base clusters.

BCOC OPERATIONS

The support battalion commander integrates the base defense plans into abase cluster defense plan. This requires development of a rear operations communications system and coordination with field artillery, engineer, ADA, and MP elements and RAS elements of the ACR.

As a base cluster commander, the support battalion commander assigns a defensive position and a sector to each base. He gives bases on likely avenues of enemy approach a smaller sector. He also ensures each base's sector of fire overlaps the adjacent base's sector. He does this by checking sector sketches provided by bases. When interlocking fires are not possible between bases, he plans other defensive measures. He covers gaps by planning for fires, obstacles, patrols, OPs, and sensors. He coordinates this planning carefully with each base to avoid troops engaging friendly forces. The commander uses HSS personnel only on perimeter defense of their assigned medical facility.

HSS personnel do not provide perimeter defense of nonmedical units.

Development of the defense plan requires that the BCOC knows who is in the BSA, what weapons and night vision devices it has, and what its ammunition status is. The fire support plan is fully coordinated to ensure that required support is available. The plan integrates mortars of units in reserve as well as available helicopters.

The BCOC keeps a sketch of the defensive plan. It shows base sectors of fire, locations of mines and obstacles, planned indirect fire coverage, OPS, patrol routes, and positions of automatic and antiarmor weapons. These weapons include those in the BSA for repair. If the firing system is operable, the defense scheme includes these weapons, and mechanics work on them in their fighting positions. Whenever possible, units occupy the same location within the BSA relative to other units every time the BSA moves. They build a habitual relationship with the units on all sides of them. This expedites coordination of sectors of fire. Since night vision devices are likely to be scarce, the overall security plan includes an illumination plan. Details on sector defense planning are in FM 19-4.

The base cluster commander plans for a reaction force from assets in the cluster. He calls this force when a base's defenses cannot defeat the threat and combat forces are not immediately available. As a minimum, the reaction force consists of personnel, vehicles, machine guns, grenade launchers, rifles, and FM radios. It is well rehearsed and reacts precisely and immediately. It plans and practices rally point operations and other detailed procedures in advance, such as lanes of movement to various points on the perimeter. The support battalion commander submits copies of the base cluster defense plan to the brigade S3. He also proposes obstacles and indirect fire support plans to the brigade S3 for review and approval.

The BCOC ensures that all base commanders understand the different threat levels and the associated actions. The brigade staff is also aware the support battalion is neither staffed nor equipped to continue support operations at normal levels while responding to increased levels of threat. Support is degraded. How much it is degraded depends on the level of the threat.

Level I threats are defeated by base or base cluster self-defense measures. They normally involve the activities of agents, saboteurs, and terrorists. Typical actions the base cluster commander requires in such situations include manning OPs fully and increasing guards. The base cluster commander requires spot-checking vehicles and tightening base security. He also alerts defensive perimeter personnel and increases protection of key facilities.

Level II threats are those beyond base or base cluster self-defense capabilities. Response forces can defeat Level II threats. They normally involve –

- Diversionary and sabotage operations by unconventional forces.
- Raid, ambush, and reconnaissance operations by small combat units.
- Special or unconventional wartime missions.

The base cluster commander likely requires strictly controlled access to all areas, reinforcement of the perimeter defenses, preparation for withdrawal from OPs, and the alerting of the reaction force.

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.

Artillery or air strikes normally precede such enemy operations. The base cluster commander withdraws OPs and commits reaction forces. He also notifies the brigade S2/S3 and ceases support operations.

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.

The BCOC develops save plan procedures in advance. If the support battalion is under imminent danger from a Level II or III threat, the BCOC calls for a save plan of key BSA assets. The BCOC identifies key elements in advance. It prepares to move to a predesignated site with minimum notice. Key elements likely include C2, ATP, Class III, emergency medical treatment, and austere maintenance elements. Personnel

perform emergency destruction of equipment and supplies (excluding Class VIII) to avoid enemy capture. Priority items for destruction include COMSEC items, fuel ammunition, vehicles, communications equipment, and weapons.

The BCOC also identifies primary and secondary entry points into the BSA. It designates preplanned landing zones for brigade reaction forces to use when required. The BCOC conducts regular (preferably daily) meetings with base representatives to update the defensive plan.

BASE OPERATIONS

The base cluster commander organizes elements in the BSA into bases for self-defense. Normally, each company and field trains in the BSA constitutes a base. The base cluster commander organizes miscellaneous small teams into bases. The base commander prepares the base defense plan and coordinates with the base cluster commander. The base commander trains all personnel in basic defensive techniques to establish a viable perimeter. The base commander develops a reaction force for internal security and reinforcement of the base. Each base defends itself against a Level I threat and delays a Level II threat until a reaction force arrives. The base may face a Level III threat. If so, it takes action to prevent critical supplies and equipment from falling into enemy hands. It also defends itself as long as possible and avoids capture.

Base commanders are responsible for the following:

- Coordinating with bases on each side to plan mutually supporting fires and to avoid troops engaging each other. If a problem exists, the base commander notifies the base cluster commander.
- Ensuring each individual is assigned a fighting position. As much as possible, positions provide overhead cover. Positions also allow for interlocking sectors of fire.
- Ensuring proper individual fighting positions are prepared. Soldiers use all available cover. Positions provide frontal protection from direct fire while allowing fire to the front and oblique. Protection from indirect fire requires a depression or hole at least 1 1/2 feet thick with overhead cover. Details on fighting positions are in FM 5-103.
- Deploying crew-served weapons in fighting positions with primary and secondary sectors of fire. Instructions for preparing positions for each type of crew-served weapon are also in FM 5-103. Base commanders submit a sector sketch to the base cluster commander. The sector sketch details the location and range of all crew-served weapons and M203s.
- Identifying target reference points to direct fire against approaching ground or air enemy forces.
- Deploying all weapon-carrying vehicles on the base perimeter. This includes vehicles in the BSA for repair.
- Ensuring vehicles are properly positioned, Natural cover and concealment are used as much as possible.
- Setting up OPs and LPs. OPs provide a good view of the sector, which ideally overlaps with the adjacent OP sectors. Both the OPs and routes to them provide cover and concealment. They are not in positions that attract attention (such as isolated groups of trees) or on the very peaks of hills where positions are silhouetted. Further guidance on OPs is in FMs 19-4 and 17-98.
- Establishing patrols.
- Enforcing noise and light discipline.
- Ensuring camouflage is used properly. Guidance is in FM 5-20.
- Planning and establishing hasty obstacles.
- Ensuring soldiers know alert signals and proper responses to artillery and air attacks.

SUPPLY POINT BASES

Whenever possible, natural berms, deep-cut protective positions, natural terrain concealment, and camouflage nets protect fuel tanks. Personnel protect Class I, II, and IV items in deep-cut trenches if time allows. Construction of trenches for these items is a low priority. Traffic control includes measures to conceal movement at, to, and from supply points. At water points, personnel control spills to avoid standing pools of water which reflect light.

MAINTENANCE FACILITY BASES

In the base shop area, personnel prepare individual positions near billeting areas and on the periphery of work stations. They construct simple cut-and-cover or other expedient shelters next to key shop facilities for quick protection from artillery and air attacks. Whenever possible, they

integrate weapon systems on vehicles in the BSA shop for repair in the base defense plan.

CLEARING STATION

Medical personnel require shelters with adequate overhead cover so treatment can continue during hostilities. While a direct attack on HSS assets is not likely, the commander cannot rule out this action. More realistically, enemy actions, disrupt HSS operations by interdicting evacuation routes, destroying bridges, and sabotaging supplies. Also, the enemy may damage or destroy HSS units and other assets because of their proximity to other rear area facilities targeted for destruction. Dispersion of HSS assets, within the limits of the tactical situation, becomes a vital consideration. In the event of an attack, HSS personnel dispatch treatment and evacuation assets to the damaged area.

Defense plans do not require medical units to fire on enemy troops unless it is the result of direct attack upon medical units. Medical units do not fire to support adjacent units unless the enemy directly threatens medical units. Under the provisions of the Geneva Convention, medical unit personnel do not man the perimeter defense of nonmedical units. These nonmedical units include unit trains or logistics areas. To require such action causes the loss of protected status. See FM 8-10 for additional information.

TRANSPORTATION PLATOON BASE

The elements of rear operations that have the most impact on transportation units are the assembly and movement of reserves and the relocation of units. Deployment routes offer concealment from observation. Supply personnel disperse supply storage areas and move them frequently. Strict traffic regulation and control are essential.

Dispersion of vehicles is also essential. There is enough dispersion between vehicles and facilities to offer protection against loss resulting from hostile ground action including mortar and artillery fire and against hostile air attack. When authorized personnel construct roadblocks and place antivehicular and antitank mines on likely avenues of approach. They camouflage trucks and facilities with natural vegetation or lightweight screening systems. Personnel conceal vehicle tracks going into the area and make vehicle tracks going into unoccupied areas to deceive the enemy. As transportation commitments increase, the personnel to man the perimeter decrease. A good candidate for the transportation company reaction force is the maintenance section. They habitually work together and typically remain in the base.

TRAINING

Training in defense principles and techniques is critical to the survival of BSA elements. Training includes use of organic weapons, communications procedures and emplacement and monitoring of ground sensors. Training also includes preparation of defensive positions, fire support coordination and NBC defense measures.

INDIVIDUAL TRAINING

All personnel have a part in base defense operations. They likely require refresher training in the following areas:

- Preparation of individual fighting positions.
- Camouflage, cover, and concealment.
- Patrolling and operating roadblocks and checkpoints.
- Limited visibility operations.
- Cross-training on individual and crew-served weapons and supporting equipment available in the unit .
- Marksmanship, especially night firing, and the preparation of range cards.
- LP and OP operations with emphasis on security, sound and light discipline, and reporting procedures.
- Emplacement and maintenance of special observation and detection devices such as sensors, flares, and remotely employed sensors.
- Cross-training in all communications equipment available in the unit.
- Obstacle construction and mine and booby trap employment.
- Use of rally points.
- Use of individual and crew-served weapons in an air defense role.
- OPSEC.
- Identification of threat vehicles and equipment.
- Spot reports using SALUTE format.
- Fire support requests, coordination, and adjustment.

- Target engagement and designation techniques,
- Identification, marking, and neutralization of mine fields.

UNIT TRAINING

Unit training focuses on rehearsal of base defense plans and continuation of the support mission under limited attack. It also focuses on full occupation of defensive positions. Rehearsals are crucial. Training center experience shows that units which rehearse defense plans greatly increase their ability to survive BSA attacks. The support battalion asks the brigade headquarters for support from combat units for tactical training. The support battalion also asks the MI company for OPSEC training.

Rehearsals include manning of defensive positions, commitment of reaction forces, and coordination of supporting fires. Rehearsals also include coordination with adjacent bases and integration of external support by MPs and the tactical combat force. BDOC and BCOC exercises also train leaders to exercise fire support coordination and to test communications. They train leaders to exercise required coordination among bases, base clusters, and the brigade rear CP. Trainers conduct rehearsals during day and night and in various weather conditions.

AREA DAMAGE CONTROL

Effective planning, setting of specific responsibilities, and use of all available assets to conduct ADC are necessary to restore operations and provide continuous support. Planners in the brigade S4 section and support battalion ensure logistics and HSS are available to support the brigade. When ADC assets are available, the support battalion/brigade rear CP provides each base with external support necessary to overcome an attack and return to its primary mission.

Effective damage control is decentralized and executed at the lowest level. BSA base commanders review and identify all assets available within the base. They also assess the base's capability to conduct ADC operations. Assets include medical evacuation and treatment elements. Assets also include equipment evacuation and repair, critical supply, and EOD assets. BSA base commanders and the support battalion commander identify critical support points. They include points that are the sole local sources of supplies. They examine innovative ideas and initiatives to minimize damage. They coordinate with host-nation assets, MPs, and engineer units through the brigade rear CP. The commanders include ADC plans in the BDOC and BCOC defense plans. The support battalion S2/S3 helps the brigade rear CP identify emergency food, clothing, water, and fuel sources, and available distribution assets.

In accordance with the ADC guidelines, bases in the BSA complete the following tasks before an incident occurs:

- Designate specific individuals and units to perform ADC operations.
- Attempt to disperse and harden units and facilities to minimize damage; when practical, use existing structures.
- Establish priorities within the area of operations. Identify those critical facilities requiring protection and logically prioritize the responsibilities based on the commander's directives. Report critical facilities not provided necessary ADC support immediately.
- Prepare, coordinate, and rehearse ADC plans and SOPs.
- Organize, equip, and train personnel and units for ADC operations.
- Designate alternate operational sites or alert areas. Report facilities or supply points that are sole source facilities.

Bases in the BSA complete the following tasks during and after an incident.

- Conduct an immediate assessment of the damage and report to the BCOC. Simultaneously, initiate actions to isolate the danger areas and to prevent extension or continuation of the damage. (Fighting fires, stopping gas leaks, and minimizing flooding are examples.)
- Where feasible, prevent fires by bunkering and isolating flammables and explosives. Fight existing fires with stored water or identified water sources. Extensive fire-fighting is primarily a unit responsibility with support from engineer fire-fighter teams where available. However, due to the extended distances involved and the current technology that produces widespread devastation, alternate means

may have to be used. Local fire-fighting capabilities such as HNS or the acquisition of commercial material to support ad hoc fire-fighting teams may be necessary.

- Perform self-, buddy-, and first aid for casualties, and transport casualties. If possible, medical personnel and vehicles evacuate patients. However, the timely transportation of casualties is important. The situation may require the use of nonmedical vehicles for mass casualties. If possible, medical personnel accompany those patients being transported in nonmedical vehicles to provide en route patient care.
- Coordinate with the MPs to provide traffic control. This ensures fire-fighting equipment gains access to the area and ambulances and evacuation vehicles clear the area. MPs notify the brigade command post of blocked routes and divert traffic as necessary. The MPs also provide refugee control, straggler control, and some local security when required.
- Coordinate with the engineers to support critical facilities. Engineers construct fortifications and barriers and clear debris and rubble in support of the base ADC mission.
- Coordinate EOD support to area damage control operations with the EODCT. One EODCG with four subordinate EOD detachments is allocated to each separately deployed brigade.
- Coordinate for decontamination support. The contaminated units evacuate along specific routes (not the MSR) assigned by the MCO to the appointed decontamination sites. The MPs provide route control.

Chapter 6
BSA Movement

Contents

PRINCIPLES

The brigade commander moves support battalion units to provide responsive support to the brigade and to provide security for support battalion units. Units make forward moves during an offensive operation and rearward moves during a retrograde. They move to maintain appropriate distances from the FLOT and from supported units. Support battalion elements that stay in place for long periods of time do so at great risk. Movement is a key component of support battalion security.

BSA units prepare to move every 24 hours, if required. The support battalion commander does the actual determination when to move. He does so in close coordination with the brigade commander. The support battalion commander does not move just for the sake of moving. The brigade commander understands that support operations are disrupted by moves. Only security considerations and maintenance of proximity to support units justifies this disruption. The commander avoids short moves (about 5 kilometers or less) just to stay close to supported units, but does make short moves for security reasons. He weighs the benefit of shorter support distances against the cost of disrupted support operations.

The support battalion S2/S3 develops the movement annex to the OPLAN/OPORD in accordance with the brigade OPLAN/OPORD, FM 101-5 and the tactical SOP. The XO approves the annex. The support battalion commander ensures that a BSA move is coordinated with all supported elements, subordinate elements, and the brigade headquarters. All supported elements are aware of when support operations cease at an old BSA. They are also aware of where the new site is located and when operations begin there. Supported units recognize that support operations are degraded while elements move. To minimize support disruption, however, support battalion elements move in echelons. Operations at the new site begin before the old site is completely closed out.

PLANS

All BSA elements have sufficient organic assets to move their personnel and equipment in one lift. However, downloaded supplies at supply points and disabled equipment at maintenance sites may cause mobility problems. Personnel evacuate disabled equipment or repair it before the move. In the offense, an alternative is to leave it (after proper coordination is effected) for advancing maintenance elements to repair. The support battalion elements keep supplies uploaded as much as possible. For all transportation requirements beyond the support battalion's capability, the transportation officer requests additional support from the supporting MCT.

When the BSA moves, the support battalion S2/S3 selects the type of motor march used in coordination with the brigade rear CP. A close column is one in which elements are formed as compactly as possible. Usually, there are 67 vehicles per kilometer. This reduces time and allows better control with fewer guides, escorts, and markers. However, a close column is easier to detect, causes traffic congestion, and makes quick dispersion difficult. To overcome these disadvantages, the BSA move may use an open column with more widely spaced elements. There are usually up to 20 vehicles per kilometer. However, this technique makes control more difficult.

The third type of march is infiltration. With this type, the commander dispatches vehicles individually, in small groups, or at irregular intervals for maximum security. Usually 10 or less vehicles are dispatched per hour. This type takes more time and is harder to control. However, it is also the best way to move when the enemy has air superiority.

The support battalion S2/S3 coordinates with the brigade rear CP. They determine just where the BSA elements fall in with the brigade rear CP elements. Each major subordinate element commander in the BSA acts as a march column commander. Each march commander in turn organizes his march column according to certain guidelines which state –

- Each march column is a mixture of various elements in the support battalion.
- Slower, heavier vehicles are assigned positions in front.
- Recovery vehicles are placed in the rear.
- Gun vehicles are normally placed near the front and near the rear.
- All air approaches are covered.

Each march commander is responsible for providing strip maps to all drivers and briefing all convoy personnel on the –

- Convoy chain of command.
- Convoy route.
- Rate of march.
- Vehicle intervals.
- Accident and breakdown procedures.
- Immediate action security procedures.
- Blackout condition procedures
- Halt procedures.
- Location of HSS.
- Location and identification of destination.
- Ambush reaction procedures
- Time schedules.
- Arm and hand signals.
- Radio frequencies and call signs for control personnel, security force commander, fire support elements, reserve security elements, and medical evacuation support.

For convoy control, the support battalion S2/S3 establishes a convoy command net. This net includes the convoy commander, security force commander, and march commanders. It also includes serial commanders, recovery vehicles, and the trail party commander.

A complete BSA movement SOP makes planning quicker. Appendix L of FM 55-30 includes a sample SOP. Items in the SOP include –

- Duties of the convoy commander and control personnel.
- Convoy organization.
- Weapons and ammunition to be carried.
- Hardening of vehicles and protective equipment for personnel.
- Preparation of vehicles.
- Counterambush techniques.
- OPSEC measures.
- Procedures for halts.
- Maintenance and recovery procedures.
- Actions at release points.

CONDUCT

A move is usually initiated by a FRAGO issued by the brigade headquarters. The support battalion S2/S3 issues a warning order to all BSA units. Each unit reports its vehicle, supply, and maintenance work load status to the support battalion S2/S3 and brigade rear CP. They use the information to finalize the convoy organization, compute additional transportation requirements, and perform required march computations (Appendix F, FM 55-30). They ensure load plans are changed to accommodate current operational status.

The brigade headquarters normally prescribes the route. The support battalion S2/S3 uses a map reconnaissance in such cases to confirm checkpoints. He also identifies problem areas and begins planning positioning of elements in the new BSA. If the route is not prescribed, the support battalion S2/S3 activates a reconnaissance team. He briefs the team on the displacement plan. He provides it with a strip map. He also designates the MOPP level for the reconnaissance party to wear. The party monitors all radiological and chemical detection devices. It

performs duties to –

- Verify map information.
- Note capabilities of bridges.
- List significant terrain features and possible ambush sites.
- Compute travel times and distances.
- Perform the route and ground reconnaissance of new site.

When they receive the warning order, BSA units begin to break down tentage, heaters, and sleeping areas. They load equipment according to the individual unit loading plans. They also begin taking up wire and policing the area. The medical company increases evacuation to reduce the patients in the holding area requiring movement. Maintenance companies also increase evacuation if possible. Customers top off Class I, III,V, and IX levels before supply points close out. All units begin uploading supplies and equipment as much as possible.

The support battalion commander forms a quartering party to facilitate the move. Whenever possible, the core of the quartering party is designated in the SOP and simply adjusted to account for the units that are in the BSA at the time. The party is a group of unit representatives sent to the new BSA to secure, reconnoiter, and organize the area before the arrival of the main body. It includes representatives from each unit and sub element in the BSA.

The quartering party leader is a part of the S2/S3 planning team. The S2/S3 provides him with an overlay that shows the planned locations and orientations of all the BSA units. It also shows major obstacles and passage points into and out of the BSA. The leader distributes this information to quartering party members.

The leader also issues a warning order to all party members that tells them when and where the quartering party briefing will be and what their roles will be. The briefing should cover the following:

- The quartering party mission.
- The start point and time to arrive there.
- Traffic control point locations and responsibilities. This includes identification of the soldier responsible for placing each point.
- The release point and when guides from each unit should be there to meet their units.
- Security halt procedures.
- Code words for key actions such as completion of security sweep or NBC survey.
- Responsibilities for alternate leaders in case the officer in charge cannot perform the mission.
- Alternate procedures to be used if communications fail.

Whenever possible, the quartering party conducts a walk-through rehearsal of the steps it takes during the move and occupation of the new BSA.

The quartering party has enough assets to –

- Conduct a security sweep of the new site to ensure the area is free of enemy forces.
- Establish communications with parent and higher headquarters and notify the CP of the results of the sweep.
- Establish a jump CP.
- Select locations for unit vehicles, work sites, and tentage.
- Select individual and crew-served weapon fighting positions.
- Establish land-line communications among the BCOC, unit CPs, dismount points, LPs and OPs, and other critical sites.
- Position personnel to guide arriving units of the main body from the RF to preselected locations.
- Position chemical alarms.
- Ensure personnel follow dispersion and other countersurveillance measures.

Representatives of units in the BSA reconnoiter their unit sites and begin preparations for occupancy. They notify the jump CP of problems with the new positions. The jump CP reports to the support battalion S2/S3 when it is prepared to begin operations. It also relays any information the commander needs to change movement plans.

The main body begins the move in accordance with the OPORD or FRAGO issued by the support battalion CP. The support battalion CP plans the serials to move by echelon. Planners never include an entire support battalion company in a single serial. Otherwise loss of a serial eliminates all of the capability in a functional area. In addition, if the whole company is moving at the same time, continuity of support is not achieved. However, planners do not fragment individual elements too much due to austerity of communication assets. The first serial or serials include elements of critical support points.

These consist of–

- Class III, V, and IX elements.
- Maintenance elements to set up a new MCP.
- Medical treatment assets to provide EMT and ATM at the new site.

Typically, field trains are likely to move next. The remaining elements of the support battalion cease operations not already stopped. They upload the rest of their materiel and disconnect and pick up the rest of their wire. They break down their camouflage and move out with permission of the CP. The support battalion CP and the brigade rear CP transfer control to the jump CP. Then they break down their equipment and move out.

The trail party closes out any remaining operation. The party ensures the old site is clear of evidence of intelligence value to the enemy. Then it moves to the new site. This party includes maintenance elements to deal with disabled vehicles from the rest of the convoy. It also picks up guides and markers along the route.

When the main body closes, ideally during the hours of darkness, the quartering party representatives meet their units and guide them to their positions. The accomplishment of tasks then follows the priorities established by the commander in the movement and occupation order. Establishment of hasty defense normally has priority over the logistics mission. The suggested sequence of tasks for the main body is to –

- Position crew-served weapons.
- Prepare primary fighting positions.
- Clear fields of fire and prepare range cards.
- Emplace wire, mines, and other obstacles, and cover them by fire.
- Select and prepare alternate and supplementary positions.
- Finalize base defense plan depicting base layout, sectors, fields of fire of crew-served weapons, obstacles, and fire support plans.
- Implement reconnaissance and surveillance plan.
- Emplace sensors and early-warning devices.
- Prepare protective positions adjacent to work areas.
- Prepare and rehearse reaction force.
- Submit base defense, obstacle, and proposed fire support plan to BCOC.
- Coordinate with adjacent bases.
- Plan deceptive measures in coordination with the BCOC.
- Erect work areas.
- Camouflage vehicles and installations.
- Make the new support points fully operational.

The support battalion CP/brigade rear CP –

- Takes control from the jump CP.
- Ensures base commanders report to the BCOC on readiness and provide the BCOC with a base sketch.
- Finalizes communications among units.

The brigade rear CP reports to the brigade main CP that the move is complete. The S2/S3 begins planning for the next move.

CONVOY TECHNIQUES

The support battalion commander ensures all support battalion elements practice good convoy techniques. All should practice good march discipline. This includes following traffic regulations, responding to all signals, keeping proper distances, and practicing good security measures. Drivers also know what to do in case of mechanical failure. Drivers move the disabled vehicle off the road and notify the march element commander. They perform unit maintenance operations within their capability. Maintenance beyond the driver's capability is performed by mechanics in the trail party. Refer to FM 55-30.

Support battalion elements frequently move at night. So knowledge of night convoy techniques is required. The support battalion commander decides whether to move or not to move under blackout conditions. Blackout moves reduce the probability of enemy observation but make the convoy more vulnerable to ambush and sniper fire. They also contribute to driver fatigue. In any case, night moves require greater coordination and additional radios, More information is in Chapter 5 of FM 55-30. In addition, if the convoy crosses a contaminated area, it follows the procedures prescribed in FM 3-3.

CONVOY DEFENSE

A key consideration in movement is security. The support battalion's limited self-defense assets make convoy defense a challenge. The brigade rear CP coordinates closely with the supporting MP unit. The MP unit provides convoy security whenever possible. However, support battalion elements take proper measures throughout the move, including during halts. The brigade rear CP also coordinates fire support in advance with the fire support officer to get a priority of support for the convoy. The brigade rear CP informs the fire support officer of start and release points, time schedules, checkpoints, and convoy size. The fire support officer sets call signs, frequencies, and other required signal information. Convoy commanders use information from reconnaissance to plan fires. They coordinate and rehearse actual calls for fire and adjustments to fires. Refer to FM 55-30.

Movement on an open road makes a convoy very susceptible to air attack. The support battalion lacks significant firepower. Therefore, passive defensive techniques are critical. Personnel do not use closed columns during daylight. They may use tarps and bows to disguise the shape of lucrative targets such as fuel tankers. Personnel cover portions of vehicles that reflect light. Drivers scan the surrounding areas for objects to use for cover and concealment if ordered to disperse. In addition, soldiers should scan for aircraft. (Search and scan procedures are in FM 44-3.) Personnel use radios minimally.

If attacking aircraft are spotted, the convoy commander may choose to halt the convoy, continue to move, or disperse. A halt makes the convoy harder to spot, but if spotted, it becomes easier to hit. If the move continues, vehicles are easier to spot but harder to hit. Also, fewer soldiers are available to provide small arms fire. Proper dispersion makes it harder for pilots to make multiple hits. However, it is easier for the pilots to spot targets as vehicles move to dispersion positions. It is more difficult to continue the move after the attack.

Though the support battalion has limited firepower, small arms defense can be effective against low-flying aircraft. The key is to put up as much volume of fire as possible; all available weapons are concentrated on the aircraft.

Passive defense against artillery or indirect fire is similar to that discussed above. Active defense consists of coordinating air or artillery fires and directing fires against the enemy forward observer if located.

Commanders have a plan to avoid ambushes whenever possible. They minimize the effects by protecting vehicles and personnel. If the convoy is ambushed, vehicles in the kill zone drive out if possible. Personnel abandon disabled vehicles in the kill zone or move them if they are blocking the road. Vehicles not in the kill zone do not attempt to pass through it. Personnel dismount and take up defensive positions. Commanders call for artillery or air fire on enemy positions. They may also request reaction forces to counter the attack. Details on all aspects of convoy security are in FM 55-30.

EMERGENCY MOVES

The support battalion conducts routine moves as described above. In addition, it should have an SOP coordinated with the brigade rear CP for conducting emergency moves. Personnel use these procedures when the BSA is directly confronted with a Level III threat.

Each BSA element identifies personnel, vehicles, and equipment to immediately move out to a predesignated rally point. These elements are capable of providing limited support in critical support areas. These critical areas are Class III, V, and IX, maintenance; and medical treatment. A small CP element assumes immediate command of these critical elements at the rally point.

The move is initiated by a transmission over all available nets as well as a prearranged visual signal or sound. At the signal, all elements come up on the command net. Elements not designated for immediate movement load up essential items (such as weapons, maps, and communications assets). They leave tentage, camouflage nets, and supplies on the ground. Elements destroy supplies and equipment, except medical items. The provision of the Geneva Convention protects medical supplies and equipment from being intentionally destroyed.

In order for such moves to prevent destruction of the brigade's support base, the SOP thoroughly spells out responsibilities and actions to be taken. The support battalion coordinates the SOP with all BSA elements. Training is also required to make the plan work. In addition the BCOC designates and makes known to all BSA elements alternate rally points every time the BSA moves.

Chapter 7
Headquarters and Headquarters Company

Contents

ORGANIZATION AND MISSION

The support battalion, HSB, includes a headquarters and headquarters company. As shown in Figure 7-1, the battalion headquarters has five sections: command, S1, S2/S3, S4, and communications. In addition, the HHC includes a unit ministry team, LASSO, and BMMC. The support battalion, SIB/TDB, HHC is similar to that of the support battalion, HSB. Design differences are minor. See Figure 7-2. The ACR support squadron headquarters also includes a support operations branch. See Figure 7-3. The LASSO will eventually phase out and be replaced by the CSS automation management office. More information is found later in this chapter.

The battalion headquarters performs the C2 functions and employs the C2 facilities discussed in Chapter 2. It commands and controls organic and attached units. It commands and controls all units in the BSA for security and terrain management. Its other missions, generally include –

- Planning, directing and supervising tactical training and internal logistics for units of the support battalion,
- Planning and controlling the use of aircraft and surface transportation that are organic, attached, or allocated for logistics and HSS missions.
- Planning and conduct of rear operations within its assigned areas of responsibility.
- Controlling brigade-level supply of Class I (and water), II (including unclassified maps), III, IV, V, VII, and IX supplies. Determining requirements for developing and exercising technical supervision over brigade ASL and PLL.
- Controlling brigade-level and unit-level HSS on an area basis. This includes medical staff services, medical supply (Class VIII), and unit-level maintenance of medical equipment.
- Controlling DS maintenance and common and missile repair parts service to supported units in the brigade.

PERSONNEL AND SECTION FUNCTIONS

SUPPORT BATTALION COMMANDER

The battalion commander commands all units organic, OPCON, or attached to the battalion. He also commands and controls all elements in the BSA for security and terrain management. He organizes the movement of, and directs the location of subordinate units within the BSA. This duty requires coordination with the brigade S3 and S4 concerning current and proposed locations and movement of all battalion units. He supervises and controls all DS-level logistics and HSS operations of the brigade. He and his staff advise the brigade commander and staff concerning logistics and HSS functions throughout the brigade.

As discussed in Chapter 3, upon receipt of a mission, the commander gives planning guidance to his staff, Once he receives the required information from his staff, he restates the mission in a clear, concise statement of tasks to be done and the purpose to be achieved. He gives the staff specific courses of action to pursue and directs the S2/S3 to issue the warning order to subordinate elements.

The commander with his staff supervises the activities of subordinate units. His staff consists of the executive officer, S1, S2, S3, and S4. As a small special staff, the brigade automation management officer, brigade materiel management officer, C-E staff officer, and chaplain also assist the commander,

EXECUTIVE OFFICER

The XO is the principal assistant to the battalion commander. His responsibilities are similar to those of

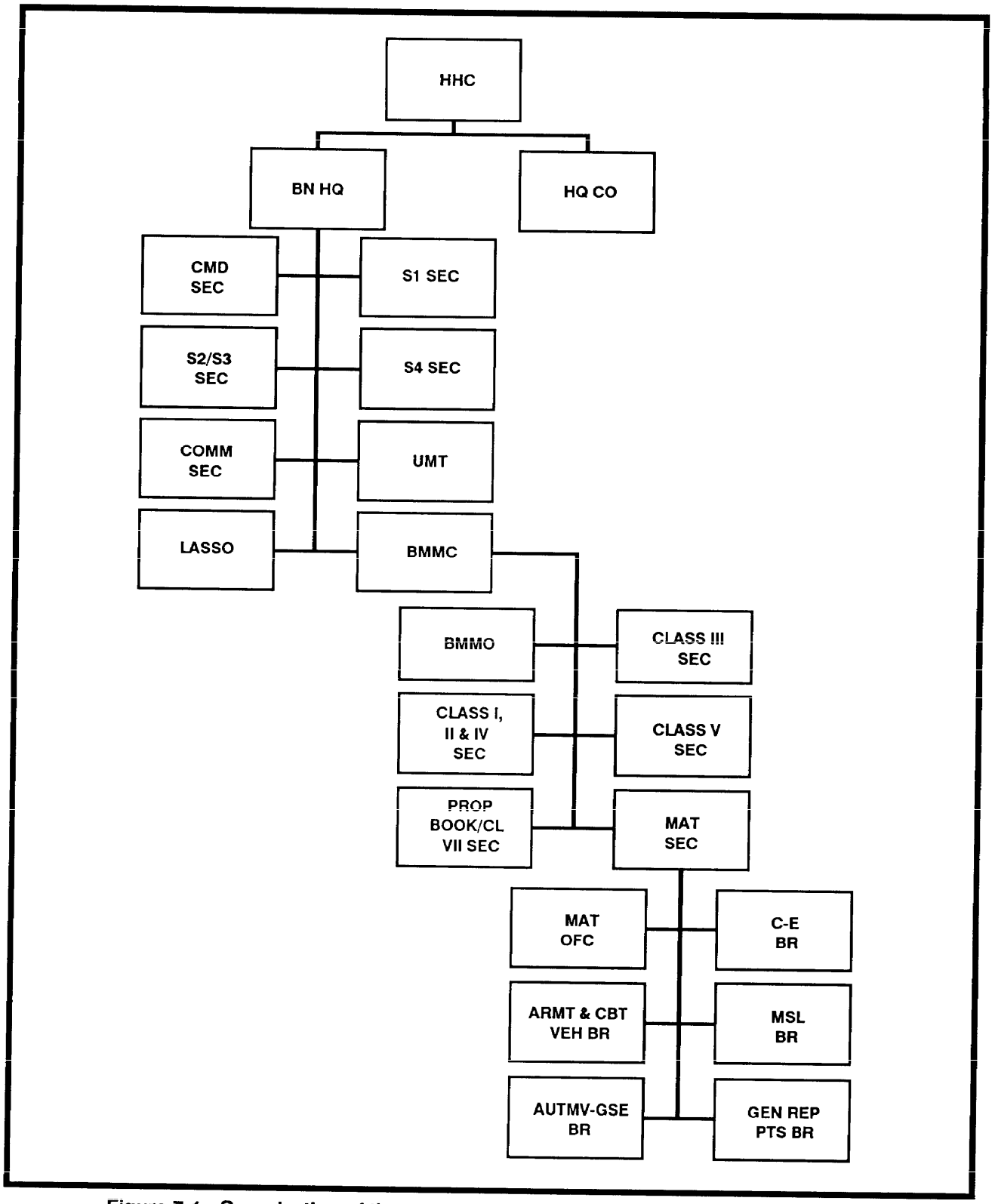


Figure 7-1. Organization of the support battalion headquarters and headquarters company, heavy separate brigade.

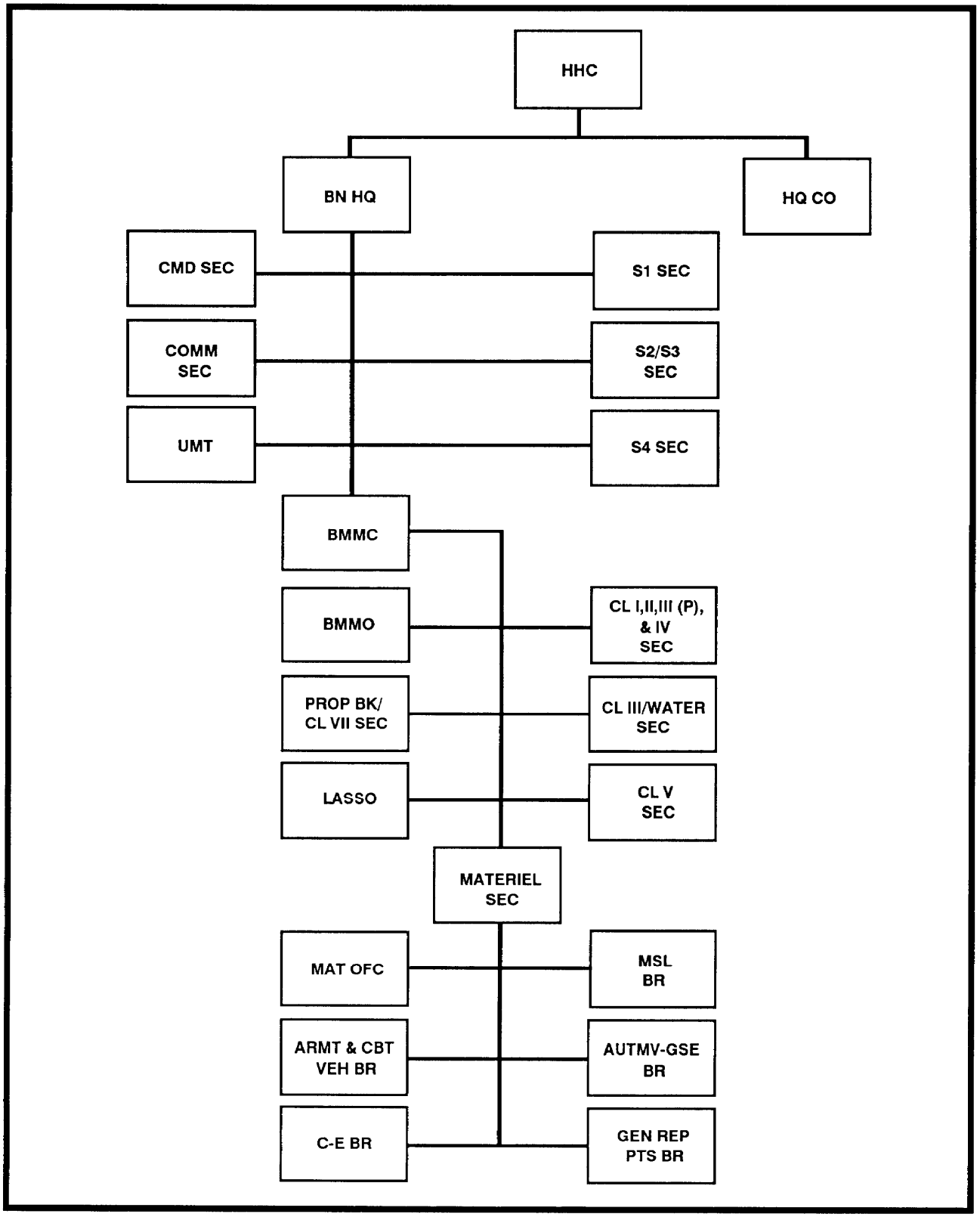


Figure 7-2. Organization of the support battalion headquarters and headquarters company, SIB/TDB.

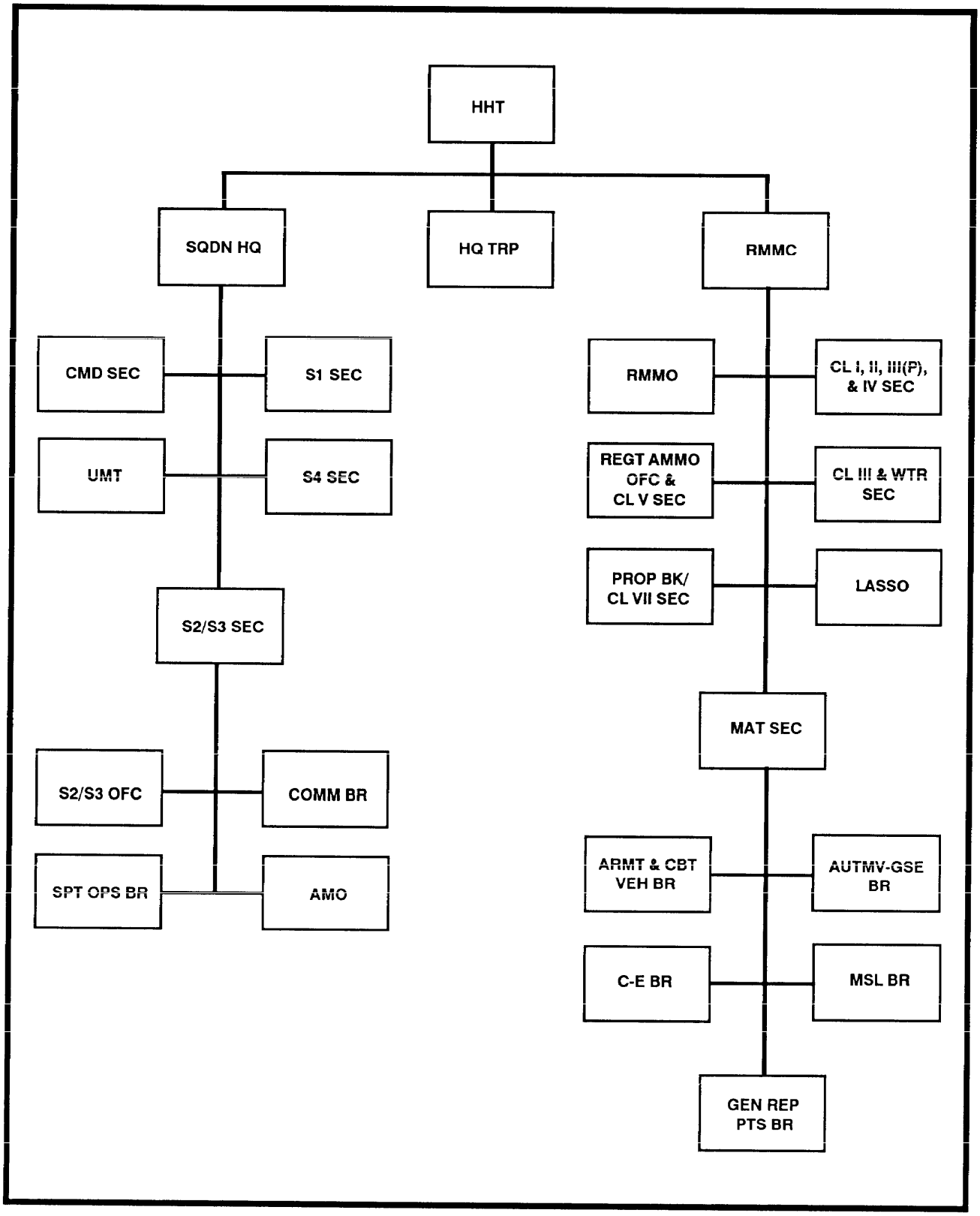


Figure 7-3. Typical organization of the support squadron headquarters and headquarters troop, ACR.

a chief of staff, as outlined in FM 101-5. As second in command, he understands both the support operations and the non-CSS functions of the battalion. In accordante with commander directives, he formulates staff operating policies.

S1 SECTION

The battalion S1 is the staff officer for the commander on all matters concerning human resources. He advises the battalion commander on administrative and personnel matters. He identifies personnel information requirements by analyzing the commander's mission and personnel summaries. The S1, assisted by his staff, prepares the battalion personnel estimate. The estimate projects personnel losses and replacement requirements. The estimate takes into account courses of action provided by the S2/S3 section and additional information from the brigade S1 section. After coordination with staff personnel, the S1 presents the estimate to the commander/XO and staff.

The S1 coordinates personnel service support for the support battalion. A PAC supervisor, personnel staff NCO, and personnel administration soldiers assist the S1. A legal NCO and clerk typist also assist him. The PSNCO assists the S1 in supervising general administrative functions. These include preparation of correspondence and reports, mail and distribution activities, and maintenance of forms and files. Other areas are maintenance of publications, preparation of orders and directives, and printing and reproduction activities. The personnel administration soldiers prepare reports and correspondence for MOS actions. They prepare promotions with the brigade S1, MOS testing, and clearance papers. They also prepare reassignments, special duty assignments, and SIDPERS actions when required.

Primary S1 personnel services focus on strength management, casualty operations, and replacement operations. Other responsibilities include matters dealing with —

- Awards and decorations.
- Soldier pay.
- Military justice.
- Hometown news releases.
- Preparation of soldiers for overseas movement.

In support of the battalion personnel function, the S1 also monitors internal mortuary affairs activities and reconciles casualty reports with mortuary affairs records. He coordinates requirements with the S4 for mortuary affairs items for battalion personnel. He coordinates the battalion organic health service support. This includes coordinating with the brigade surgeon/medical company commander for assistance in preparing the battalion HSS plan. Also, he coordinates the HSS for mass casualties or NBC attack with brigade, division, or corps medical officers, as appropriate.

Other functions of the S1 section in support of the battalion include –

- Preparing personnel status report – personnel summary (PERSTAT-Part I) and personnel requirements report (PERSTAT-Part II). The battalion S1 forwards the reports through channels to the brigade S1. The brigade S1 forwards the reports to the corps G1.
- Coordinating with chaplain for religious services.
- Administering EPW program.
- Determining total transportation requirements for losses, replacements, and EPWs, and submitting transportation request to the S4.
- Processing Uniformed Code of Military Justice.

Other S1 functions may include serving as the alternate CP and operating the morale, welfare, and recreation program.

S2/S3 SECTION

The S2 is the principal staff adviser to the battalion commander on intelligence, EW, counterintelligence and security operations. The S2 manages these primary functions to satisfy the commander's intelligence and security requirements.

The S2's foremost responsibility is to provide timely, accurate intelligence to the commander. He assists the commander in identifying PIR and IR necessary to complete both assigned and implied missions. The S2 directs the support battalion's IPB operations. He prepares and continually updates a collection plan as an analytical tool to determine and assess intelligence needs. The S2 articulates intelligence requirements by tasking organic units and by requesting intelligence information and collection from higher and adjacent units. He disseminates intelligence and combat information as rapidly as possible to the commander, staff, and other units, higher, lower, and adjacent, who need it.

Other S2 functions include –

- Preparing the intelligence annex to the OPORD,

the INTSUM, and various intelligence briefings.

- Disseminating maps and other intelligence products to the staff and to subordinate units.
- Assisting the S3 in managing OPSEC by recommending essential elements of friendly information, which must be protected from enemy intelligence.
- Monitoring EPW collection points.
- Supervising the handling of EPWs, defectors, line-crossers and captured documents, equipment and other enemy material.

The S3 is the staff adviser to the battalion commander for organization, operations, and NBC matters. He coordinates the activities of and supervises personnel in the S2/S3 section.

The mission of the battalion includes DS supply, DS maintenance, HSS, and transportation. In this capacity, the S3 advises the commander on requirements versus available assets. The S3 provides input to the brigade S4 on the service support plan. This plan conforms to the support battalion commander's concept of operations and supports the brigade OPLAN. (In the ACR, all staff functions related to logistics and HSS to the regiment are the responsibility of the support operations officer under the S2/S3. The support operations officer also advises the commander on requirements versus available assets.)

The S2/S3 section has several specific functions in the area of supply and services. It coordinates types and amounts of supplies and services with the COSCOM, DISCOM support operations branch (if employed as part of a division), the BMMC, and the brigade S4. It monitors daily battle loss reports to anticipate requirements. It also assesses the type of resupply operations required. If airlift or airdrop is required in the BSA, it requests and coordinates the support. It requests field service support through the COSCOM. The section coordinates with the S&T company and brigade S4 on locations and operations of field service augmentations.

In the maintenance area, the section recommends the allocation of resources in coordination with the maintenance company, the BMMC, and supported units. This includes coordination of MST operations. The section coordinates critical parts status with the BMMC. It forecasts and monitors the work load for all equipment by types of equipment. It also devises the plans and policies for QSS, reparable management, and other Class IX operations. With the brigade S4, it reviews backlogs on critical weapon systems. It also requests reinforcing support from the COSCOM.

For HSS, the S2/S3 has input in the medical evacuation and treatment plan for assigned and attached units. It coordinates input with the medical company and the brigade surgeon. Input covers Class VIII supply, helicopter landing sites, and priority of medical effort. The section also coordinates the flow of RTD personnel with the brigade S1 and S4 sections. It coordinates for transportation assets for mass casualty evacuation contingencies with the COSCOM MCC/MCT or DISCOM MCO.

The S3 exercises movement control over the transport activities of the support battalion. This includes the movements between the BSA and battalion trains areas and CSS movements entering and leaving the brigade area. This also includes controlling and coordinating the arrival of resupply and replacement movements into the BSA, or directly into the maneuver battalion trains areas. These activities involve close liaison with the brigade S3 and S4 and supporting MCT. Control also includes control over aircraft or surface transport specifically allocated or attached to the support battalion for logistics and HSS.

In the separate brigade, the battalion transportation officer coordinates the employment of transportation assets of the support battalion. He receives broad policy guidance for transportation movements and highway regulation from the brigade transportation officer.

In the ACR, the movement control officer in the support operations section consolidates the requests for and controls the use of transportation in the support squadron. The SOO and squadron MCO receive policy guidance, tactical priorities, and highway regulation for transportation movements from the regimental transportation officer.

Resupply shipments may arrive by motor or air transport. The air transport mode includes the use of Air Force transports as well as COSCOM or other supporting Army CSS airlift. Transportation requirements which exceed the transport capabilities (air and motor) allocated for the support battalion for CSS functions are coordinated with the brigade transportation officer. The brigade transportation officer requests additional transportation support from the MCT or logistics base as required.

The NBC NCO in the section monitors and assists in the employment of NBC teams. He receives, coordinates,

analyzes, and evaluates NBC activity data. He develops response procedures for NBC defense and makes recommendations to the commander on MOPP levels. He also prepares NBC reports 1 through 6. More information on NBC operations is in Chapter 2 of this FM.

The S2/S3 section performs several functions in addition to those support operations discussed above. These include –

- Planning and supervising air defense and defense against unconventional and psychological warfare operations.
- Determining the requirements for the storage, maintenance, distribution, and documentation of chemical munitions.
- Preparing the BSA security plan and ensuring that the plan is compatible with the brigade operations plan.
- Inspecting battalion units and activities to ensure compliance with directives and that they are providing adequate service to supported units.
- Planning and coordinating battalion tactical moves. Details are in Chapter 6.
- Planning and supervising support of special warfare operations.
- Planning and coordinating the collection and disposition of excess, surplus, salvage, and captured materiel by brigade units, when required.
- Coordinating the requirements of support battalion units for data processing support of mission activities with the automation management officer (also brigade management information system officer).

A new automation management concept is nearing approval for the support battalion and was approved for the support squadron. The LASSO will phase out with the fielding of SARSS-2A and corps/theater ADP service centers. A new element, the CSS automation management office is established in the support squadron S2/S3 section. (Refer to the CSS automation management office paragraph below.) The CSSAMO is the regiment focal point for all CSS software management and operator-level support for all STAMISs.

In the ACR, the CSS automation management officer supervises the functions of the automation management office. He provides technical advice to the commander on any changes in automated systems that interrupt, hinder, or change the provision of CSS to the regiment.

The automation management office receives, distributes, implements, retrieves, and disposes of all STAMIS software for the regiment. It provides staff and unit-level assistance. It also provides system troubleshooting and replacement of software. It integrates databases for new units and units attached to the regiment. This integration of data bases includes user-level sustainment training. It coordinates signal support actions and requirements with the corps signal office. It interfaces with corps and EAC activities responsible for CSS system support. It assists units with CSS automation COOP planning and execution. It also maintains the master library of CSS software and STAMIS user manuals for the ACR.

S4 SECTION

The support battalion S4 provides technical supervision and assistance for logistics and materiel readiness matters within the battalion. He prepares the battalion logistics estimate. He makes recommendations to the battalion commander on internal logistics activities. He also coordinates and supervises personnel in the S4 section.

The S4 section monitors the battalion internal supply activities. It processes requests for Class I, II, III, IV,V, and VII items to replenish basic loads of all battalion elements. It monitors requests that battalion elements submit to the maintenance company for Class IX items. It forwards the battalion plan to all organic and attached elements. It also coordinates field service requirements for all battalion units through the battalion S3. It prepares the Class III forecast for the support battalion. It submits it to the S2/S3 section (ACR – submits to the support operations branch).

The battalion maintenance technician coordinates support battalion unit maintenance operations. He consolidates support battalion unit maintenance reports. He provides the commander and other staff sections with equipment status reports for planning purposes. He also supervises controlled substitution in accordance with the commander's priorities. He monitors support battalion PLLs and coordinates recovery of support battalion equipment.

The S4 section coordinates with the S1 on unit strength and replacement data to project logistics requirements. Together they also ensure battalion replacements are issued all authorized equipment. The S4 coordinates movement plans with the S3 and consolidates transportation requirements for all battalion units.

COMMUNICATIONS SECTION

The battalion C-E officer is the principal adviser to the support battalion commander on all C-E matters. He plans and supervises the unit communications system. He integrates the systems into the communications systems of higher, lower, and adjacent headquarters. He supervises the organizational maintenance of the battalion C-E equipment and monitors the status of unit and subordinate unit C-E equipment. He also serves as the COMSEC custodian for the unit COMSEC subaccount. This includes issuing and accounting for security equipment, key lists, codes, and ciphers. This also includes the authentication systems and the issues and accounts for the unit SOI in accordance with current regulations. The C-E officer plans and coordinates photographic support requirements for the battalion with the brigade C-E officer. He also supervises and controls the communications personnel. Communications personnel install, operate, and maintain the telephone switchboard. Other duties include supervising the RATT station for operation in the corps/division/brigade RATT net. He also supervises a battalion FM voice net with net radio/wire integration capability.

The tactical communications chief, as the assistant to the C-E officer, assists in supervising the communications section personnel. He coordinates all communications within the CP and keeps informed of all communications aspects of the tactical operation. He also assists in developing the communications training program and SOP. He serves as an alternate COMSEC custodian for the unit subaccount.

The section personnel perform other duties such as —

- Establishing the RATT operation activities. This includes site selection, installation of equipment, and entering station into RATT net.
- Establishing the radio and antennae sites. They locate the radio and antennae sites and organize the radio system at the battalion headquarters. This includes installing and operating remote equipment. They perform operator maintenance of unit radio equipment. They install power generator equipment and erect antennas.
- Establishing the wire systems. They install, operate and maintain all wire lines and associated equipment. They prepare local telephone traffic diagrams, line route maps, and directories. They also install, operate, and maintain the unit switchboard.
- Performing organizational maintenance on battalion tactical communications and selected electronic equipment. They perform go/no-go checks on COMSEC equipment. They test, align, and calibrate radio and associated electronic equipment. They also perform troubleshooting procedures and use tools and test equipment authorized at the organizational level.

In the ACR, communications personnel and equipment are part of the S2/S3 section as a branch (Note: Figure 7-3, page 7-4). Its functions are similar to those of the separate brigade section as written above.

BRIGADE MATERIEL MANAGEMENT CENTER

The BMMO is responsible for the operations and employment of the BMMC. He and his maintenance management officer supervise the BMMC and provide for continuity of operations. The BMMO implements the policies of the battalion commander and prescribes procedures and mission standards for the BMMC. He provides management control over all materiel for the battalion except for Class VIII supplies. The brigade medical supply officer manages Class VIII. The BMMO also provides input to the support battalion S3 and brigade S4 on logistics plans and orders. In general, he supervises personnel in the BMMC. Other responsibilities are —

- Advising the battalion commander and staff on management of supply and maintenance operations.
- Preparing reviewing and approving detailed plans and policies for the operation of supply and distribution points and QSS operations. He approves detailed plans and policies for RM operations. He also approves plans and policies for supply and maintenance operations from a management point of view.
- Developing or reviewing SOPS for the center.
- Recommending policies, plans, and procedures for, and supervising, from a technical point of view, DS-level supply and maintenance for which the battalion is responsible.
- Establishing coordination channels with the MMC of the next higher command for such actions as evacuation of materiel. These actions also include providing reinforcement of support, emergency

requirements, and technical assistance.

- Coordinating with the S&T company commander for technical supervision of unit supply training throughout the brigade.
- Preparing and distributing (as authorized by the battalion commander) directives of a materiel management procedural nature. He or his people make direct contact with operators for such matters as receipts, MROs, inventories, input data for reports, and preparation and submission of requests. The battalion commander retains the authority for battalion directives for operational matters.

The BMMC is the heart of the battalion's materiel management mission. It is the technical operations center for the battalion. It implements automated procedures except for Class I, III (bulk), and VIII supplies.

The LASSO provides ADP support for the BMMC. The BMMC coordinates supply priorities with the S3 and brigade S4. It coordinates supply controls with the brigade S4 and COSCOM or DISCOM MMC. It also coordinates locations of all forward supply points with the S3 and the brigade S4. In the ACR, the automation management office provides ADP support for the RMMC.

Within the BMMC there are appropriate management elements responsible for the ASLs. The Class I, II, and IV section is responsible for all subsistence items and items that are issued gratuitously. The section also has responsibility for expendable Class II supplies. The Class III section controls and manages the supply of bulk fuel to brigade elements, It determines requirements, recommends priorities, and manages allocations for bulk fuel. The Class V section is responsible for all ammunition. Finally, the materiel section is responsible for all repair parts supplies.

Two basic categories of ASL items are expendable items and nonexpendable items. Expendable items are normally based on requirements and consumption rates. These items are developed from appropriate authorization documents such as SB 700-20, TMs, TBs, and CTAs. Nonexpendable items are derived from the brigade property book items and mission support equipment. Brigade property book items are based on wartime replacement factors. Mission support equipment includes other equipment required by the force. Such support equipment includes collapsible 500- gallon fuel drums, water drums, and helicopter slings.

Functions the BMMC carries out are –

- Developing or implementing plans, estimates, and directives for supply and maintenance operations.
- Providing materiel management for Class I (includes emergency water distribution), II (includes unclassified map supply), III, IV, V, VII, and IX supplies.
- Developing and controlling the brigade ASL for supplies and equipment stocked by the S&T and maintenance companies.
- Providing direction and, in coordination with the battalion S3 section, mode of delivery for the issuing of supplies to brigade units. It also provides for the receipt and processing of requisitions from the supported units and activities.
- Developing, approving, and maintaining unit PLLs.
- Coordinating with the maintenance company on requirements for the processing of equipment prior to issue.
- Providing for continuous study of the supply and maintenance system.
- Providing maintenance management information for brigade maintenance activities.
- Providing control for physical inventory and reconciliations of stock records.
- Providing catalog and technical document reference service.
- Providing, within policies and directives of higher headquarters, actions to fulfill supply and maintenance requirements.
- Maintaining records on Class II, III (packaged), and IV supplies.
- Maintaining the brigade property book, Army equipment status reporting data, and the Class IX system.
- Assisting the brigade S4 in developing plans for purchasing and contracting service relating to supplies and services.

Class I, II, and IV Section

The supply and service officer exercises stock control over Class I, II, III (packaged) and IV supplies. He is assisted by the materiel management and subsistence supply supervisors. They develop and control brigade

ASLs and develop unit basic load data. They make recommendations regarding priorities, allocations, and other controls. They also provide advice on receipt, storage, and distribution of supplies.

The section coordinates the Class I distribution point operation schedule with the COSCOM MMC or DMMC and S&T company. This includes coordinating Class I deliveries and distribution point locations. It identifies on-hand and due-in assets against requirements.

The section identifies the brigade food service requirements by reviewing ration request documents. Before a pull system is established, the section prepares a consolidated ration request based on personnel strength reports. It provides updates to the battalion commander. It provides technical assistance to subordinate commanders on food service operations. It forwards the requisition for the brigade's subsistence to COSCOM MMC. It also monitors ration shipments from the COSCOM ration point to BSA ration breakdown point.

The Class I, II, and IV section coordinates water distribution point locations with the COSCOM MMC or DMMC and S&T company. It monitors regulated water distribution to using units for compliance with the SOP. It also coordinates with the corps of engineers for availability of potable water sources.

The section identifies on-hand Class II and IV supplies from documents or stock records. It monitors delivery of Class II and IV supplies from EAD or the DSA to the BSA distribution point.

Class III Section

The petroleum supply officer, the petroleum supply supervisor assisting, exercises stock control and management over the supply of bulk fuels. He makes recommendations for priorities, allocations, and other controls. He also provides advice on the receipt, storage, and distribution of bulk fuels.

The section monitors the status of the Class III system. It coordinates delivery by corps transportation assets to the BSA Class III point with the COSCOM MMC and S&T company. It also provides petroleum status updates to the brigade S4, COSCOM MMC or DMMC, battalion S3 section, and S&T company.

In the ACR and SIB/TDB, this section also manages the distribution of water. It supervises the acquisition, storage, inspection testing, issue, and distribution of water.

Class V Section

The ammunition officer, ammunition technician, and other section personnel monitor the status of the Class V system. They perform ammunition stock control. They also maintain records of ammunition allocations, credits, debits, and expenditures for all brigade units. This includes basic loads, special task force requirements, CSR, RSR, and data on special ammunition. The section personnel maintain current locations of the brigade ATP, corps CSAs, ATPs, and ASPs, and any stockpiles in the brigade area. They monitor Class V requisitions and issues from the ATP to supported units with the brigade S4. They also coordinate Class V diversions to meet unexpected surge requirements with the brigade S4 and ATP. Other functions the Class V section performs include —

- Authenticating requests (DA Form 581).
- Approving requests for turn-in.

  Managing the CSR and RSR and providing this data to the brigade staff.
- Providing expenditure data to the brigade staff and COSCOM.
- Computing and maintaining basic load data and weapon densities.
- Preparing and submitting stock status reports to include quantity, condition, and forecasted requirements.
- Monitoring brigade assets in the hands of troops to ensure proper storage and maintenance.
- Maintaining continuous liaison with the S&T company personnel at the brigade ATP.

Property Book/Class VII Section

The property book/Class VII section functions as the brigade property book office. The section personnel also manage Class VII items. The brigade property book officer heads the section. He controls all input to and output from the automated processes supporting the property book system. He controls the automated processes to the extent of establishing and modifying master and subsidiary files as necessary. He also controls the automated processes of establishing working parameters for the automated processes and directing the execution of desired processes.

Two property account technicians and a customer assistance NCO assist the property book officer. Other section personnel assist the property book officer by

developing requirements for current and contingency operations. They conduct surveys and assist in the development of the research and retrieval service. They also coordinate the return to supply channels of excess serviceable and unserviceable end items as required and coordinate equipment processing for issue in the brigade.

The property book/Class VII section has two teams. They are the requisitioning, editing, document control, and reports team and the property book team. The requisitioning, editing, document control, and reports team receives, records, verifies, and reports data. The team enters the data on supply transaction documents and provides them as input for processing by the LASSO. They receive all printed listings and machine-produced cards as output from the LASSO. They distribute these cards and listings within the brigade property book office and to units of the brigade. They provide input to the Army Equipment Status Reporting System. They also provide input to the appropriate staff of higher headquarters as directed by the brigade commander. The team receives and processes equipment readiness listings used in preparing the unit status report. They check adjustment documents to ensure completeness and compliance with appropriate procedures and regulations. Once SPBS-R and SARSS-2A are fielded, the system will perform the editing function automatically.

The property book team manages the hand-receipt accounts for the brigade units. It prepares or processes unit requisitions for issue and turn-in of organization TOE property. It also processes unit requests for issue and turn-in of installation property and hand-receipt annex items. The team processes all data to be input to the brigade property book. It evaluates and takes action on cards and listings produced as output from the computer. It also identifies, reports, and makes recommendations on redistribution of excess property.

Materiel Section

The materiel section monitors the status of the maintenance system of the brigade. The section manager is the materiel management officer. The materiel management officer performs integrated materiel (Class IX supply and maintenance) management for all maintainable materiel.

The materiel management officer in this section, the section personnel assisting, conducts continuous appraisal of materiel management operations. They maintain liaison with the brigade headquarters and the COSCOM MMC. They advise the brigade materiel management officer and maintenance company commander of problem areas. They also advise of new developments that impact on the repair parts and maintenance posture of the brigade.

The materiel section coordinates maintenance activities. This includes –

- Monitoring BDAR efforts of maintenance elements to ensure the focus is on critical equipment or weapon systems that have an immediate effect on the combat mission.
- Coordinating vehicular recovery to an MCP with the brigade S4 and maintenance company.
- Monitoring cannibalization activities with the brigade and corps for disposition instructions.

There are four weapon system oriented materiel management branches. They are the armament and combat vehicle branch, automotive and GSE branch, C-E branch, and missile branch. There is also a general repair parts branch. Each weapon system branch provides intensive internal and external brigade management for the designated weapon system end items and selective Class IX items. All of these items are critical or maintenance significant to the operational readiness of those weapon systems. The general repair parts branch manages all other Class IX items. Functions the branches collectively perform under the direction of the maintenance management officer are –

- Recommending maintenance data requirements and reporting format. They implement ADP collection procedures and supervise operations of the maintenance data reporting system.
- Analyzing data and reports (automated and manual) to identify trends, problem areas, and other information that generates requirements for action by the maintenance company and staff elements.
- Compiling special reports on the status of brigade equipment.
- Assisting in the development of policies and plans. They also recommend corrective action.
- Providing disposition instructions (in conjunction with the property book/Class VII section) for unserviceable items of equipment. These items exceed the repair capabilities or capacities of the maintenance company.
- Developing maintenance plans to support projected

brigade combat operations. They coordinate with the maintenance company based on requirements generated by the brigade staff.

- Monitoring brigade organizational maintenance operations and evaluating procedures and use of equipment and personnel.
- Maintaining the status of all MWOs for equipment and recommending priorities for the completion of MWOs.
- Maintaining coordination and exchanging information with the property book/Class VII section. This includes such matters as the status of end item supply.
- Coordinating with and providing guidance and information to the BDC with respect to informational requirements and report formats to be satisfied through automated procedures.
- Coordinating with the transportation officer on requirements for the evacuation of materiel from the brigade area.
- Identifying brigade materiel that requires calibration in support of the Army calibrations program.
- Reviewing spectrometric oil analysis reports to determine incipient equipment failures. They coordinate with the BMMC petroleum supply officer to ensure that petroleum products issued to units meet required specifications. They make recommendations to the BMMO on policy changes that may result from SOA requirements.

Automotive-Ground Support Equipment Branch

This branch performs integrated materiel management for tactical wheeled and general purpose vehicles. It also performs integrated materiel management for construction, MHE, power generation, and associated test equipment.

Armament-Combat Vehicle Branch

This branch performs integrated materiel management for weapon systems and combat vehicles. It provides materiel management for selective Class IX items. These items are critical or maintenance significant to the operational readiness of those weapon systems.

Missile Branch

The missile branch maintains status on missile systems deployed in the combat elements of the brigade. It monitors DS maintenance to combat units that have missile systems. It also monitors critical repair parts stock for expedient repair capability. The branch maintains liaison with the COSCOM MMC or DMMC and the maintenance company for support beyond brigade capability.

Communications-Electronics Branch

The C-E branch performs integrated materiel maintenance for communications equipment, communications-electronics intelligence equipment, and electronic warfare equipment. The branch also performs maintenance on combat surveillance equipment, target acquisition equipment, and night vision equipment. Its personnel maintain maintenance records of all C-E maintenance performed on supported units equipment. They coordinate additional C-E maintenance with the COSCOM MMC or DMMC. C-E personnel also assist the support battalion staff in selecting CP locations for best communications reception.

General Repair Parts Branch

The general repair parts branch personnel provide for supply management of Class IX items not managed by the other branches in this section. They also provide aviation supply management (Class IXA) on behalf of the RAS (ACR) with the corps MMC aviation division's aviation parts supply branch. They develop and control overall repair parts supply as prescribed in the brigade service support annex. They evaluate all machine output pertaining to repair parts supply. They also provide advice to DSUs relative to catalog changes. The branch personnel measure system performance through the use of appropriate management techniques and tools. These consist of pertinent records and reports such as stock status reports, daily transaction register, and the daily error and edit transaction listing.

LOGISTICS AUTOMATED SYSTEMS SUPPORT OFFICE

The automation management officer serves as chief of the LASSO. The LASSO provides the data processing support for the service support mission of the brigade support battalion. The automation management officer supervises personnel in the ADP operations section. The ADP operations section operates the central processing unit for input/output for the LASSO. The automation management officer, the automation systems support technician assisting, exercises overall command and control of the LASSO.

The LASSO supports the SARSS, the SPBS-R, and the SAMS. The LASSO also manages the SCP and

implements the support battalion COOP. For units where SARSS-2A has not yet been fielded, it uses DAS3 hardware and the DS4. It coordinates the SARSS data management operations with the support battalion supply and maintenance DSUs and the BMMC supply management sections. Subordinate/attached units submit SARSS ECP-S to the LASSO. The LASSO identifies the supply system support requirements and prepares the SARSS ECP-S.

In support of the SPBS-R, the LASSO transfers incoming property book data to the SPBS-R. It distributes the output, such as hand receipts, to the property book/Class VII section. It prepares the SPBS-R ECP-S.

The LASSO also supports the SAMS. It transfers incoming maintenance data to the SAMS. It coordinates with the materiel section on maintenance reporting requirements. It identifies maintenance support needs and prepares the SAMS ECP-S.

The LASSO manages the battalion software change package program. It coordinates SCP implementation with the support battalion headquarters elements and subordinate/attached units. It provides software change package technical assistance to the battalion subordinate and attached units. It also programs SCP to LASSO hardware.

The LASSO coordinates the COOP with designated supporting units for compliance with established policies. The automation management officer ensures changes in policies are reflected in the COOP. The LASSO also provides COOP status update to the battalion commander.

Additional functions the LASSO performs are –

- Ensuring proper allocations of resources to accomplish the LASSO mission.
- Developing policies to ensure efficient and effective use of LASSO personnel and equipment.
- Implementing DA-directed modifications to DA-developed programs.
- Planning for integration of data bases of newly assigned or attached units.
- Checking for erroneous data generated by the system and determining problems and corrective measures required.
- Monitoring the work flow of production that runs through the LASSO.

HEADQUARTERS COMPANY

The headquarters company commander is responsible for discipline, security, training, and administration of personnel assigned to the HHC. He provides internal support functions such as providing supplies and materiel for the company. The company commander, the first sergeant assisting, supervises organizational maintenance support (less that included in the communications section and LASSO).

Functions of the company consist of the following

- Ensuring load plans are maintained.
- Providing food service support for the support battalion and designated personnel of the MI company (CEWI).
- Performing route reconnaissance.
- Organizing unit for movement and issuing movement orders to HHC personnel.
- Requesting additional transportation from the S4 when required.
- Coordinating with the S2/S3 on the quartering party.
- Providing C2 of HHC in response to air or ground attack.
- Establishing communications with LP/OPs.
- Ensuring HHC logistics is provided.

UNIT MINISTRY TEAM

The unit ministry team provides religious support to the support battalion. The UMT consists of the chaplain and chaplain assistant. The team provides religious support forward to the smallest groups and teams in accordance with the doctrine in FM 16-1.

The commander is responsible for the religious program in his unit. The UMT implements the command religious program. It provides religious support to ensure the free exercise of religion. Religious support by the UMT consists of counseling, worship, memorial, and funeral services. In accordance with the commander's guidance and the unit's requirements, religious service support is provided on a 24-hour basis. The chaplain performs certain staff functions. These functions are –

- Providing morale and religious update to the commander.
- Providing ethical issues update to the commander.

- Providing required staff input to the battalion plans and orders.

The UMT provides input to the personnel estimate and develops a religious service support plan. This plan lists religious requirements and establishes religious support priorities. The UMT coordinates the denominational coverage with area units and the brigade chaplain section. Finally, it disseminates the support plan to all BSA units.

Chapter 8
Supply and Transportation Company

Contents

ORGANIZATION AND MISSION

The support battalion helps keep weapon systems manned and fully operable on the battlefield. It supports each weapon system by resupplying the classes of supply that apply to that particular system. In the separate brigades, the support battalion S&T company provides most classes of supplies. It is the same with the regimental support squadron in the ACR. These companies are organized as shown in Figures 8-1, 8-2, and 8-3.

The S&T company supports the arming system through its Class IV and V operations and the fueling system through Class III operations. It supports the fixing system through Class VII operations and the sustaining the soldier task through provision of rations, clothing and individual equipment. It also supports the moving task through transporting supplies and brigade units. Specifically, the company provides receipt, storage, and issue of Class I, II, III, IV, and VII items. It also provides water and unclassified maps. It conducts Class V transloading operations at its ammunition transfer point. It also provides transportation for elements of the brigade and for the brigade ASL. The company consists of a company headquarters, maintenance section, supply platoon, petroleum platoon, and TMT platoon.

The company performs the following functions:

- Receives, stores, and issues Class I, II, packaged III, IV (limited), and VII items as well as unclassified maps. The company does not receive, store, or issue classified maps, aircraft, airdrop equipment, COMSEC, or construction materiel.
- Purifies, stores, and issues water to the brigade. The company provides up to two water supply points in the BSA. The company also provides limited potable water distribution to assigned and attached units.
- Receives, stores, transports, and distributes bulk petroleum using organic fuel transporters.
- Transloads Class V supplies from corps transportation assets to unit vehicles. The company also provides limited transportation of Class V to brigade units.
- Provides transportation for the brigade ASL and supplemental transportation for elements of the brigade.
- Maintains the brigade reserve supplies.
- Provides unit maintenance for all organic vehicles.
- Provides salvage service for materiel and supplies of all types (less toxic gasses, ammunition, explosives, motor vehicles, and COMSEC equipment).

The support battalion is 100 percent mobile with organic equipment. To enhance mobility, the quantity and variety of supplies the S&T company has on hand at any given time are limited. As a result, the S&T company and its supporting supply activities put a number of supply principles to work. These supply principles cut down on the response time between initial request and subsequent issue to the brigade.

If the brigade is operating with a division, it is usually OPCON to the division. Therefore, the DISCOM does not provide support to the brigade. The brigade maintains its direct link to the COSCOM. However, the division commander needs to know the status of all the units he controls. Therefore, the support battalion coordinates with the DISCOM support operations section to work out procedures for the separate brigade to report the status of its supplies and other CSS assets.

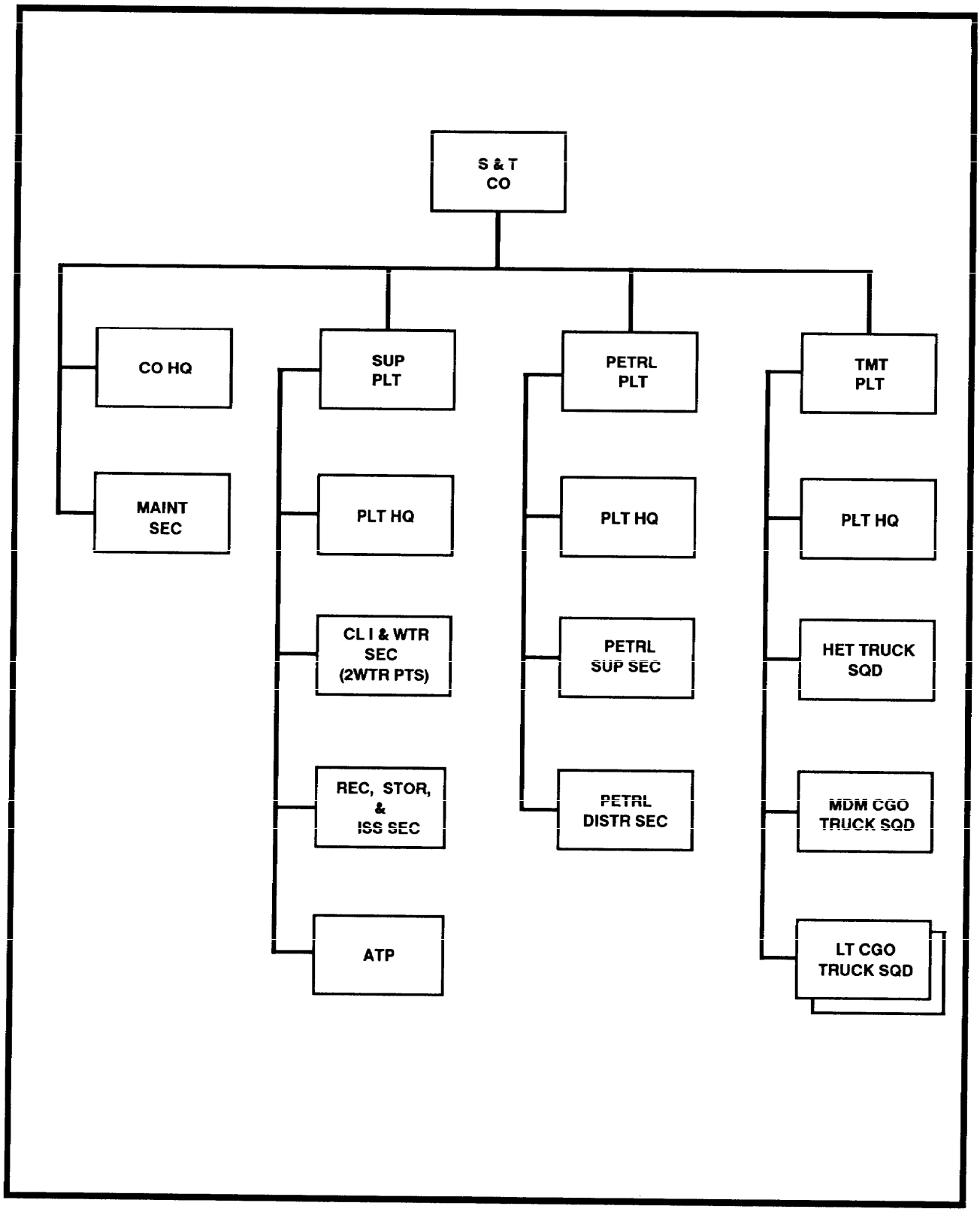


Figure 8-1. S & T company, heavy support battalion.

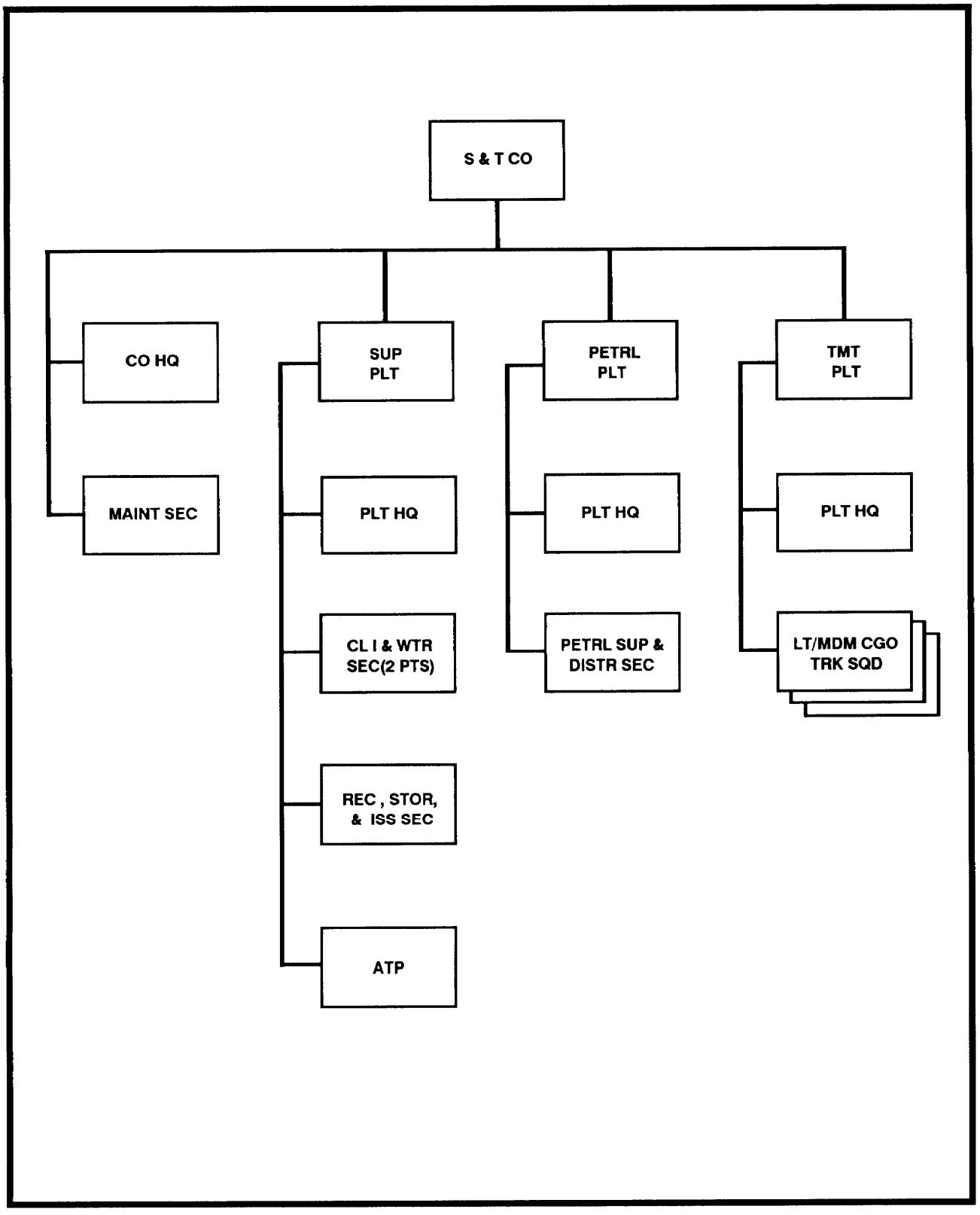


Figure 8-2. S & T company, SIB/TDB.

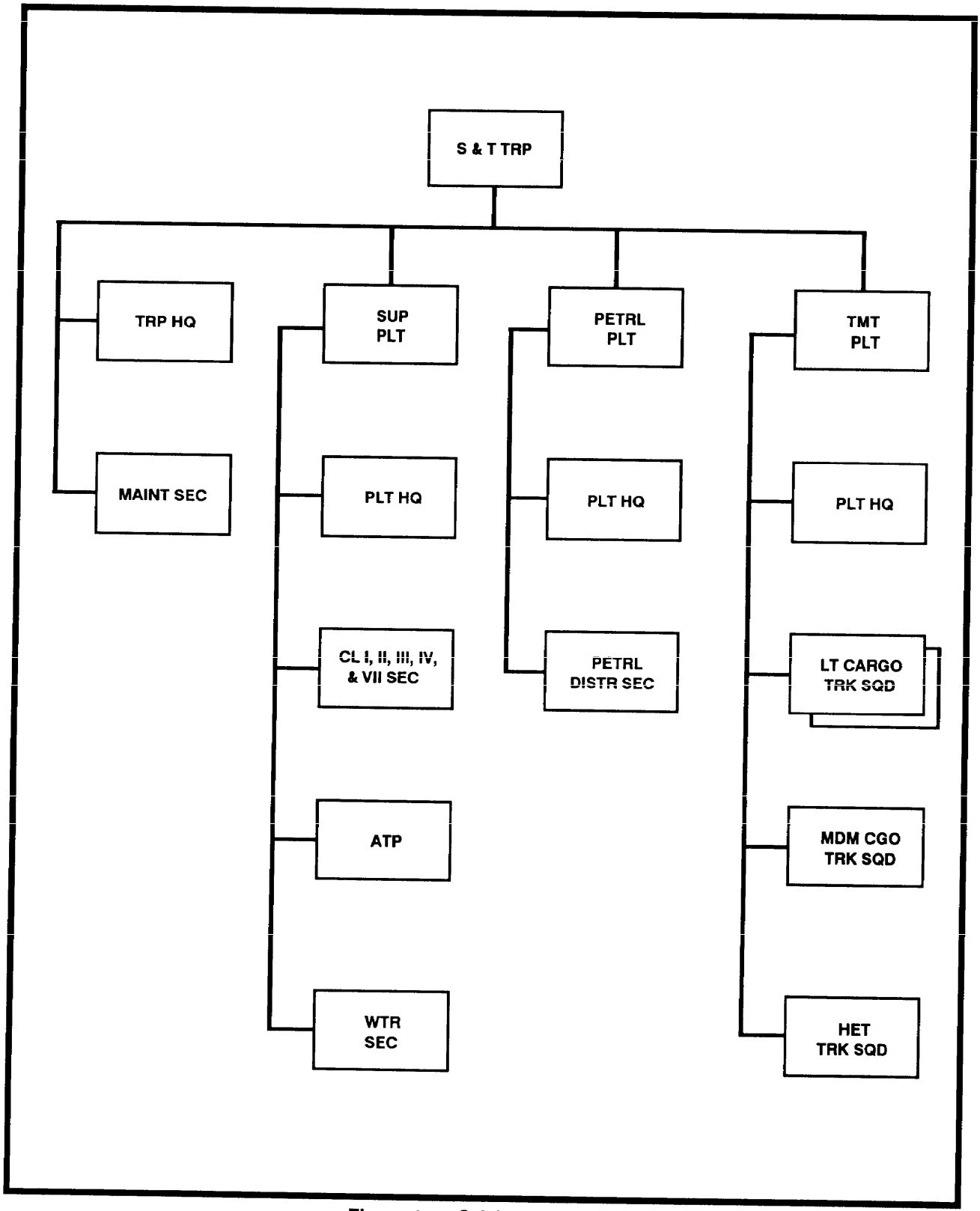


Figure 8-3. S & T troop, ACR.

PRINCIPLES

PUSH SYSTEM

A push system is the initial go-to-war supply system in an undeveloped theater. Suppliers send forward preplanned packages of selected supplies. These packages replenish expended supplies in anticipation of requirements of supported units. Initial quantities are based on strength data and historical demand. When the theater stabilizes, the supply system becomes a push system to the BSA for critical supplies based on personnel strengths and forecasted requirements. The distribution system provides other supplies through a pull system based on actual demand. Supply personnel may still push supplies at the battalion and brigade level. This may occur especially during high intensity combat operations to heavily engaged units. Such units may be unable to ask for supplies because of gaps in the chain of command or intensive jamming on a fluid battlefield. Supplies are also pushed to support a deep operation.

THROUGHPUT DISTRIBUTION

Throughput distribution bypasses one or more intermediate supply organizations in the supply system. This minimizes handling and speeds delivery forward. COSCOM makes throughput of supplies to the unit, whenever possible. Class IV barrier materials and some Class VII items are throughput directly to the user in the forward area. When most of the load is for a specific unit, the transporter delivers directly to the requesting unit.

SUPPLY POINT AND UNIT DISTRIBUTION

In the separate brigade, supply point distribution is the normal method of distributing supplies to users. Unit distribution provides the most responsive method. Yet, it is beyond the capability of the support battalion on a continuous basis. Therefore, the battalion normally uses a combination of supply point and unit distribution. For example, units which do not have a fuel-carrying capability have Class III (bulk) delivered to them.

When the support battalion uses supply point distribution, unit representatives come to the supply points in the BSA to pick up their supplies. Maneuver battalion task forces with field trains in the BSA have their organic unit supply, fuel, and ammunition trucks assemble in the field trains. The field trains personnel also pick up repaired equipment, personnel replacements, and other assets. They form a LOGPAC which goes forward to provide support to forward deployed elements. (LOGPAC operations are detailed in FM 71-2.) The S&T company tries to cut down on the distances the forward units travel. It does this by positioning supplies as far forward as possible. In order to provide a quick turnaround for forward units, the S&T company also staggers the unit pickup times. The S&T company sets up to provide a smooth traffic flow through the supply areas.

There is a limited capability for unit distribution within the brigade. Corps assets use unit distribution to deliver barrier materials to emplacement sites. The support battalion delivers other classes of supply using unit distribution when the tactical situation permits and transportation assets are available. The support battalion via motor or air transport uses unit distribution for emergency resupply. This chapter discusses aerial resupply later on.

CAPTURED AND FOUND SUPPLIES

Two types of materiel fall into this category. The first is US materiel or equipment that has been found and turned in. The second is enemy equipment or materiel captured or found on the battlefield. The main thrust of personnel handling captured or found materiel is to get serviceable materiel back into the supply system and to dispose of unserviceable materiel. The following are some ways in which materiel captured or found on the battlefield may be put to use:

- Once cleared by medical personnel, units use captured subsistence to feed EPWs and the local population. They consume found US subsistence once it has been tested by veterinary personnel.
- Units use captured fuels once they have been analyzed and determined suitable for use by the lab specialists in the petroleum platoon. Units also use the captured fuel test kit (a go/no go test). The kit provides a quick method of determining whether captured fuels can be used.
- Units use captured materiel for barrier and fortifications construction.
- Units use captured medical supplies to treat EPW casualties, preferably by EPW medical personnel who are familiar with their materiel.
- Units notify the S2/S3 of captured or found materiel. The BMMC provides disposition instructions. The BMMC may direct the unit to turn

in the items to maintenance collection points. It may also direct units to turn in equipment to the salvage point where it is identified, classified, and reported through the BMMC.

- Units follow the same procedures for turning in allied forces equipment. Units turn in found materiel to maintenance collection points. The brigade materiel manager contacts the materiel manager of allied nations for disposition instructions.

Other considerations for found and captured materiel are —

- Report all enemy materiel through intelligence channels.
- Report toxic agents to the NBC element in the S2/S3 section.
- Report medical materiel through medical channels.
- Require examination of explosives by EOD personnel.

TRANSPORTATION

The transportation system ensures that all required personnel and supplies are delivered to the point of need on time. To achieve this goal, several principles are employed.

One principle involves the consolidation of transportation assets. Units are allocated only the assets that are mission-essential. Other transportation resources are consolidated so that movement control elements can most effectively use the limited resources available.

This concept depends on centralized control of assets. There is one focal point. This person or section maintains constant awareness of transportation requirements and capabilities. The transportation officer is the focal point for the brigade.

The brigade transportation officer works for the brigade S4. He also coordinates with the brigade S3, the BMMO, and the support battalion commander through the transportation officer in the support battalion S2/S3 section. The brigade transportation officer plans and implements highway regulation for road network within the brigade area of responsibility.

The brigade transportation officer represents the brigade S4 on transportation matters. The BTO assists the support battalion commander in controlling the transport resources assigned or attached to the brigade for logistics. He serves as the communications link between the brigade and the COSCOM MCC/MCT when resources beyond the brigade's capabilities are required. He also provides broad guidance, policy, staff supervision, assistance to the support battalion in transportation matters.

The transportation system requires flexibility and efficiency. The system provides an uninterrupted flow of traffic and adjusts to changing situations. This principle ties into the centralized control concept since the focal point (transportation officer), who is aware of the changing battlefield, is able to divert assets to the most critical mission.

SECTION FUNCTIONS

COMPANY HEADQUARTERS

The company headquarters maintains command and control over the S&T company. Headquarters personnel provide unit-level administrative and supply support. They also provide NBC operations training and assistance to the company and communications. The mortuary affairs NCO in the headquarters is the brigade point of contact for mortuary affairs activities. He plans, organizes, supervises, and conducts mortuary affairs training for nonmortuary affairs personnel. Unit-level mortuary affairs information is provided in FM 10-63-1.

The unit supply element supports the company with certain supplies and TOE equipment. The supply sergeant directs and supervises internal supply operations. The armorer and supply specialists assist the supply sergeant in the receipt, storage, security, and issue of unit supplies. The truckmaster dispatches vehicles in support of the unit's transportation operations. He assists the TMT platoon sergeant in planning and organizing cargo loading and driver training. He also monitors preparation of vehicle operational records. The unit supply update and FM 10-14 describe unit supply operations.

MAINTENANCE SECTION

The maintenance section performs unit maintenance for organic equipment of the S&T company. This includes maintenance for organic wheeled vehicles, trailers, generators, and MHE. This also includes

maintenance for water purification equipment, fuel storage and handling equipment, and related support equipment.

The maintenance section is set up in a sheltered place. The site is located near the MSR. It has a good road network into and out of the area. The site provides good cover and concealment. It has an area large enough for some dispersion. As personnel get the maintenance area set up, the maintenance supervisor plans personnel shift assignments so that operations and repair of wheeled vehicles can begin.

Maintenance management involves making sure that equipment is in constant readiness. It is the responsibility of each equipment operator to perform preventive maintenance on his equipment each day it is operated. PM is the systematic care, inspection, and servicing of equipment. PM maintains equipment in a serviceable condition and prevents breakdown. It ensures maximum operational readiness.

Unit mechanics perform quarterly maintenance services on the unit's organic equipment. When they cannot make the repairs, they send the items to the maintenance company of the support battalion.

SUPPLY PLATOON

The supply platoons of the HSB, SIB/TDB, and ACR include a platoon headquarters and an ammunition transfer point. The HSB and SIB/TDB also have a Class I and water section and a receipt, storage and issue section. The ACR supply platoon has a Class I, II, III, IV, and VII section and a water section.

The supply platoon provides Class I, II, III (packaged), IV and VII supplies, unclassified maps, and water. The platoon operates an ATP for Class V transloading. It maintains the brigade reserves of supplies in the classes for which it is responsible.

Platoon Headquarters

The platoon headquarters supervises, directs, and manages the activities of the platoon's sections. The headquarters coordinates with supported units on the hours of operation, the schedule of issues, turn-in procedures, and salvage operations. Personnel keep track of daily demands and conduct the inventory.

Class I and Water Section

This section (HSB and SIB/TDB only) receives and stores Class I. It issues Class I supplies to supported brigade units. The section chief supervises supply activities and water operations. He directs personnel to select stock for issue. Personnel inspect Class I rations to ensure proper content, quantity, and quality prior to distribution. The section chief supervises the receipt, inspection, storage, breakdown, and issue of Class I and VI supplies.

The section also operates up to two water supply points in the brigade AO. It provides purification and issue of potable water. The section prepares supplies for limited air or ground distribution of potable water to brigade units or BMMC-directed locations. It uses FAWPSS or tractor and trailer equipment for water distribution. The water section performs this mission in the ACR supply platoon.

Receipt, Storage, and Issue Section

This section (HSB and SIB/TDB only) receives and stores Class II, III (packaged), IV, and VII supplies. It issues these supplies to supported brigade units. It performs salvage collection point operations for designated supply items. It also maintains the reserve of supplies it handles.

Class I, II, III, IV, and VII Section

This section (ACR only) receives, stores, and issues Class I, II, III (packaged), IV and VII supplies on a daily basis to supported units of the regiment. It maintains the required reserve of supplies it handles. This section has a mission similar to that of the receipt, storage, and issue section in the HSB and SIB/TDB. It also has a Class I mission like that of the Class I and water section of the HSB and SIB/TDB.

Ammunition Transfer Point

The ATP transloads ammunition from corps transportation to supported brigade units' organic ammunition vehicles.

PETROLEUM PLATOON

The petroleum platoon operates the Class III supply point where supported brigade units are issued bulk fuel. It receives, stores, and issues bulk fuel. It provides quality surveillance, delivery, and dispensing of bulk fuel in support of the brigade mission.

Platoon Headquarters

The platoon headquarters plans, directs, and supervises the operations of the petroleum supply and petroleum distribution sections. Headquarters personnel provide status report input to the BMMC for all on-hand and issued bulk fuel. They provide reconnaissance and approval of site

locations for fuel point operations. The headquarters is normally staffed with a platoon leader, platoon sergeant, and petroleum lab sergeant. The petroleum lab sergeant supervises fuel inspections and analyses on petroleum products. These inspections and limited analyses determine whether petroleum products meet prescribed specifications. FM 10-72 gives the specific tests used for petroleum products.

Petroleum Supply Section

The petroleum supply section (HSB only) operates bulk fuel storage and issue equipment at designated petroleum supply locations. This section can set up and operate two sets of FSSP equipment. Corps tankers deliver bulk fuels. The corps tankers off-load into collapsible fabric tanks for temporary storage. Customer unit vehicles receive bulk fuels from the FSSP. The section sets up remote filling station sites by employing the FARE systems and associated 500-gallon drums.

Petroleum Distribution Section

The distribution section (HSB and ACR) provides limited fuel delivery and dispensing to brigade units without organic fuel-carrying assets. The section also directly dispenses Class III to supported units' organic fuel dispensing vehicles. The section establishes and operates two mobile roadside filling stations. The section uses bulk fuel haulers to accomplish the assigned mission. For delivery of bulk fuel see FM 10-69.

Petroleum Supply and Distribution Section

This section (SIB/TDB only) operates bulk Class III storage and issue equipment at designated petroleum supply locations. The section uses FSSP equipment for primary brigade bulk Class III storage and issue. It also uses FARE for forward deployed fixed filling station operations.

TRANSPORTATION MOTOR TRANSPORT PLATOON

TMT assets provide the brigade the ability to relocate itself and distribute supplies. The TMT platoon provides vehicle and drivers to support directed unit distribution of supplies. TMT assets also provide capabilities to transport water. The platoon transports other cargo (including personnel) as mission assignments designated by the support battalion transportation officer. It also evacuates disabled tanks and similar heavy, outsized vehicles. The platoon provides emergency unit distribution of Class V supplies. The TMT platoon vehicles and driver assets may be task assigned to brigade units for supplemental transportation. A selected number of the platoon assets normally assist the S&T company to displace.

The TMT truck squads vary within the separate brigade TMT platoons. For example, the HSB and ACR have two light cargo truck squads, a medium cargo truck squad, and a HET truck squad. The SIB/TDB has a platoon that consists of three light/medium cargo trucks squads.

TMT Platoon Headquarters

The headquarters plans, directs, and supervises operations of the truck squads. It maintains operational control of platoon assets.

Light Cargo Truck Squads

The light cargo truck squads (HSB and ACR) provide the 5-ton cargo trucks for delivery of supplies. Each squad provides truck transportation for movement of general cargo and personnel by light truck. The trucks are used for local and line haul of troops and cargo. The squad performs daily operator maintenance services and prepares operator dispatch records.

Medium Cargo Truck Squad

This squad (HSB and ACR) provides 5-ton tractors with 22 l/2-ton stake and platform semitrailers. It provides for movement of containerized cargo and palletized load packages. It also provides for movement of medium sized and weight equipment, supplies, or vehicles.

Light/Medium Cargo Truck Squads

The SIB/TDB has three light/medium cargo truck squads. The light trucks provide light vehicle support for delivery of supplies, light cargo, or personnel. The medium vehicles provide movement of containerized cargo, palletized load packages, medium sized and weight equipment, supplies, or vehicles.

Heavy Equipment Transporter Truck Squad

HETs move heavy or outsized cargo and vehicles such as tanks, howitzers, and personnel carriers. The HSB and ACR use HET assets in support of operational and tactical mobility. HETs move heavy armored forces with slice elements from corps to brigade areas as far forward as METT-T factors permit. HETs also reduce maintenance work load due to fewer systems breakdown en route. Weapon systems are functional and crews are rested and prepared to fight.

The support battalion users HETs to support evacuation and replacement of heavy weapon systems (tanks, artillery pieces, personnel carriers). Evacuation normally

starts at the UMCP and terminates at the maintenance facility with the capacity to repair the vehicle. Two personnel, one driver and one assistant driver, constitute a HET vehicle operating team.

SUPPLY OPERATIONS

Supply operating procedures are generally the same in all separate brigades and are normally contained in SOPs. In mobile situations, the separate brigade maintains only those supply levels needed to support operations until additional supplies are delivered. These include small stocks of reserve supplies used during interruptions in supply schedules. In static situations, sufficient supplies for several days' consumption are stocked in the brigade area to free transportation for other purposes. In all situations, suppliers exercise caution to ensure that on-hand stocks do not reach the level that would impede brigade mobility. The corps prescribes the levels of supply carried by the separate brigades.

The S&T company commander, working with the S2/S3 section in the support battalion (support operations in the ACR), focuses his attention on the supply requirements of units in the brigade AO. In addition to following the priorities established by the commander, the following are factors that affect requirements:

- Tactical plans.
- Environment and terrain.
- Demand data and previous experience.
- Troop strength.
- Equipment densities.
- Distance factors.

Supply planners track the tactical situation as well as casualties and equipment destroyed or in repair. This allows them to take necessary actions (such as requesting additional transportation or critical supplies) without having to wait for unit requests. It also enables them to reorganize supply elements. This involves shifting assets from one supply point to another (for example, from the Class II/III (packaged)/IV/VII point to the ATP) to meet surge requirements. They also request reinforcing support to meet the most critical requirements. In such cases, they may receive assets from the COSCOM to overcome critical shortfalls. Planners coordinate with the BMMC to ensure that anticipated supply requirements are provided. Planners also coordinate with the BMMC to ensure all necessary steps are taken to supply items which are used either sparingly or not at all during peacetime. The brigade chemical officer provides planning assistance through G4 channels for chemical items. Items to consider include –

- Chemical filters.
- Human remains pouches and other mortuary affairs supplies.
- Cargo sling sets.
- Batteries.
- MOPP gear.
- Class VI.
- Wire.
- Fog oil.
- Chemical decontaminants.

The brigade commander, support battalion commander, and BMMC work out procedures for command-regulated items. They often designate expensive, highly technical, or scarce items in the OPORD as command regulated. Commanders approve issue of these items. However, this does not necessarily mean commanders approve each individual request. The brigade commander authorizes the BMMC to release items on the basis of support priorities specified in the OPORD. The commander also places additional limitations on issue of items if he desires. This often includes setting quantities of critical items authorized to be issued to each unit in accordance with the support priorities. Requests from a unit may exceed its authorized quantity. If so, the unit has to go through command channels to get its authorization changed. In any case the S2/S3 section ensures procedures are established in advance.

CLASS I

The support battalion issues rations according to the theater command policy. The Army field feeding standard is three quality meals per day. Initially, units in the brigade area eat MREs and T Rations which are replenished as soon as supply lines are established. Theater commanders introduce A and B Rations when the tactical situation permits.

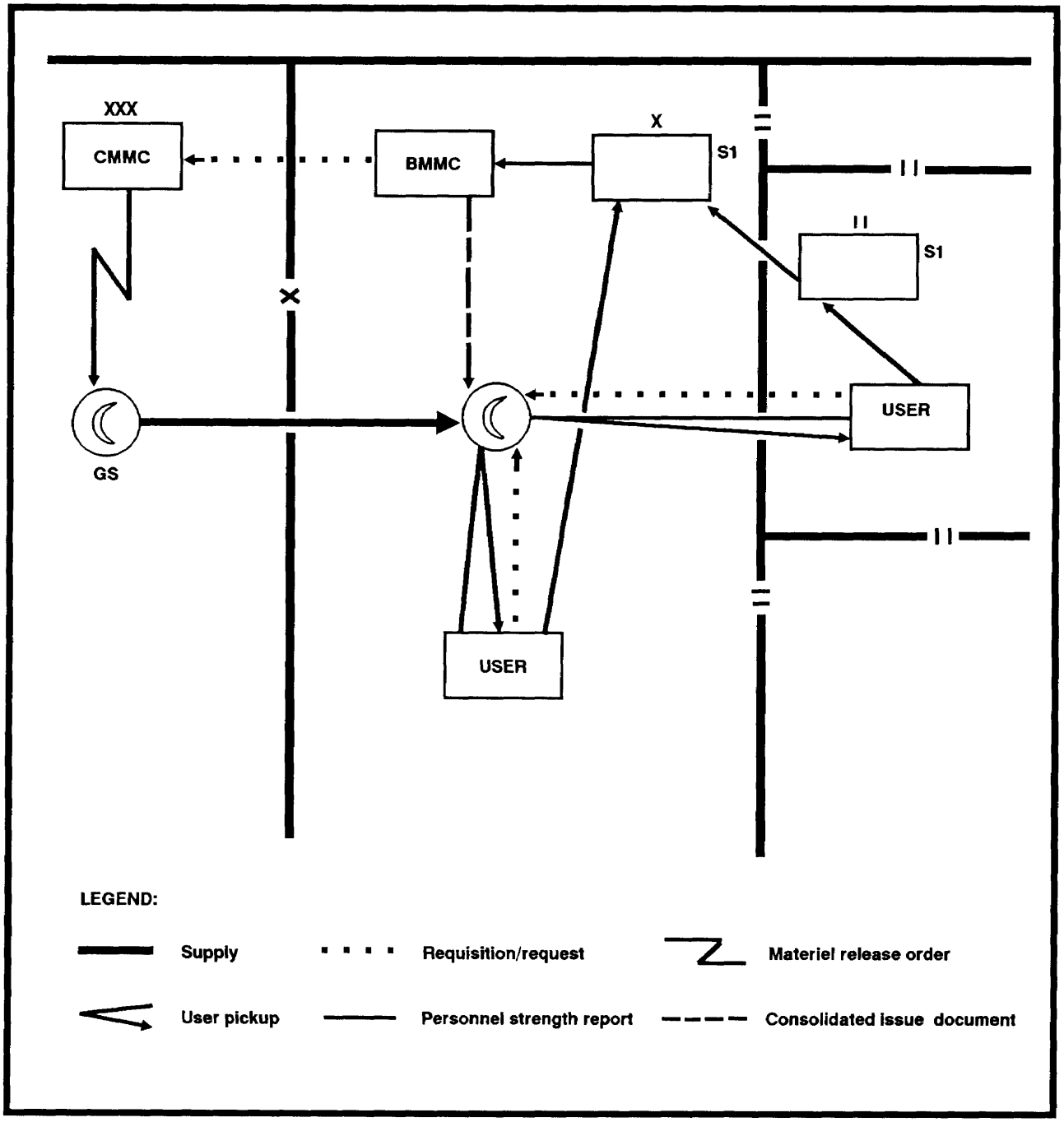


Figure 8-4. Initial Class I requisition and supply flow.

At the outset of hostilities, the COSCOM automatically pushes rations to the brigade. The COSCOM MMC bases the quantity on strength figures provided by the brigade S1. Transition to a pull system takes place as soon as tactically feasible. As the situation stabilizes, the BMMC prepares Class I requisitions from personnel strength data. The flow of personnel strength data as it pertains to scheduled supply and flow of Class I supplies is shown in Figure 8-4.

As the situation stabilizes even further and A and B Rations are available, units of the brigade submit ration requests. Usually, the S&T company Class I and water

section consolidates these requests. This section passes the request to the BMMC. The BMMC converts the request to line item requisitions and sends them to the COSCOM MMC. This generates regular ration delivery by COSCOM units to the BSA.

Personnel at the BSA Class I point unload the shipment. They inspect it for type, number, and condition before signing for it. At the same time, personnel break down the shipment for issue to supported units. Class I personnel prepare copies of the unit issue document.

When supply point distribution is used, supported units use organic transportation to pickup Class I supplies. The brigade S4 and the supply company commander coordinate a schedule for pickup of issues. When units arrive to pickup their rations, they check in at a control point. Class I personnel ensure that the unit is an authorized customer. Class I personnel also ensure the unit representatives are authorized to draw rations. Units pick up rations according to one of the following methods:

- Truck to truck. Personnel transfer supplies directly from the corps vehicle to the supported unit vehicle. This is the preferred method because it saves time, labor, and handling. This method also keeps supplies under cover and increases mobility. However, it ties up the vehicle from the corps. Also, unless the arrival of supported unit vehicles is timed perfectly, it could cause traffic congestion.
- Item pile. This method requires that all stocks be unloaded and separated on the ground, on dunnage, according to like items. Customer units pass each of the different piles and load the quantity they are authorized. The supply point uses the item pile method when Class I personnel are limited on time or short personnel.
- Unit pile. This method is similar to the item pile. The only difference is that the customer only has to stop once. Class I personnel off-load all stocks from carriers and break them down according to unit issue slips. Units enter the Class I point, find their designated area, and pick up their rations.

In the separate brigades, personnel issue Class VI supplies with Class I supplies, usually as gratuitous issues. Also, the separate brigade maintains levels of Class I reserves as prescribed by the corps commander. The basic load for Class I is normally a three-day supply of MREs. Personnel preserve the basic load for use when the enemy situation prohibits daily resupply of Class I.

WATER

The S&T company operates up to two water purification and supply points. When water sources permit, water points are set up in the BSA. Using units normally pick up water using their organic water containers. FM 10-52 has more information on field water supply.

COSCOM transportation delivers water to designated brigade water distribution points. This is done when a water source is not available to the brigade. This is also done when the mission necessitates supplementation of organic S&T company water capabilities. The Class I and water section with transportation assistance provides limited water distribution to brigade unit locations. Transportation assistance includes both air and ground water delivery/dispensing assets. The S&T company, using TMT vehicles, distributes water on a limited basis using the 500-gallon drums of the FAWPSS.

CLASS II, III (PACKAGED), IV, AND VII

The support battalion supply platoon provides Class II, III (packaged), IV, and VII supplies, with the exception of COMSEC materiel. Corps signal channels provide COMSEC materiel. Supply platoon facilities for these classes of supply include small holding areas in the BSA.

Class II

The supply platoon provides selected Class II supplies automatically to brigade units. The unit requests and the BMMC requisitions other Class II items. COSCOM units deliver Class II supplies to the BSA supply point. The COSCOM units may also deliver directly to the requesting unit. Direct distribution occurs when most of the transportation carrier capacity is for a specific unit. The TMT platoon uses its own assets to assist in unit distribution of fast-moving items. The demand for each of these supplies is unpredictable and highly variable. The S&T company maintains a limited Class II ASL. The Class II ASL consists only of items necessary for combat operations. These items include MOPP gear, individual equipment, and limited special tools.

Personnel issue Class II items individually or in lots to speed up receipt and issue time. Personnel in the GS supply company configure these lots to support a specific number of troops. Intense combat operations in an NBC environment increase the demand for Class II items. Supply personnel arrange for scheduled resupply of protective overgarments and other NBC-related items and equipment.

Packaged Class III

The support battalion personnel requisition, receive, and issue packaged Class III supplies like Class II and IV items. They include packaged products such as lubricants, greases, and hydraulic fluids. They also include solvents in containers of 55 gallons or less and cylinders of liquid and compressed gases. FM 10-69 describes the receipt, storage, and issue of packaged petroleum products. AR 710-2 has guidance on preparing paperwork.

Class IV

Class IV supplies consist of construction and barrier materials. Because of the bulk of these materials, the S&T company handles limited quantities. COSCOM units store and maintain the majority of Class IV supplies. Whenever possible, COSCOM units throughput engineer construction material and intensively managed barrier material to the engineer unit, the construction site, or the maneuver battalion combat trains.

The S&T company has the capability to handle limited quantities of survivability items – Class IV (A). These are items that are emplaced by any unit. These items include such common items as sandbags, concertina wire, and fence posts. Supply personnel process the requests for survivability items the same as for Class II items. Supported units obtain Class IV (A) items from the Class II, III (packaged), IV, and VII supply point. The receipt, storage, and issue section of the S&T company prepares limited Class IV (A) supplies for transport and delivery to forward brigade units.

Class VII

The BMMC intensively manages command controlled Class VII items. Class VII replacements initiate with combat losses reported through command channels to the brigade S3 and S4. The battalion S4 also sends a summary report of Class VII status periodically to the support battalion S2/S3 section. The support battalion S2/S3 coordinates with the BMMC. The BMMC submits requests to the COSCOM MMC. The brigade commander remains apprised of the operational status of subordinate commands and directs the distribution of items to those units having the most critical need.

Corps transportation delivers rolling stock Class VII items to the S&T company or supported units in a ready-for-issue condition. A ready-for-issue item is one that has been removed from its previous condition of preservation for shipment or storage and made mechanically operable. Corps personnel install all ancillary equipment. The vehicle is fueled and basic issue items are aboard. There is no ammunition and no crew provided. The corps delivers all other Class VII items to the S&T company. Units pick the item up at the S&T company location.

If the Class VII item is a critical weapon system such as a tank, the brigade intensively manages the replacement. The brigade commander designates critical systems. For these systems, Class VII supply and personnel replacement operations are integrated to issue ready-to-fight systems to units. A ready-to-fight system is a ready-for-issue weapon system to which a crew and ammunition are added, and the weapon is foresighted. Managing weapon systems is the most efficient way to accomplish allocation of limited amounts of replacement combat vehicles and personnel.

The support battalion commander designates a weapon system manager within the BMMC for each weapon system designated by the brigade commander. The appropriate sections within the BMMC and a personnel manager from the S1/AG element of the brigade keep the WSM advised of the status of weapon system assets. They also execute instructions from the WSM.

The link-up point of the item with its crew maybe in the BSA at the S&T company Class VII assembly area. The WSM instructs the S1/AG element to send a specified number of combat vehicle crews to the S&T company Class VII assembly area at specific times.

The S&T company personnel direct the crew to a specific weapon system. The crew stows the basic issue items, checks external and internal communications, and foresights, testfires, or zeroes the weapons.

The WSM closely coordinates with the maintenance management officer of the BMMC. Together, they verify the status of combat vehicles being repaired in DS maintenance. Replacement crew members could join a combat vehicle at the maintenance site and assist in expediting maintenance. COSCOM assumes the link-up responsibility in the event the tactical situation prevents linkup in the BSA. Personnel form complete weapon systems at COSCOM and travel from corps to the brigade, preferably by rail or HET

The WSM coordinates the movement of weapon systems from the BSA to the battalion trains. Personnel move the weapon systems under their own power or transport them on HETs. The S&T company sends the weapon systems forward as part of the LOGPAC or separately to the supported unit.

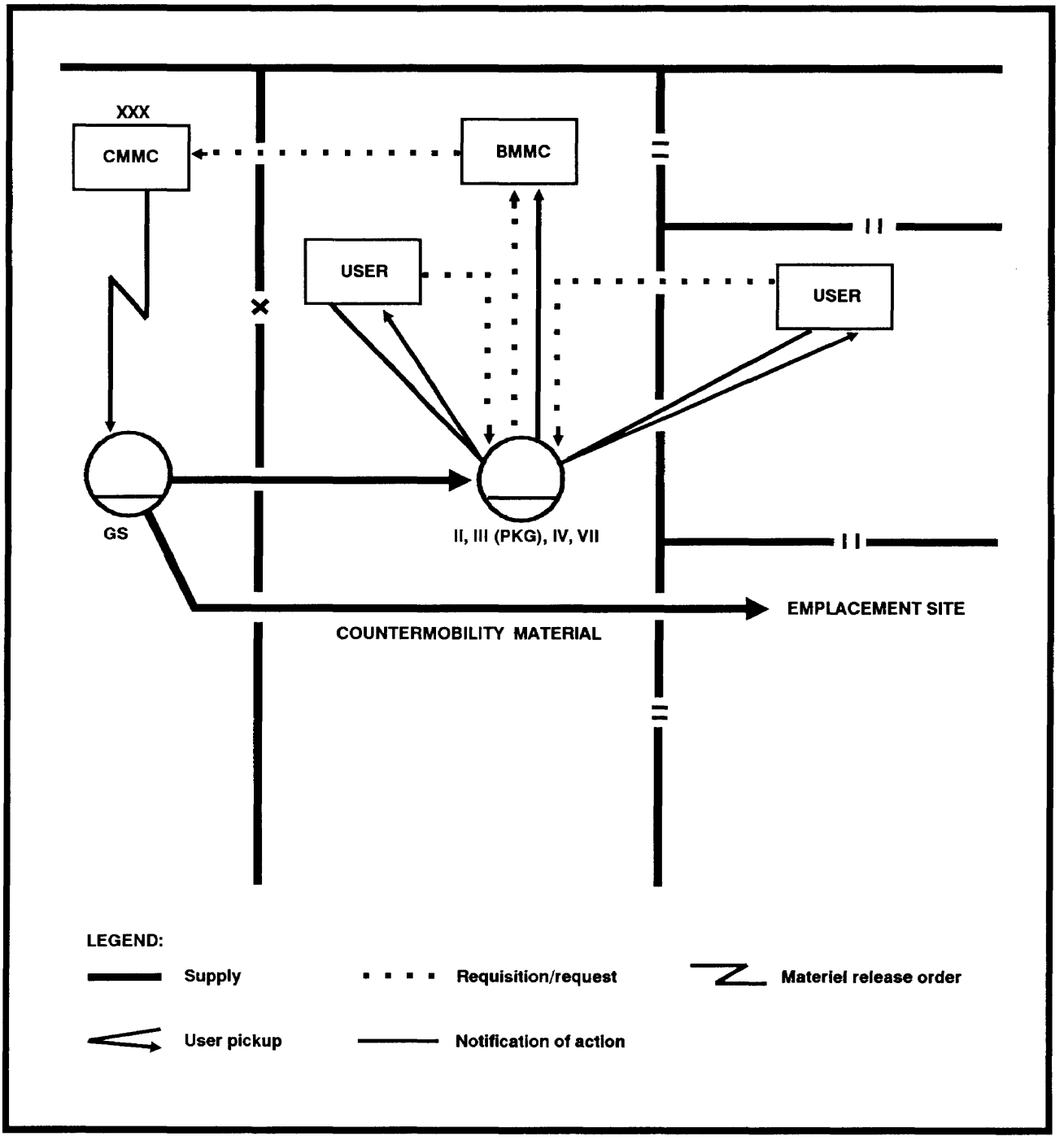


Figure 8-5. Class II, III, (packaged), IV, and VII requisition and supply flow.

Request and Supply Flows

Supported units submit requests for Class II, III (packaged), IV and VII to the supply platoon. If the supplies are on hand, supply personnel issue them to the requestor. Once issued, the supply point notifies the DMMC of the issue. Items that are command regulated require approval before they are issued. The supply platoon consolidates and sends to the BMMC requests for items that are not on hand. The BMMC requisitions the supplies from the COSCOM MMC. Figure 8-5 shows the flow of Class II, III (packaged), IV, and VII

supplies. The COSCOM MMC directs a GS unit to forward supplies to the BSA supply point.

When items arrive, receiving personnel verify quantities and condition. They also verify item description and marking of items received against shipping documents. Supply personnel process supplies by priority designation. They code items for a specific unit and put the items directly into the unit's vehicle. They use the truck-to-truck method whenever possible. Otherwise, they put the items in unit piles or item piles, or park them in the Class VII yard. They place other items into storage in locations assigned by the BMMC or the supply company headquarters based on the established stock locator system.

The supply point normally uses supply point distribution to issue Class II, III (packaged), IV, and VII supplies to supported units. The supply point uses unit distribution to distribute supplies when the tactical situation permits and transportation assets are available. In some cases, when the tactical situation permits and transload or emplacement sites are near the BSA, the ATP uses MHE to assist in handling Class IV supply. Supply point personnel sign all issue documents. They send them to the BMMC along with the transportation and shipping documents.

Additional information on Class II, IV, and VII items is in FM 10-27. Information on supply of packaged Class III is in FM 10-69.

MAPS

Requisitions for unclassified maps follow the same flow as those for Class II, III (packaged), and IV supplies. Supply personnel store them in the receipt, storage, and issue section. They issue maps through supply point distribution to supported units. This is done in accordance with established tables of allowances or to fill special requirements. The S2 channels handle classified maps.

BULK FUEL

The S4 of the supported brigade in coordination with the battalion S4s submits a forecast for bulk fuel requirements of all brigade units to the BMMC. The BMMC uses these forecasts and status reports to compute bulk requirements for the brigade. The BMMC forwards the requirements to the COSCOM MMC. The COSCOM MMC coordinates the delivery of bulk fuel to the Class III supply point. Corps fuel tankers, railway tank cars, barges, pipelines or flexible hoselines deliver bulk fuel. The S&T company maintains a mission supply of all bulk fuel. Most brigade units receive bulk fuel by supply point distribution to units' organic fuel-holding and issue vehicles. The supply platoon maintains accountability and provides quality surveillance. Figure 8-6 depicts the flow of bulk fuels. AR 710-2 has guidance for supply and accounting procedures for bulk fuel. For additional details on petroleum supply in theaters of operations, see FM 10-67.

Bulk Refuel

FM 10-71 describes in detail fuel transfer operations. Truck tractor drivers drop off a full semitrailer at the S&T company and pick up an empty one. Such trailer transfers save time but make it harder to keep track of the trailers. Therefore, it is important that the support battalion and corps coordinate schedules to ensure empty S&T company tankers are on hand when resupply tankers arrive. Another option is to transfer the fuel from the corps tanker to the support battalion tanker. This option may actually be faster if extensive camouflage is required. In either case, supply personnel sign receipt documents for the amount and type of fuel received. They post quantities received to the stockage record and use it to update the daily status report. They also abstract receipts daily to the monthly abstract of issues.

The S&T company provides limited bulk fuel delivery. It issues to brigade units without organic fuel-carrying assets. It also provides limited refueling support to supported units organic fuel-dispensing vehicles and in some cases, to maneuver vehicles. One technique which works in the field involves the use of S&T company tankers in combination with maneuver battalion HEMTTs or TPUs. One tanker deploys with two TPUs or HEMTTs to form a refueling module that can service four combat vehicles at a time. Up to six modules can be set up together to service a task-organized company team if sufficient tankers are available and the tactical situation permits. Such a site can service up to 24 vehicles at a time. Refuel sites may also be set up in a split-site configuration to stagger march elements and reduce traffic congestion. The maneuver battalion, which is familiar with the area, is responsible for site selection and security. The battalion S4 coordinates with the S&T company on where and when the refueling operation is and how much fuel is required. The primary benefit of this technique is speed. It takes five minutes for the S&T company tanker driver and assistant driver to deploy one section of a 50-foot hoseline to the T-valve, start the pony engine, and prepare to pump into the TPUs or HEMTTs. The other

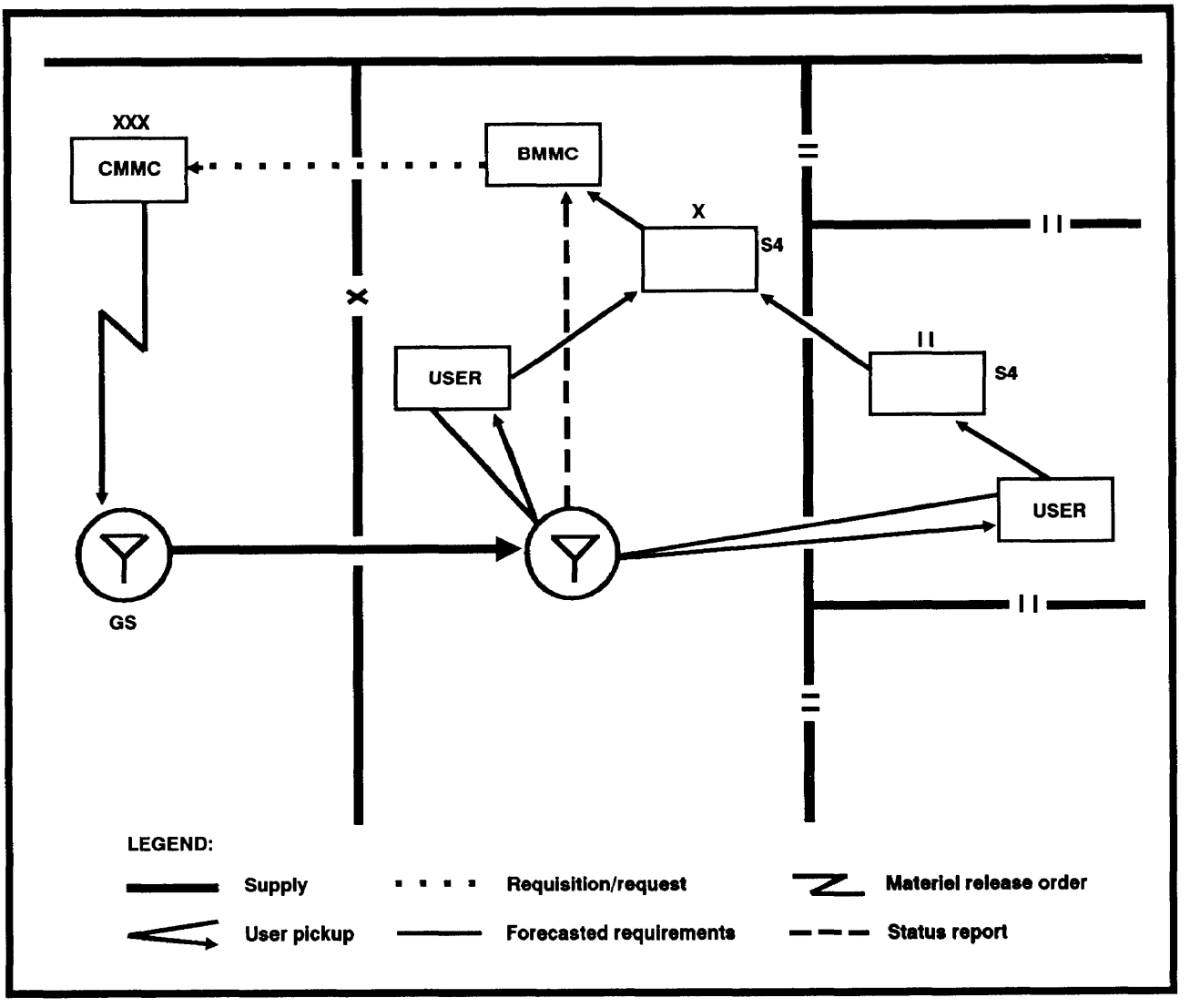


Figure 8-6. Bulk fuel requirement and supply flows.

advantage of this system is that the S&T company supports it with no additional equipment authorizations.

RefueI-On-The-Move

The purpose of ROM operations is to ensure that all combat vehicle and fuel-servicing vehicle fuel tanks are topped off prior to arriving at the unit's tactical assembly area. ROM supports long distance movements by units. It provides units a "burst" of fuel in order to quickly fill vehicles prior to beginning offensive or retrograde operations. The capability to rapidly refuel combat vehicles without disrupting movement is the key to the agility of the separate brigade and battalions.

As the ROM name implies, the ROM assembly is used while units are moving or ready to move. Personnel perform ROM during the following activities:

- Road march.
- Entry to an assembly area.
- Delaying action.
- Passage of lines (forward and rearward).

The support battalion uses ROM for unit vehicles, allowing those organization refuelers to stay topped off. The brigade S4 calculates the unit's fuel requirement. He analyzes, in conjunction with the support battalion S3 (RSS support operations officer), the brigade commander's intent and the factors of METT-T to determine the type of ROM operation. A unit moves to a ROM point and receives fuel for the amount of time

dictated by that calculation. The unit then leaves as a unit. ROM provides a method for refueling several vehicles at one time. It also increases a unit's combat effectiveness by allowing its refueler to stay topped off as the unit is committed to action.

The commander of the S&T company is the ROM site commander. He notifies the petroleum platoon of the upcoming ROM mission. The technique used by the support battalion to refuel as part of a separate brigade movement depends on several key factors:

- Number of routes.
- Proximity to the enemy and threat situation.
- Number of battalions to be refueled at one time.

The S&T company commander prepares for the ROM mission in the following way:

- Ensures all equipment is complete, operational, and ready for movement to the ROM site.
- Provides number of vehicles, nomenclature, and model to support battalion S4 for march credits, as required.
- Ensures the ROM site is properly setup and ready to conduct daytime and nighttime refueling operations.
- Ensures the soldiers in the petroleum platoon are fully trained and briefed on the safe and efficient conduct of all aspects of ROM operations.
- Ensures the site is properly cleared after completion of the ROM mission.
- Provides bulk refuel of supported battalion tankers, if unit tankers are used to conduct the ROM mission. The bulk refuel takes place at a different location than the ROM site as designated by the brigade S4.

The support battalion provides security and traffic control for the ROM site. The 5000-gallon tanker ROMs are the standard for ROM operations. However, this does not preclude units from using HEMTTs or TPUs for ROM missions. Units analyze their refuel requirements in accordance with METT-T to determine the best way to support their mission.

If the brigade is operating with a division, the DISCOM support operations officer receives additional support requirements, if any, from the support battalion conducting the ROM. The DISCOM support operations officer coordinates ROM support requirements with the DMMC. The DISCOM commander tasks the DISCOM units (FSB/MSB) to provide refuel assets to the support battalion conducting the ROM. The DISCOM support operations officer can request support from the COSCOM if required and available. If the brigade is operating independently, it may directly request COSCOM help to conduct a ROM operation.

More information on ROM procedures is in FM 10-71. FM 10-71 also lists NSNs for components in a ROM kit.

Aviation Class III

Regimental units requiring aviation Class III support use their organic tankers for Class IIIA (air, bulk fuel) supply of their respective units. The S&T troop provides assets to assist in Class IIIA resupply. This may be done by allocating tankers to the RAS field trains or by handling aviation fuel itself.

The COSCOM provides all resupply of aviation fuel for regimental aviation assets in the regimental aviation squadron. COSCOM delivers fuel to the S&T troop or the RAS field trains. The RAS uses organic vehicles from the Class III/V platoon to receive aircraft fuel at the S&T troop supply point, the RAS trains, or a transloading site near a FARP. Those organic vehicles refuel aircraft at the FARPs. If tactically possible and air delivery systems are available, the COSCOM delivers collapsible drums direct to the using units.

CLASS V

The separate brigade ATP support concept works similarly to the division ATPs. The brigade does not normally maintain a reserve of Class V supply. Other than that ammunition specified for an ATP, the only ammunition maintained in the brigade is what brigade units are carrying with them. In some tactical operations, a brigade may be authorized to preposition ammunition for future use. This is done so that the brigade can begin a subsequent operation with the ammunition it requires.

The S&T company operates an ATP in the BSA. Personnel transload ammunition from corps transportation assets to supported unit vehicles. The S&T company also provides limited, emergency Class V distribution to brigade units.

The brigade ammunition officer (in the BMMC) is the approval/authenticating authority. The BAO determines the quantity of ammunition to be supplied to the brigade units. He bases this on planned operations, the current CSR, and the RSR received from the brigade S4. Each battalion S4 transmits ammunition requirements for organic and attached units through the brigade S4 to

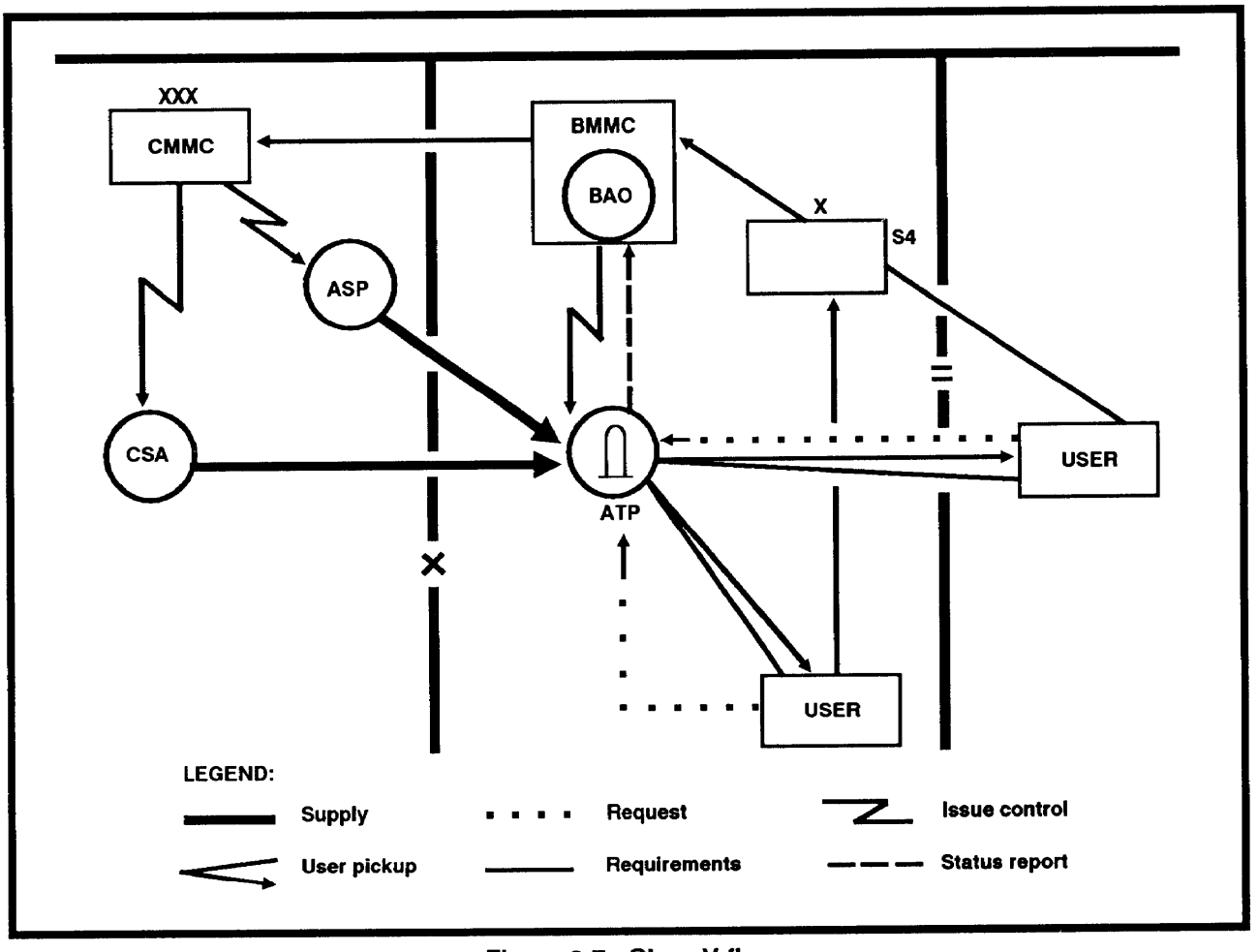


Figure 8-7. Class V flow.

the BAO at the BMMC. The BAO ensures that requirements do not exceed the CSR. The BAO submits Class V requirements to the COSCOM MMC. Brigade units submit their Class V requirements through the SAAS-DAO system for resupply.

When Class V supplies arrive at the brigade ATP, the BAO representative inspects and inventories the shipment. If a discrepancy exists on a document, the BAO representative adjusts the document and informs the BAO.

The ATP NCOIC assigns a location in the ATP where the trailer is stationed to await the arrival of the receiving unit. Trailers should be 50 to 100 feet apart depending on the terrain. The normal sources of ATP resupply are the corps storage areas and ASPs.

Brigade units pick up their Class V materiel from the brigade ATP. The brigade S4 coordinates with the BAO or the BAO representative and battalion S4s to establish a schedule for pickup. When supported units show up at the ATP, they have an approved/authenticated Class V requirements document. Personnel at the COSCOM ASP issue nonroutine items or those unavailable at the ATP directly to brigade unit vehicles.

Class V operations are MHE intensive. Personnel use both ATP MHE and MHE on board supported unit vehicles to transload ammunition from the corps transportation assets to unit vehicles. Signed receipt documents are forwarded to the BMMC. Supported units reorganize or, if necessary, reconfigure the ammunition they pickup at the ATP for further delivery forward to rearm points. The S&T troop should also have air assault trained personnel and necessary equipment for sling-loading operations of the assault helicopter troop. FM 9-6 has additional details on Class V supply. Figure 8-7 depicts the flow of Class V supplies to the brigade.

TRANSPORTATION OPERATIONS

Transportation planning is determining what must be moved, where and when it must be moved, and the best way to move it. Proper transportation planning ensures the timely delivery to planned destinations.

Within the separate brigade there are several officers who deal directly with transportation. They coordinate closely to ensure that transportation assets are put to optimum use. The brigade S3 plans the operations of the brigade and recommends to the commander operational priorities for transportation. The brigade S4 has staff responsibility for transportation and plans the use of transportation for CSS. The brigade transportation officer is the principal transportation planner and coordinator of the brigade.

METHOD OF OPERATIONS

The support battalion transportation officer works for the support battalion S2/S3. This officer plans and controls the assignment of transportation missions to the S&T company. In so doing, he maintains centralized control of the battalion's transportation assets. He coordinates priorities with the brigade transportation officer and with the BMMO in the support battalion. To the extent practicable, the support battalion transportation officer makes every transportation dispatch serve two purposes. For example, trucks transport supplies forward to supported units. On the return trip, they bring back damaged and captured equipment, salvage, prisoners of war, and human remains.

The support battalion transportation officer (MCO in the support squadron) controls the use of organic transportation assets in the support battalion. The support battalion transportation officer, based on guidance and tactical priorities from the BTO, determines the appropriate mode to use for specific movement missions. The coordination between the battalion transportation officer and the BTO ensures that transport equipment needed for a given mission is in the correct location on time. This prior coordination reduces transportation delays and increases transport asset use. This also ensures that receiving and unloading capabilities of consignees are not exceeded.

The support battalion transportation officer provides committal authority. He sends a TMR to task the S&T TMT platoon to provide support to the supported unit. If the support battalion is unable to provide the required transportation support, the support battalion transportation officer forwards the requests for additional transportation support to the BTO. The BTO searches for compatible and available transport assets within the brigade to satisfy the request. If this search does not produce sufficient transport capability, the request is forwarded to the supporting MCT or COSCOM MCC. Normally, the BTO forwards only requests of an exceptional nature (for example, major buildups requiring transportation companies) to the corps MCC. Otherwise, the BTO passes the requests to the supporting MCT. See Figure 8-8.

The COSCOM gives additional help in moving heavy equipment or displacing heavy forces in either a tactical or operational mobility role. HET companies are assigned to the COSCOM and may be attached to a forward CSG. They maybe employed as companies or platoons. Although the HETs may support any mission requirements of the brigade, the companies are particularly useful in giving the COSCOM the capability of supporting requirements of the separate brigade when the brigade or elements of it have to move over a long distance. Using the HET to move heavy armored forces achieves the following advantages:

- Enhances readiness.
- Rests crew.
- Reduces fuel requirements en route.
- Reduces maintenance requirements en route.

Therefore, units arrive at their destination at a high state of operational readiness prepared to fight and with reduced vehicle life cycle cost.

CARGO VEHICLES

Vehicles authorized for motor transport vary in type, design, and capabilities. The TMT platoon provides spool of cargo vehicles which are employed daily to support brigade operations. Personnel use the 5-ton cargo vehicles and the container/break-bulk transport semitrailer combinations primarily in a cargo or equipment transport role. The platoon provides truck transportation for downed aircraft evacuation (RAS in the ACR). The 5-ton cargo vehicles also provide transportation of troops. The semitrailer combinations are used in a troop transport role only in emergency situations.

The HET semitrailer, low-bed transports the main battle tank, other tracked or heavy wheeled vehicles, or heavy and outsized cargo items. The 5-ton cargo trucks with mounted tank and pump units provide POL resupply for the TMT platoon.

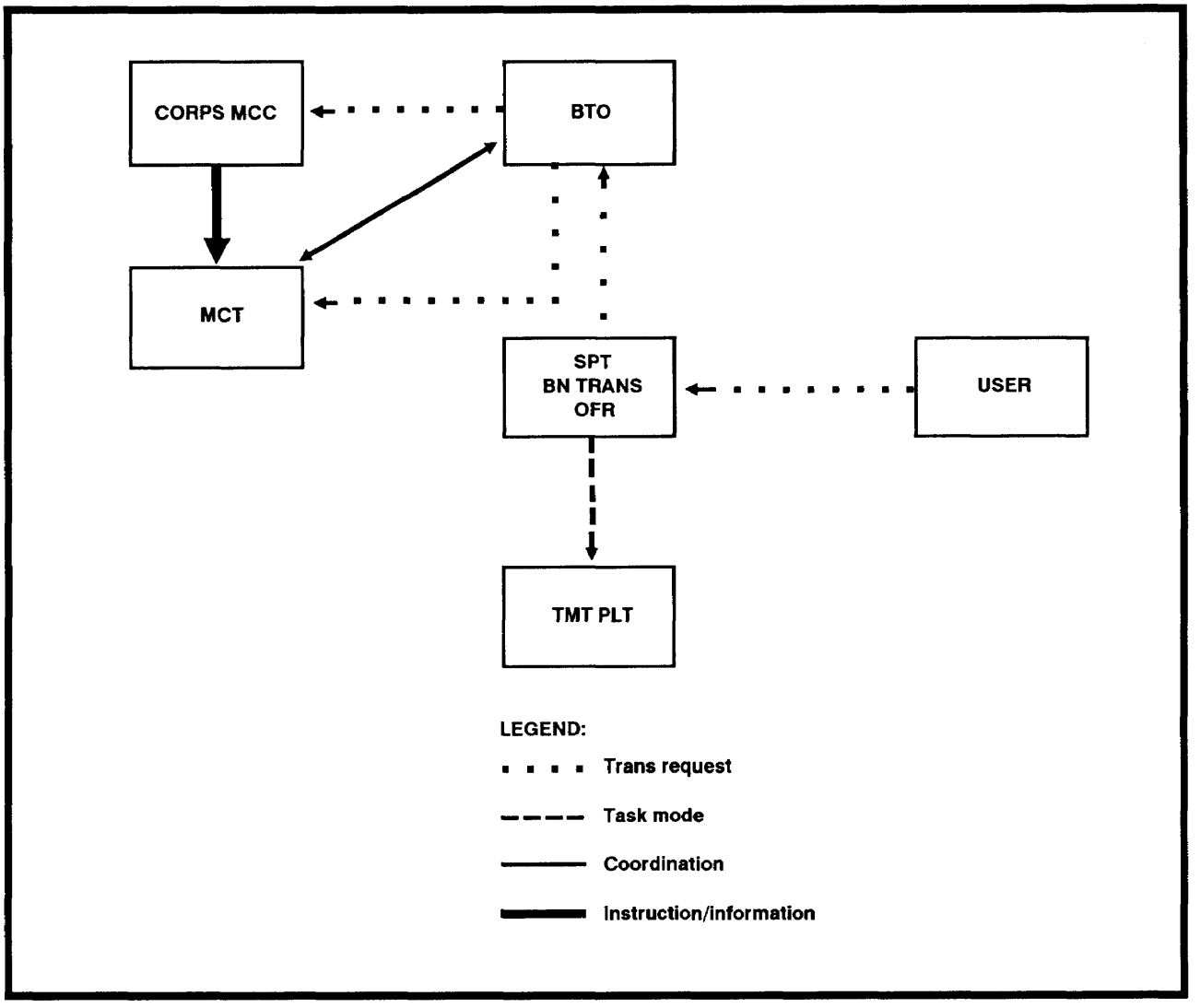


Figure 8-8. Transportation requests and taskings.

The drivers in each squad operate assigned vehicles in accordance with daily dispatch orders. They observe rules and regulations governing vehicle operations, safety practices, and rules of the road. They complete daily operational records, perform required operator maintenance services, and assist unit personnel in performing unit maintenance on assigned vehicles.

More information on brigade transportation operations for the TMT platoon is in FM 55-30.

CONVOY MOVEMENT

The motor transport mission determines the planning process on how the convoy is to be organized and controlled. Details on convoys appear in FM 55-30.

Movement requirements in the brigade area place a severe burden on the traffic and tonnage capabilities of the roads. Movement control is carried out by use of convoy clearances and the highway traffic plan. This plan is a combination of SOPs, directives, regulations, and overlays concerning control of the road net.

Convoys are broken down into serials and march units. Some factors considered when planning for a convoy operation are —

- Map/route reconnaissance.
- Start and release points.
- Halts.
- Security.

- Fire support and coordination.
- Convoy organization.
- Feeding the troops.
- Refueling vehicles.

AIR TRANSPORT

Air transport includes all methods of transporting materiel and personnel by air. Planners integrate available Army aircraft into the support plan. The ACR has aircraft that may perform CSS missions. The separate brigades depend on external resources for their air transport needs.

Army aircraft support includes airlift support for the following functions:

- Logistics-over-the-shore operations.
- Movement of critical, high-priority Class IX items.
- Retrograde of reparable.
- Propositioning of fuel and ammunition.
- Movement of maintenance contact teams.
- Movement of low-density/high-cost munitions.

The Army uses air assets for the above functions when time, distance, situation, or the condition of roads inhibit ground transportation.

Air Transportation Requirements

Air transportation request procedures are responsive and flexible to provide for rapidly changing situations. Planners direct efforts toward optimal use of these scarce and vital assets. Each level of command validates transportation requests. Validation is the user's review of the feasibility of the request. Transportation requests are considered valid if forwarded to the next echelon for subsequent validation or to the mode operator for execution.

Air resupply missions are categorized as preplanned and emergency. Preplanned missions make up the routine air transport requirements. Emergency air movements are critical to the accomplishment of the tactical mission or the survival of a unit.

Requirements for air transportation normally originate as requests for transportation or resupply support. Brigade units request transportation support from the support battalion transportation officer and supplies from the battalion DS supply elements. The support battalion DS supply elements transmit supply requests they cannot fill to the BMMC. The support battalion transportation officer coordinates movement of supplies with the the BMMC. If the support battalion transportation officer determines that air transporation is appropriate, he passes a request through the BTO (MCO in the ACR).

In the ACR, the assault helicopter troop provides CSS within the priorities set by the ACR commander. For example, it may deliver fuel from the S&T troop Class III point to squadron trains, troop trains, or direct to the refuel site. Air transport requests that are beyond the capability of the assault helicopter troop are sent by the MCO to the corps MCC. In the HSB and SIB/TDB, the BTO submits all air transport requests to the corps MCC. The corps MCC tasks the corps aviation units with the mission. If the mission is beyond the capability of the corps aviation unit or if airdrop or air landing of the cargo would better meet the requirement, a request for Air Force support is initiated. In this joint operation, supplies and equipment to be transported, ground transportation to move them, parachutes and air items used in rigging of loads, and ground personnel supporting the operation are Army responsibilities.

Emergency requests pass through supply or transportation channels the same as routine requests. However, requests are also passed simultaneously through command channels from the user to the corps G3. The corps G3 approves emergency requests and tasks the aviation brigade to perform the mission. At the same time, the brigade S4 and support battalion staff coordinate with the BMMC for resupply missions so the S&T company can begin to prepare the shipment. Prerigged loads of standard resupply packages stored at corps level reduce response time for emergency air resupply. More details on requests for air transport are in FM 100-27.

Pickup and Landing Zones

Selection and control of pickup and landing zones are extremely important. Pickup zone selection and control are the responsibility of the supported unit, the unit which requests the mission. That unit may be the S&T company of the support battalion. The receiving unit, which is having the cargo delivered to it, is responsible for landing zone selection and control.

As a general rule, pickup and landing zones provide for 30 meters separation between utility aircraft and 40 meters between cargo aircraft. They have no obstructions such as tree stumps, bushes, or man-made objects that could damage the helicopter rotor systems, or the load itself. The number of aircraft using a zone at one time is considered along with its use after dark.

If night resupply is scheduled, a larger area is normally needed. The surface condition should be solid enough to prevent a helicopter or load from bogging down. Blowing dust, sand, gravel, or loose debris injures people and damages equipment or aircraft. If the site has a slope of 15 degrees or more, a helicopter cannot land. Also, when carrying an external load, a helicopter cannot rise straight up or come straight down. The avenue of approach and departure are over the lowest obstacle in the direction of the prevailing winds. Helicopters operate in a crosswind or tail wind of up to 15 knots.

Airdrop Resupply

Airdrop support units are allocated to the corps and theater. As a rule, airdrop of supplies and equipment is a joint operation of the Air Force and Army or other user, such as the Marine Corps. Airdrop resupply missions are classified as either preplanned or immediate. Preplanned missions are considered for routine type requirements. Immediate missions result from unanticipated, urgent, or priority requirements. Coordination with logistics elements is made at each echelon if time permits.

The brigade unit receiving airdrop resupply is responsible for the following:

- Selecting, marking, and securing the drop zone.
- Ensuring no unsafe conditions exist on the drop zone during the airdrop operation.
- Recovering the supplies/equipment provided by airdrop.
- Recovering and evacuating airdrop equipment used in the airdrop, if time permits.

In the absence of an Air Force combat control team the unit receiving the airdrop resupply support is required to perform the CCT function.

More details on airdrop resupply are found in FMs 10-500-1 and 100-27.

FIELD SERVICES OPERATIONS

A DS field services company provides CEB, laundry and renovation support to the separate brigade during combat operations. A corps collection company provides forward collection platoons for mortuary affairs operations.

MORTUARY AFFAIRS

All commanders make certain that units under their command perform unit-level mortuary affairs. Each unit searches for, recovers, identifies, and evacuates its own remains. The support battalion has one mortuary affairs trained soldier in the S&T company. He is available to train brigade personnel in unit mortuary affairs responsibilities in the handling of personal effects and remains, as well as what forms they need to complete. Unit-level MA responsibilities are detailed in FM 10-63-1.

In the initial stages of hostilities, the battalion commander pulls personnel from other duties to operate a collection point. The mortuary affairs NCO is normally given the duty of chief of the collection point until the corps MA unit sets up collection points. A corps forward collection platoon sets up collection points in the BSA. Whether the support battalion or corps collection platoon operates the collection point in the BSA, all brigade elements recover remains to that point. Each point has personnel who receive remains and inventory personal effects and make initial identification. MA personnel ensure that personnel recovering the remains have completed a DD Form 565 or a similar statement by two sources, if possible. In all cases MA personnel complete a DD Form 1380.

Then MA personnel evacuate the remains from the BSA to an intermediate MA collection point or temporary military cemetery in the corps area. Personnel use helicopters and backhaul transportation (except for Class I vehicles and medical evacuation) to evacuate remains. Personnel always cover and screen from sight the remains.

MA personnel require authorization to perform emergency burials, if the number of fatalities occurring makes evacuation of remains impossible. MA personnel notify headquarters as to the number of remains, location, and reasons evacuation cannot be accomplished. In such cases, MA personnel use authorized emergency war burial procedures.

Personnel handle all remains found in a contaminated area as if contaminated. They attach NBC tags to contaminated remains. If NBC tags are not available, personnel attach a tag with a large “C” written on it to each contaminated remains. Personnel handling contaminated remains maintain an adequate level of individual protection. They keep contaminated remains separate from uncontaminated remains.

Due to the possibility of mass fatalities in an NBC attack, normal mortuary affairs methods are not feasible.

Personnel do not evacuate contaminated remains unless they can be thoroughly decontaminated and checked by NBC personnel. In extreme cases, contaminated remains may require mass burials. MA personnel make requests through command channels. Permission for mass burials comes from the joint central MA officer in the theater after approval from the theater commander.

CLOTHING EXCHANGE AND BATH

CEB teams may establish and operate two CEB facilities at sites in the brigade. They maintain stocks of clothing to exchange with bathers. They also coordinate the delivery and laundering of soiled clothing and pick up clean clothing from the supporting laundry. (A corps field service company provides laundry and renovation services to the separate brigade.)

The CEB point provides showers from portable bath units, delousing service, and exchange of soiled clothing for laundered clothing. CEB personnel maintain records and prepare daily, weekly, or monthly reports for CEB activities. They give each supported unit a scheduled time for baths so that services are provided in an orderly manner. Supported units assign soldiers to guard valuables and assist with clothing exchange. More information on CEB operations is in FM 10-280.

SALVAGE

The support battalions of the HSB, SIB/TDB, and ACR give limited salvage support. The corps field service company, GS, forward, reinforces support.

The S&T company establishes a salvage collection point. This normally is in or near a maintenance collection point. The salvage collection point irresponsible for items for which the maintenance company does not have maintenance responsibility. Personnel collect, classify, and dispose of salvage materials. The users or finders deliver their salvage to the salvage collection points. Salvage includes items that are discarded, captured, uneconomically reparable, condemned, abandoned, and scrap. The salvage collection point does not handle toxic agents, radioactive materiels, ammunition and explosives, and COMSEC and medical supplies.

When receiving material, the salvage point performs the following functions:

- Check the item and its condition against the information shown on the turn-in documentation.
- Classify items as serviceable or unserviceable.
- Segregate items turned in as serviceable, reparable, or scrap. Serviceable items are protected from the elements as much as possible.

The salvage point disposes of items based on guidance received from the BMMC. The brigade intelligence officer provides disposition instructions for foreign or captured materials. Normally, salvage personnel send reparable items to the maintenance shop. They send serviceable clothing and canvas items to the laundry and renovation platoon of the COSCOM. They evacuate unrepairable items and scrap through salvage channels to a property disposal unit.

Chapter 9
Maintenance Company

Contents

ORGANIZATION AND MISSION

The maintenance company is a critical component in fixing the force. To counter a potential superiority in weapon systems fielded, the separate brigade makes the most of each system it has. The maintenance company provides DS maintenance and common and missile repair parts service to supported units in the brigade area. Figures 9-1, 9-2, 9-3, and 9-4 show the organizations of the HSB, SIB/TDB, and ACR maintenance companies/troop.

The maintenance company performs the following functions:

- Provides personnel and equipment to perform DS maintenance on TOW and Dragon missile systems; radios, teletypewriter and telephone equipment; target acquisition surveillance radars, field artillery digital systems, and fire control instruments; tank turrets, artillery, and power generation equipment; and tracked vehicles, QM and chemical equipment, and wheeled equipment.
- Provides reinforcing recovery assistance to supported units.
- Provides technical assistance and PLL supply support to supported units that provide unit maintenance within the brigade.
- Maintains an ASL of common and missile repair parts for supported units.
- Provides reparable item management service for selected common repair parts.
- Provides DS maintenance capability, with augumentation, from tank and infantry system support teams. These teams provide an increased capability for support forward to maneuver elements. (HSB and SIB)
- Provides on-site and combat system oriented maintenance support for the ACS through the maintenance support platoons. (ACR only)

PRINCIPLES

Maintenance personnel within the separate brigade maintenance company perform DS functions using concepts such as forward support, centralized control, and BDAR. They also perform such functions as controlled exchange, cannibalization, and recovery and evacuation. DS maintenance includes end item repair by replacements of modules, components, piece parts, and assemblies on a return-to-user basis.

Although a significant number of mechanics are forward, others are located in the brigade support area. In either case, personnel classify, repair, cannibalize, or evacuate all equipment. In addition, the maintenance company provides the supported units with limited recovery assistance and technical assistance.

FORWARD SUPPORT

The support battalion maintenance company fixes the systems by providing timely maintenance and repair parts as required. The maintenance company operates forward near battalion combat trains areas with forward MSTs. Repairing equipment forward reduces transportation requirements and time. It maximizes the availability of equipment to users. Whenever possible, personnel repair equipment on site. However, this is not always possible and practical. The tactical situation, extent of damage, and availability of people, parts and tools may make recovery or evacuation more desirable. The maintenance company commander and the supported unit commander closely

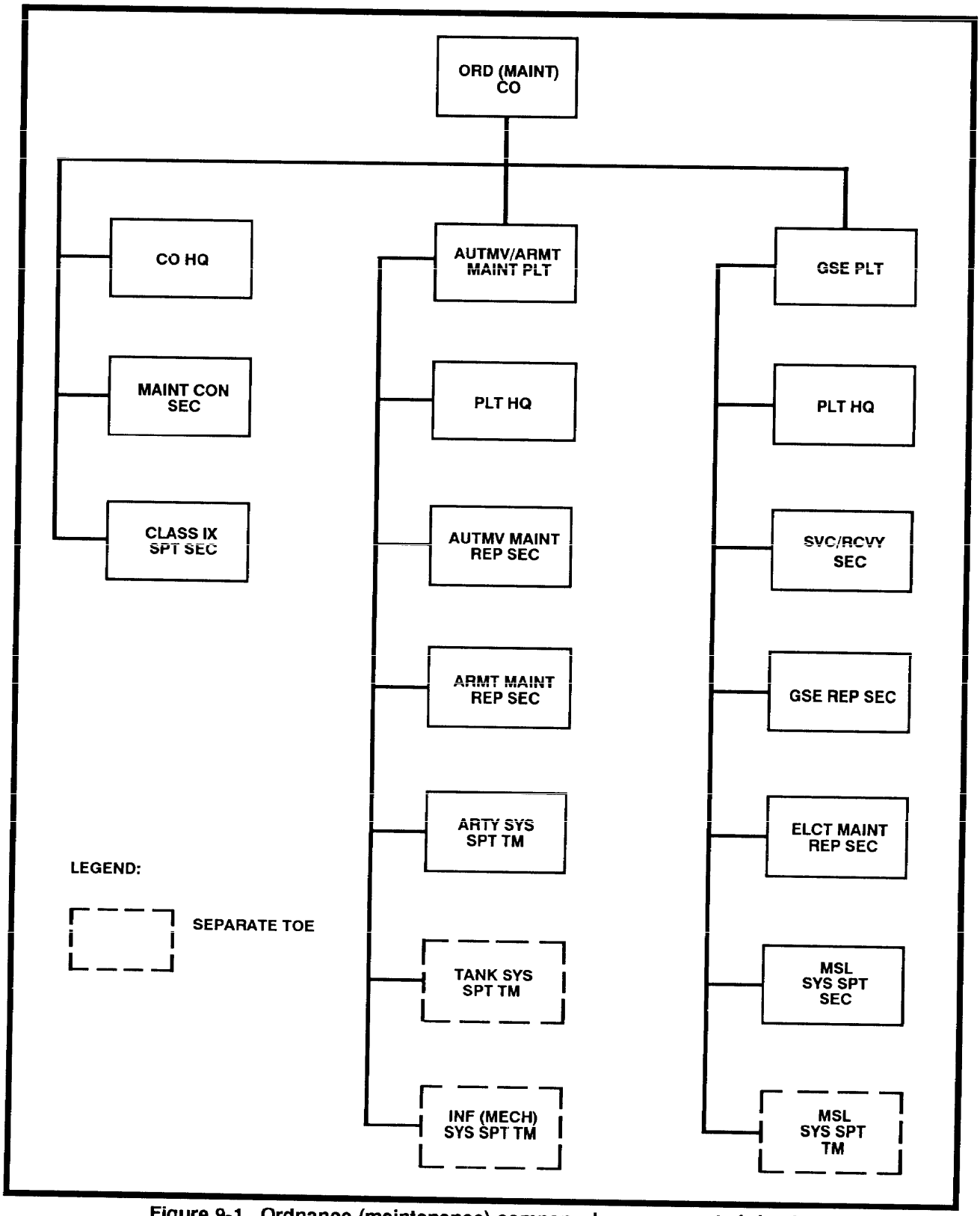


Figure 9-1. Ordnance (maintenance) company, heavy separate brigade.

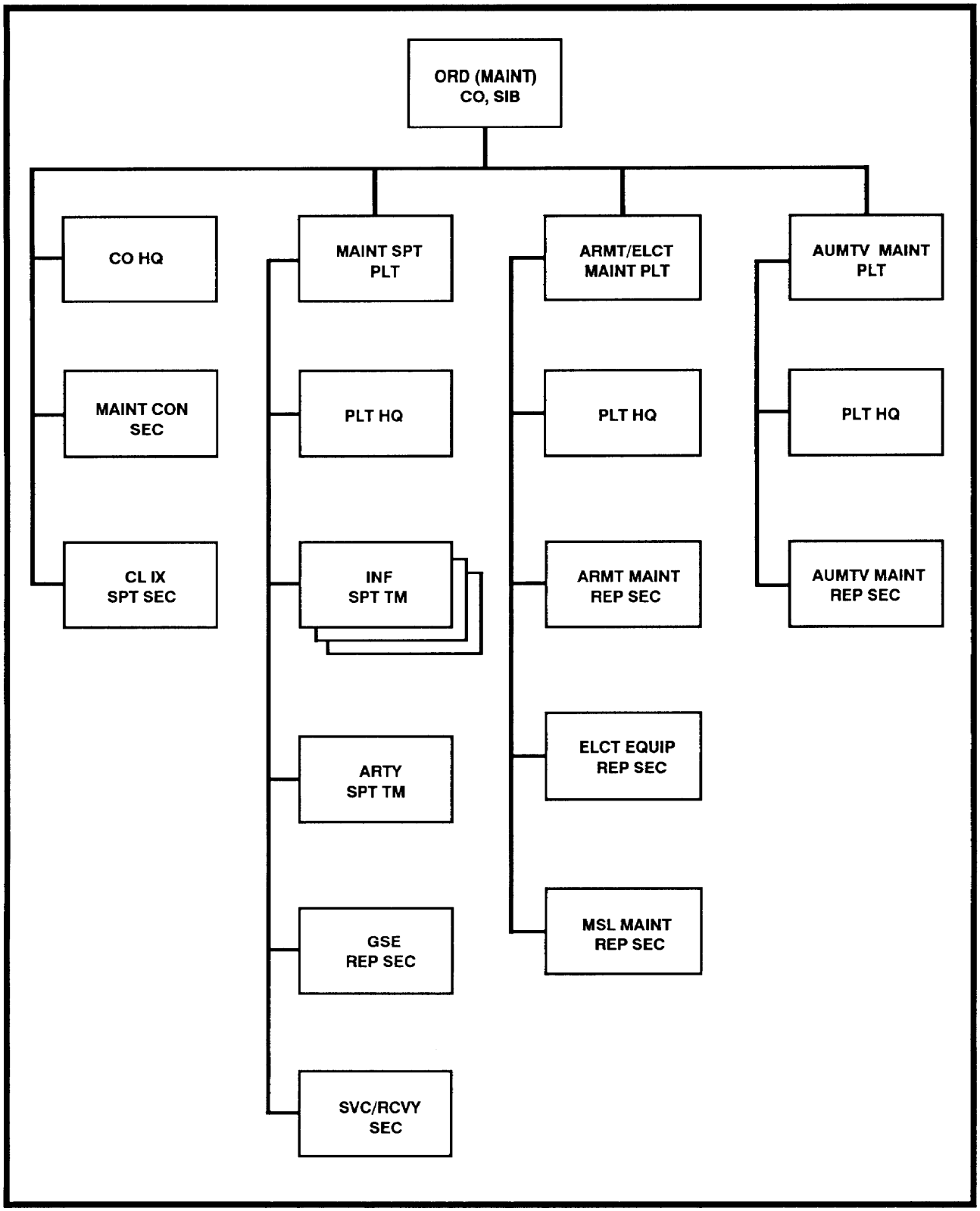


Figure 9-2. Ordnance (maintenance) company, separate infantry brigade.

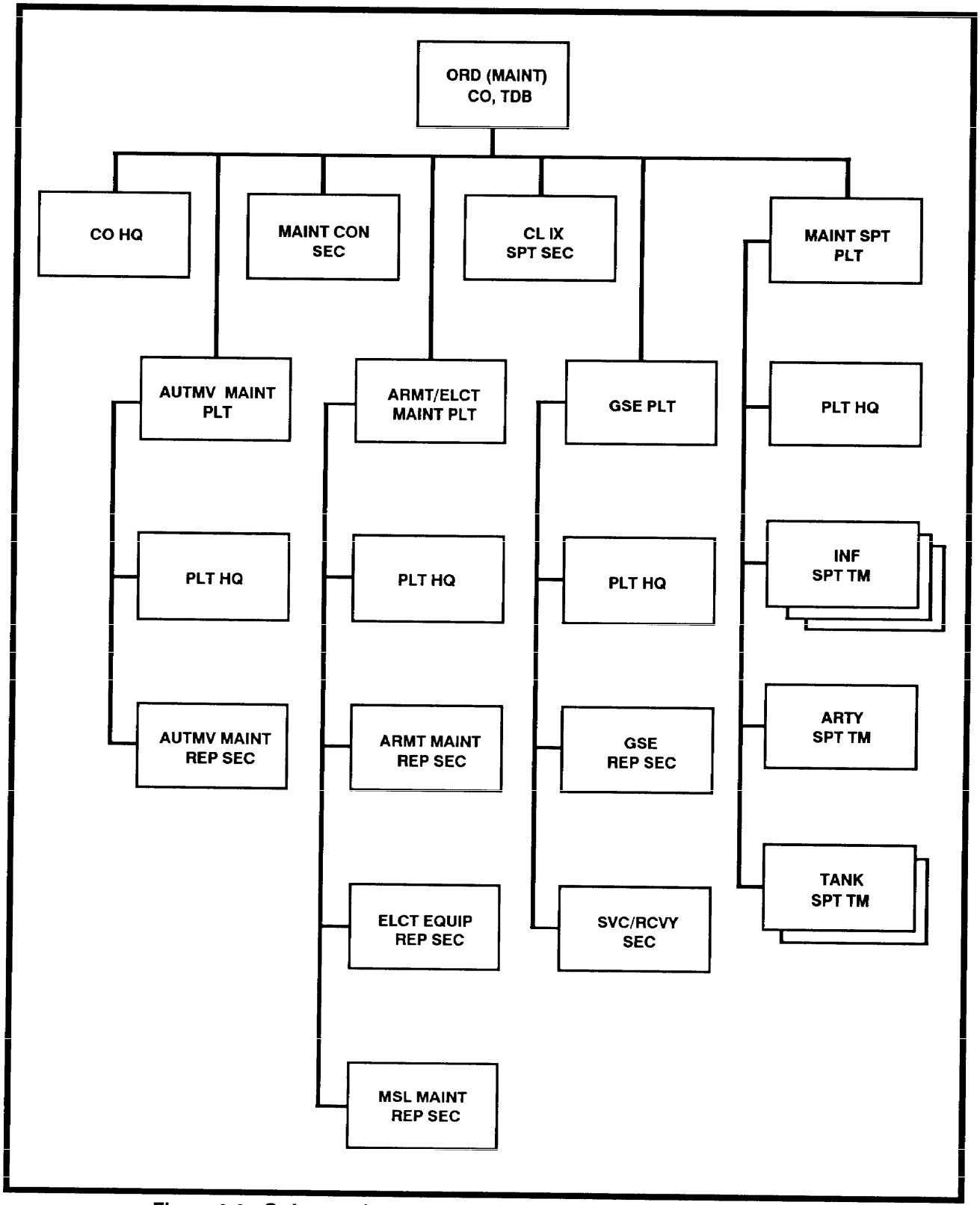


Figure 9-3. Ordnance (maintenance) company, theater defense brigade.

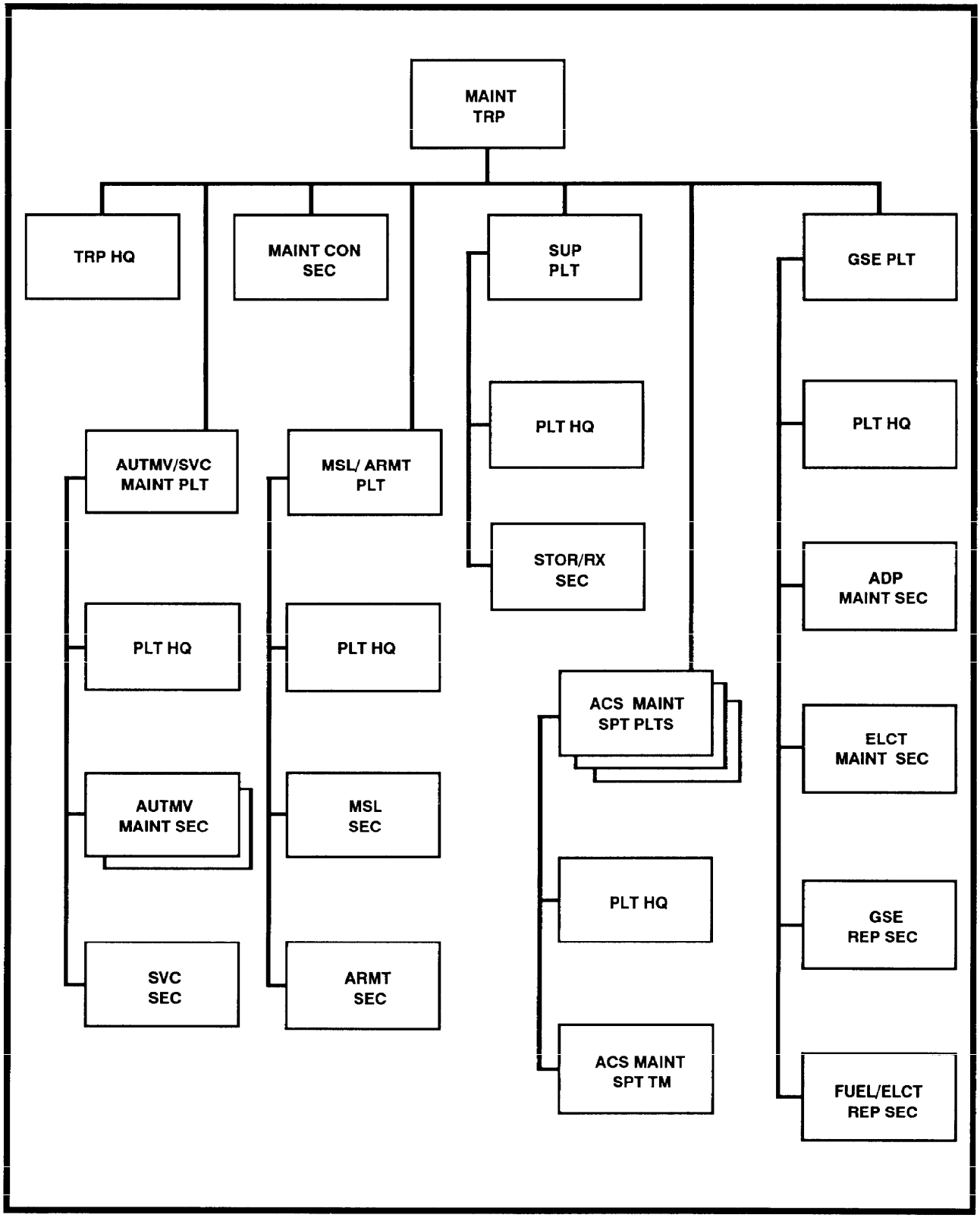


Figure 9-4. Maintenance troop, ACR.

cooperate to ensure that weapons employed in battle are always supported.

REPAIR TIMELINES

Maintenance operators make the decision on whether to repair or recover to a maintenance site on a case-by-case basis. Managers establish timelines as a tool to help make this decision. Table 9-1 shows sample timelines in the separate brigade AO. Table 9-2 shows timelines for the regiment AO. If the time to repair an item once all repairers, tools, and repair parts are on hand exceeds the specified time, recovery or evacuation is considered. Timelines are set by SOP or by logistics or combat commanders for specific operations. All personnel– users, maintainers, and maintenance managers — always bear in mind that these timelines are flexible. Personnel ensure that timelines are accomplishing their purpose, which is to maximize equipment available to the user. If they are not, the commander orders a change to the timelines based on the recommendation of the staff.

Table 9-1. Maintenance timelines for the separate brigade.

LOCATION	HOURS
On site	2
Battalion maint	4-6
BSA	24-36

Table 9-2. Maintenance timelines for the ACR.

LOCATION	TIME
On site	Less than 30 minutes
UMCP	30 minutes to 3 hours
Field trains	3 to 24 hours
RSA	24 to 48 hours

CENTRALIZED CONTROL

The maintenance company commander with assistance from the maintenance control officer and the MMC has control over all operations for which they are responsible even though support assets may be decentralized. They are aware of the total DS maintenance work load across the brigade area. They also are aware of the available assets and their locations. When the situation changes, the maintenance control officer shifts resources to minimize backlogs. Maintenance resources reorganize when combat units reorganize into task forces for specifie missions.

BATTLE DAMAGE ASSESSMENT AND REPAIR

BDAR techniques expedite return of a damaged piece of equipment to the current battle. Maintenance personnel use BDAR to determine the extent of damage to equipment. They classify equipment according to the type of repair required and plan for repair of each item. Priorities for repair of battle damaged items are usually–

- Most essential to immediate mission.
- Reparable in the least time.
- Reparable but not in time for immediate mission.

Battle damage repair involves use of emergency repair techniques to return a system to a full or partial mission capability. Maintenance personnel normally use BDR in combat at the direction of the commander. It includes —

- Taking shortcuts in parts removal or installation.
- Modifying components from other items.
- Using parts from a noncritical function elsewhere on an item to restore a critical function.
- Bypassing noncritical components to restore basic function capability.
- Using cannibalization.
- Making parts from kits or available materials.
- Using substitute fuels, fluids, or lubricants.

Armored and fuel systems are primary candidates for BDR in combat. When the mission is over, maintenance personnel use standard maintenance procedures to repair the items.

CONTROLLED EXCHANGE

Controlled exchange involves the removal of serviceable parts, components, and assemblies from unserviceable, economically reparable equipment. Maintenance personnel immediately reuse these items in restoring a like item of equipment to combat, operable/serviceable condition. It is done in strict compliance with the brigade commander's published guidance. The goal is to restore a system to mission capable status.

CANNIBALIZATION

Cannibalization is the authorized removal of serviceable parts, components, and assemblies from uneconomically

reparable equipment. The support battalion maintenance company normally performs cannibalization during combat conditions at a collecting point. During combat, cannibalization is a valuable source of critical repair parts. Maintenance personnel make available these critical repair parts for immediate reuse. Commanders designate the conditions, items, and level of repair for cannibalization. The support battalion commander controls cannibalization operations based on cannibalization policies established by the brigade commander.

RECOVERY AND EVACUATION

Recovery involves retrieving or freeing immobile, inoperative, or abandoned materiel. Recovery also involves returning it to operation or to a place where it can be repaired, evacuated, or otherwise disposed of. The types of recovery include self-recovery to a secure area or collecting point and recovery by specialized recovery equipment. Such specialized recovery equipment includes wreckers and tracked recovery vehicles. When recovery requirements for a supported unit exceed its capability, the support battalion maintenance control officer provides assistance.

All units recover unserviceable equipment to an UMCP, MCP, or field trains/BSA. The UMCPs are near MSRs to allow HETs to pick up unserviceable equipment there. It is done in strict compliance with the brigade commander's published guidance.

Each support battalion recovery element contains recovery equipment compatible with the equipment supported. Personnel in the recovery element diagnose failures, determine reparable or maintenance repair category, or determine they cannot repair within the timelines.

Evacuation involves moving an item from a collection point to another logistics activity for repair, cannibalization, or other disposition. Evacuation is a coordinated effort between maintenance and transportation elements. If necessary, equipment is evacuated to the corps maintenance element in the nearest corps support group. Evacuation vehicles transport unserviceable assemblies and major end items. HETs also bring serviceable assemblies and end items from rear repair activities to the forward maintenance or supply elements.

Evacuation policies and procedures are set as a matter of SOP. Evacuation channels are streamlined to the extent possible to avoid intermediate handling. The maintenance company requests corps assistance through the transportation officer when separate brigade evacuation assets are overloaded. The maintenance company submits a request for evacuation support to the support battalion transportation officer. He either tasks the S&T company assets to provide support or submits the request to the MCC/MCT through the BTO.

Recovery and evacuation principles are covered in depth in FMs 20-22 and 43-5.

AMMUNITION

Corps ordnance units provide DS maintenance support for ammunition items. When possible, maintenance personnel perform maintenance in the corps area. Units holding ammunition stocks that require DS maintenance return such stocks to the nearest ASP.

AVIATION MAINTENANCE SUPPORT

RAS AVUM personnel intensively manage aviation unit maintenance to keep as many aircraft mission-capable as possible. In combat, there is a large increase in flying hours and a greater demand for operational aircraft. These increased requirements are complicated by higher attrition and battle damage rates. These requirements create shortages of repair parts and replacement aircraft. To offset these shortages, the rapid recovery and repair of Army aircraft systems and components are essential. A controlled exchange/cannibalization policy, rapid recovery of damaged or downed aircraft, and a flexible system of cross-leveling spares is an essential part of the transition into the rigorous demand of combat maintenance.

Prior to the onset of the operations, a COSCOM OPORD is forwarded to the CSG. The CSG OPORD tasks the aviation maintenance battalion to provide AVIM to the AVUM troop. The CMMC workloads the AVIM company. When the supporting AVIM company cannot provide timely AVIM support, the CMMC tasks another AVIM company to provide reinforcing support. The AVUM troop commander forwards requests for Class IX A items to the AVIM company. The AVUM troop keeps the RS4 and RMMC informed of the status of squadron aircraft and maintenance activities.

The corps aviation maintenance battalion normally provides an aviation maintenance contact team to the RAS. The contact team comes with appropriate diagnostic and test equipment and repair parts. Specific types of aviation maintenance which maybe suitable for

inclusion in a contact team are —

- Limited fire control.
- Some major component repair.
- Avionics and communications.
- Back-up sheet metal.

The contact team should also come equipped with communications gear (such as MSRT or DNVT). This equipment allows communications with the aviation maintenance battalion headquarters.

AIRCRAFT RECOVERY AND EVACUATION

Aircraft recovery includes repair of an aircraft on site for a one-time flight. It also includes preparation of an aircraft for movement directly to the first appropriate aircraft maintenance activity. Aircraft evacuation is the movement of an aircraft by another aircraft or surface vehicle between maintenance facilities. FM 1-513 has techniques and procedures for aerial recovery of aircraft.

The RAS is responsible for aircraft recovery. It uses its AVUM troop within the limits of the unit's organic lift capability. A recovery operation is a coordinated effort among the owning organization, its supporting AMCO, and the ground element where the operation is to take place. The AVUM troop has organic rigging equipment for aircraft recovery. If the recovery is beyond the AVUM troop's lift capability, AMCO support is requested. Division and nondivisional AMCOs have limited organic rigging equipment. The AVUM commander coordinates with the AMCO commander to conduct the recovery. The AMCO commander coordinates with the division or corps aviation brigade to provide aircraft and equipment.

SECTION FUNCTIONS

Each of the maintenance companies has platoons and sections/teams that provide similar functions. What follows here is a discussion of section functions regardless of which platoons the sections are in.

COMPANY HEADQUARTERS

The company headquarters provides command and control for accomplishment of the company's mission. It provides unit-level administrative, supply, and maintenance support to elements of the company. FM 10-14 provides information on supply operations. FM 10-63-1 covers unit mortuary affairs responsibilities. A particular concern for the maintenance company headquarters is C3 for MSTs operating at UMCPs. Another concern is other maintenance teams performing on-site repairs. As discussed below, the company commander normally retains command and control of these teams. He also ensures that headquarters maintains communications with the teams at all times.

The maintenance company commander receives missions from the support battalion commander. Assisted by information furnished by the BMMC, the company commander translates these into specific actions and orders for the maintenance company. The company commander establishes internal policies for accomplishment of the company mission in the following areas:

- Production control.
- Shop operations.
- Quality control.
- Technical assistance.
- Supply operations less supply management.
- Inspections.
- Publications and reports.

MAINTENANCE CONTROL SECTION

The maintenance control officer is the main assistant to the company commander for DS maintenance support. With assistance from his section, he provides the control, coordination, and overall supervision of the maintenance shops. He provides the same for MCPs, recovery teams, and MSTs. The section performs job ordering and equipment accountability. It is also responsible for quality control. SAMS software supports the maintenance management function and runs on the TACCS device in this section.

The section includes an inspection element which is responsible to the maintenance company commander. The inspectors provide quality assurance, technical inspections, and quality control for all DS maintenance functions. The inspectors also serve as the nucleus for BDA teams. They go to on-site locations to make determinations on repair and evacuation.

CLASS IX SUPPORT SECTION/SUPPLY PLATOON

This section in the separate brigade provides Class IX supply support. It receives Class IX requests

from customers and fills them from on-hand assets. It passes requisitions to the BMMC for items not on hand. It also operates the reparable item service. The Class IX function of the ACR is in the supply platoon. This platoon performs functions similar to those performed by the Class IX support section for the HSB and SIB/TDB.

The Class IX support section and supply platoon also provide –

- Technical assistance to supported units.
- Receipt, storage, and issue of ASL and NSL items.
- Preservation and packaging. This function includes repair of containers to protect stocks from damage during storage and shipment.
- Heavy vehicle transportation. Drivers pick up and deliver repair parts.

This section contains the TACCS device to run SARSS-1 for Class IX.

MAINTENANCE SUPPORT PLATOON HEADQUARTERS

The platoon headquarters overall mission is to supervise platoon operations. It executes command and control responsibilities. It also implements the company commander's maintenance policies in accordance with the unit SOP. The platoon leader assisted by the platoon sergeant is knowledgeable of the current maintenance mission and the problems that affect the accomplishment of these missions. He issues concise operating directives to sections/teams. He monitors them for required maintenance support. The platoon leader also provides quality assurance and control in platoon operations. As a part of coordinating platoon operations, the platoon leader maintains all necessary records for maintenance support.

ARMORED CAVALRY SQUADRON MAINTENANCE SUPPORT PLATOON

The maintenance troop of the ACR has three ACS maintenance support platoons. Each 39-man platoon consists of a platoon headquarters and an ACS MST. The platoon provides DS and reinforcing unit maintenance to an ACS. It can repair the full range of equipment in the squadron including automotive, tracked vehicle, fire control, tank turret, power generation, small arms, and other items. The platoon typically operates out of the ACS UMCP. Depending on the tactical situation, elements provide on-site repair by working out of an MCP or the maintenance troop base. Employment considerations and C2 relationships discussed below for MSTs also apply to this platoon.

AUTOMOTIVE MAINTENANCE REPAIR SECTION

The automotive maintenance repair section provides automotive base shop support for equipment and augments the MSTs as required. It provides personnel for on-site DS maintenance and technical assistance to units in the brigade AO. It also provides personnel for operation of an MCP. The section repairs transmissions, engines, electronics items, hydraulics, and steering controls on tracked vehicles. It works on MHE and chemical/quartermaster equipment (less office machines). It also works on the engines, power trains, and chassis components of wheeled vehicles.

ARMAMENT MAINTENANCE REPAIR SECTION

The armament maintenance repair section provides armament base shop support for equipment not repaired on site. It augments the tank and infantry (mechanized) SSTs as required. In the ACR, it reinforces maintenance support to the squadron support teams. The section performs the following repairs:

- Fire control systems — laser rangefinders, electronic ballistic computers, tank thermal sights.
- Fire control instruments — binoculars, telescopes, aiming circles, rangefinders.

ARTILLERY SYSTEM SUPPORT TEAM

The artillery support team provides DS maintenance for the artillery battalion. The team functions as an MST with the capabilities for repairing the following components:

- Turret-mounted weapons.
- Wiring systems.
- Automotive and artillery repair.
- Power generator and communications repair.
- Loading, firing, and recoil mechanisms.

GROUND SUPPORT EQUIPMENT REPAIR SECTION

The GSE repair section performs DS maintenance on power generators, air conditioner units, and refrigeration equipment. It performs DS maintenance on heaters, utility packs, water purification units, and chemical equipment. It also performs DS maintenance on construction equipment which includes that used for earth moving, grading and compacting, and lifting and loading.

ELECTRONICS EQUIPMENT REPAIR SECTION

The electronics section provides DS maintenance on communications, electronics, and computer equipment. It repairs radio receivers and transmitters, teletypewriters, and facsimile machines. It also repairs switchboards and special electronics devices such as infrared weapon sights, searchlights, and mine detectors. In the ACR, this section reinforces maintenance support to the squadron support platoon. In the HSB and SIB/TDB, it reinforces the MSTs and provides on-site repair in the brigade trains area.

FUEL/ELECTRONICS REPAIR SECTION

The fuel/electronics repair section provides base shop operations for the repair of master cylinders, brake shoes, hydraulics, and engine electrical components. It performs corrective maintenance on fuel and electrical systems and assemblies. Some other components it performs repairs on are –

- Fuel pumps.
- Fuel injector pumps.
- Batteries
- Distributor wiring harness.
- Ignition systems.

ADP MAINTENANCE SECTION

The ADP maintenance section repairs the regiment ADP equipment. The section inspects, tests, and performs DS maintenance on TACCS computers, DAS3 computers, and related equipment.

SERVICE/RECOVERY SECTION

The service/recovery section provides capability for welding and metal body repair. It also provides the heavy lift capability for the shops and shop supply and recovery of organic equipment. It reinforces recovery capabilities of supported units and provides limited maintenance evacuation. It also performs fabrication, repair, and modification of nonmetallic parts.

TANK SYSTEM SUPPORT TEAM

The tank system support team provides DS maintenance support to a tank battalion. The maintenance control section uses it as a base to create an MST to work at the UMCP. The team has the capability to support small arms, power generation equipment, fire control systems, communication equipments, quartermaster/chemical equipment and wheeled vehicles. It also repairs tracked vehicles and tank turrets.

INFANTRY SYSTEM SUPPORT TEAM

The infantry system support team provides DS maintenance support to an infantry (mechanized) battalion. It serves as the core for an MST operating at the infantry battalion UMCP. It repairs automotive, C-E, small arms, track vehicles, and fire control systems. It also supports telephone central office systems, power generation equipment, and quartermaster/chemical equipment.

MISSILE REPAIR SECTION

The missile section provides DS maintenance for land combat missile systems and associated night sights. In the SIB, HSB, and ACR, it has the capability of using three MSTs simultaneously. (The HSB section may also be augmented with an additional team.) In the TDB, it has the capability of using four MSTs simultaneously. The missile systems support teams deploy forward to the field site as requirements are generated. They provide support that is predominantly repair by replacement. They return to the base company when they complete the repair. TOW/Dragon repairers perform limited DS maintenance on TOW and Dragon missile systems, trainers, night sights battery chargers, and system-peculiar test equipment.

OPERATIONS

The maintenance company is the brigade's primary source of DS maintenance and Class IX supply support. Its base is located in the BSA near land lines of communications. The company repairs as far forward as possible inconsonance with effective maintenance practices and the tactical situation. Teams tailored to provide across-the-board DS maintenance support are available to the maneuver battalions, the artillery battalion, and the ACSs.

The maintenance company maintains a base maintenance operation in addition to the MSTs. The base maintenance capability provides across-the-board DS maintenance which is not accomplished by the teams due to time constraints, complexity, or tactical situation. The base company also provides supply support from this location. If personnel cannot repair the equipment on site, at the UMCP, or at the field trains, the using unit delivers the equipment to the base company's collection

point. However, whenever possible, units position UMCPs so they are accessible to HETs. In this way, the support battalion can evacuate heavy equipment directly from the UMCP. The collection point conducts a more detailed diagnosis to determine the proper disposition of the damaged equipment. Personnel conduct controlled exchange and cannibalization to maintain the maximum number of serviceable systems.

The base company receives, stores, and issues repair parts. Personnel process requests for repair parts, receive unserviceable reparable, and issue serviceable ones. The BMMC receives requests for parts which are not available. It manages the ASL which is warehoused by the base company.

PLANNING

Maintenance planning in the support battalion anticipates personnel, equipment, and repair parts requirements and matches them against available resources. The goal is to manage limited resources to return the maximum number of critical items to the battle. Planners recognize limitations in armor protection, mobility, and communications which influence the company's capabilities. Planning considerations include —

- Tactical situation.
- Time and distance factors.
- Reinforcing support responsibilities.
- Command support priorities.
- Critical weapon systems and repair parts.
- Proposed MCP locations.
- Maintenance timelines.
- Work load across the brigade area.
- Cannibalization and controlled exchange policies.

One of the key planning processes for the maintenance company is formation of MSTs. Teams to provide DS maintenance to maneuver battalions are task organized in most cases. The MST only has the number and types of repairers and equipment required to support the particular battalion task force. The company uses the SST assets not required to support that task force to augment base company capabilities. If an SST does not have all of a specific capability required to support the task force, additional assets to form the MST come from the base company or another SST.

In forming the optimal MSTs for his situation, the commander considers a variety of factors to include:

- Tactical situation.
- Supported task force repair capabilities.
- Repair assets available to the maintenance company.
- Length of LOCs.
- Recovery and evacuation capabilities.
- Specialized tool and test set requirements and availability.
- Time constraints.
- Parts availability.
- Risk assessment.
- Mobility requirements.
- Communications.
- Security requirements.

One point to emphasize is that the SST serves as the core for an MST. This minimizes the moving of personnel from one team to another. In particular, team leaders remain with the core of their associated SSTs. Further, each team habitually supports the same base battalion. This allows a team leader to develop a working relationship with one battalion HHC. Keeping the same core of an SST also leads to strong command and control lines within the MST.

Commanders plan other aspects of MST use besides the composition of the team. The commander, normally through the maintenance control officer, coordinates with the support battalion S2/S3, brigade S4, battalion S4s, and BMOs for employment of the teams. One detail they work out is how the team receives its required support. This includes administrative, unit logistics, and Class IX support. The team expects to be at the UMCP for an extended time. If so, the maintenance control section coordinates with brigade and battalion S4s to have the supported battalion feed the team. They also coordinate to provide Class III and V and limited Class II and IV support.

The maintenance control section also ensures production and quality control responsibilities are specified. Usually the maintenance control officer has work order control. The team chief is responsible for quality control.

BASE SHOP OPERATIONS

The base shop in the BSA consists of maintenance company elements not employed at MCPs, UMCPs, or battalion field trains. The shop receives, inspects, controls, repairs, and coordinates the evacuation of equipment received from supported units.

The shop is laid out to allow free flow of work and to minimize the required movement of repair parts, tools, and equipment. The company commander, whenever possible, tries to lay out the shop so that –

- Supply storage areas are accessible to trucks.
- The service section provides easy access from all shop locations.
- Electronics and instrument repair can be done in a dust-free area.
- Vehicles are dispersed near maintenance areas but located to facilitate control and security.
- The control and inspection elements are near the area entrance.
- The supply storage and customer areas are near the entrance to keep traffic out of the work area.

Figure 9-5 shows a sample base shop layout in a field environment. The same principles apply to shops in a built-up area. For example, the control, inspection, and supply activities are near the entrance to the shop area. Elements with related or complementary functions are near each other. Personnel use sound buildings and adequate road systems. They provide the best work areas and concealment.

The maintenance internal SOP outlines shop procedures which are based on guidance in DA Pamphlet 738-750. An external SOP for use by supported units should also adhere to those guidelines.

The management activities vary depending on the system available in the brigade. DA Pamphlet 738-750 describes the manual TAMMS system. SAMS-1 provides management reports for the company commander and MCS. It also provides a daily interface with SARSS-1. SAMS-1 procedures are in AISM 18-L21-AHN-BUR-EM.

MAINTENANCE COLLECTION POINTS

The support battalion maintenance company operates the MCPs receiving unserviceable equipment from supported units. The company operates up to two MCPs. One is at the base shop. A forward moving tactical situation makes another point forward of the BSA advisable to reduce recovery distances. The maintenance control officer assigns maintenance company personnel to perform large scale BDA at the MCPs. Personnel use controlled exchange and cannibalization to maximize operational systems. They segregate contaminated equipment within the MCP. When supported units cannot recover equipment to an MCP, they are instructed to recover items as close as possible to an MSR to await maintenance support. The unit provides or arranges security, and provides accurate location information to the MCS.

Units in the brigade area that find US equipment turn it in to the MCP. There, maintenance personnel inspect it and make decisions on whether to repair or evacuate. The BMMC provides the disposition instructions. It directs that the item be turned in to a supply unit or evacuated to a corps facility.

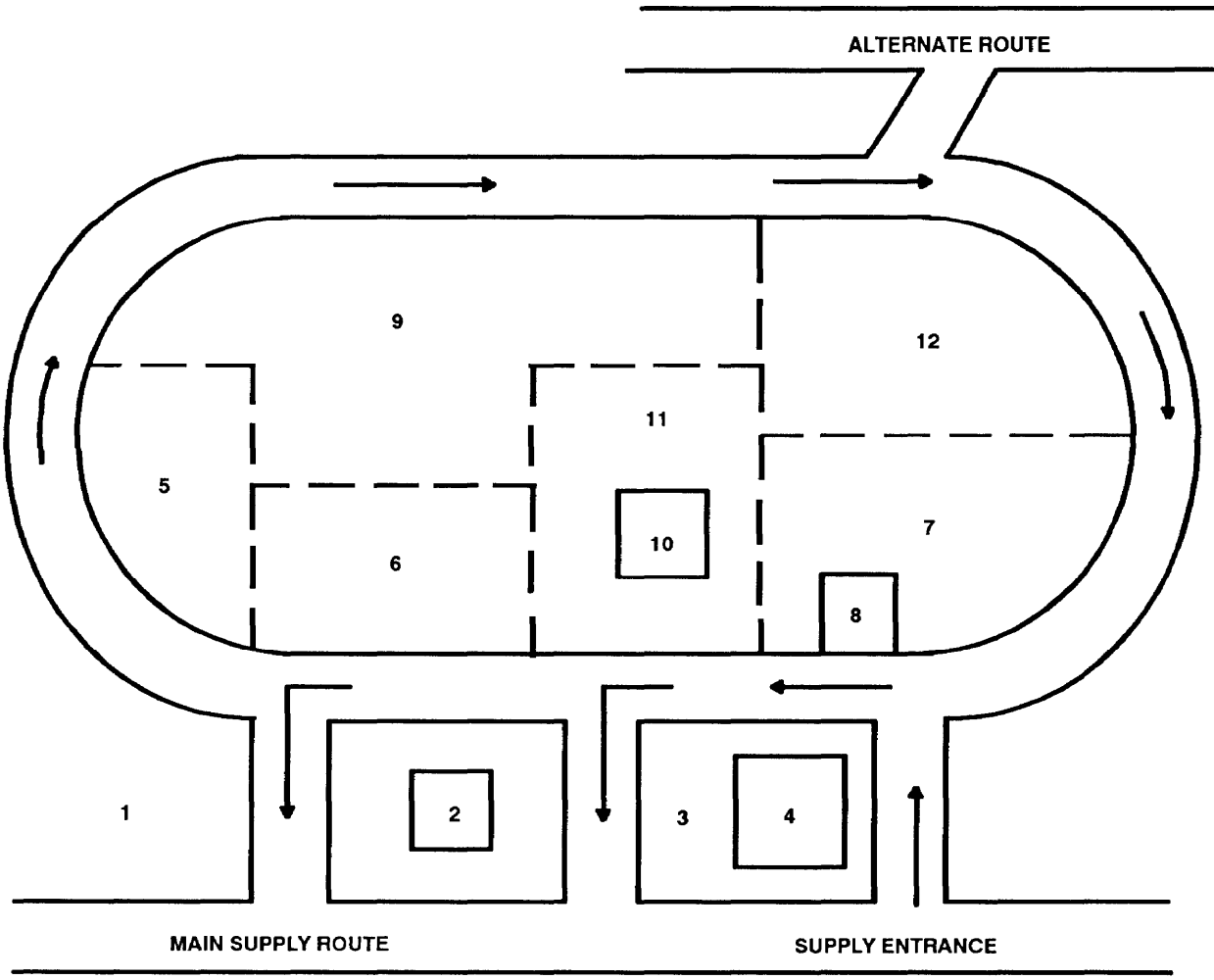
MAINTENANCE SUPPORT TEAMS

MSTs remain part of the maintenance company and are dispatched and withdrawn by the maintenance control officer. However, once the teams arrive at the UMCP, they tie into the defense plan under the control of the BMO. The BMO normally sets priorities for the equipment to be repaired. All elements involved in the operation are aware that the teams are groups of repairers with limited self-defense assets. Also, the time they spend in defense activities reduces maintenance mission time, SOPs exist and MSTs prepare to conduct independent operations when required.

MST operations present the company commander, maintenance control officer, and MST leader and members with the same challenges faced by any other small unit in a tactical environment. Besides performing the technical mission, the team needs the mobility to get to the repair site and move with the supported unit. It must have protection on the way to and from the site and while at the repair site. The team is proficient in self-protection techniques during a move.

MSTs require adequate communications capability to assist in security. They also need assets to report the DS maintenance situation to the MCS and request additional support or repair parts from the base shop. Whenever MST organic radio capability is inadequate, additional support should be available from the supported units. MSTs also carry a limited amount of repair parts with them. They carry parts based on past experience and work load.

The maintenance company SOP spells out MST procedures in detail to preclude having to develop them for each mission. SOPs cover organization of teams for recurring situations and command relationships. They also cover assignment of work order numbers, hand receipting and repair parts procedures, and recovery and evacuation guidelines.



LEGEND:

1. Parking area (repaired items ready for return to user)
2. Inspection point
3. Supply parking
4. Reparable management
5. Maintenance control element
6. Parking area (inspection and waiting shop)
7. Storage area
8. Supply office
9. Maintenance platoon
10. Company command post
11. Company headquarters and mess
12. Parking and storage area for items to be evacuated

Figure 9-5. Sample base shop layout.

ON-SITE OPERATIONS

MSTs or other maintenance contact teams perform on-site repairs when unit maintenance resources are inadequate. Maintenance requirements determine the team's composition. A platoon leader from the maintenance company selects the personnel when all of the required assets are in that platoon. The maintenance control officer tasks the platoon leaders involved to assign the required repairers should the team be composed of persons from different platoons.

Many of the considerations are the same as those identified for MSTs working out of an UMCP. They include mobility, security, adequacy of tools and parts, and communications. SOPs spell out procedures for requests for such support. Requests include the following information:

- Identification of unit and equipment.
- Pickup points for unit guides, if required.
- Location (grid coordinates).
- Nature and extent of damage.
- Repair parts required.
- Security and NBC considerations.
- Recommended route of approach.

Once the team arrives at the site, the team chief makes a BDA and decides whether to repair on site or recover to an MCP. Maintenance timelines and the tactical situation are primary determinants. If on-site repair is feasible, the team repairs the item and returns it to the user. If recovery is required, the team chief considers short-tracking or other expedient self-recovery and like-vehicle recovery before he commits a recovery vehicle.

REPAIR PARTS SUPPLY

The materiel section of the BMMC manages repair part supply. The Class IX support section of the HSB and SIB/TDB and the supply platoon of the ACR maintenance troop receive, store, and issue repair parts. The section or platoon maintains a QSS for customers to get low-dollar, high-demand, consumable parts (light bulbs, wiper blades, common bolts) without formal requests. It handles selected reparables as turn-ins of unserviceable and issues of serviceable items. A proper location system ensures that stored supplies are issued in an efficient way. Fewer warehouse denials and faster customer support result if personnel properly store repair parts. AR 710-2 lists the stockage parameters for DS units.

Supply personnel fill all requests when parts are available. They also notify the BMMC of the issue. If the part is not available, the section passes a requisition to the BMMC. The BMMC passes the requisition to the COSCOM MMC. The COSCOM MMC prepares an MRO to have the repair parts company provide the part or it passes the requisition to the theater army or NICP. The theater army directs its units to support forward if there is no COSCOM in the support structure. Critical items are transported by air whenever possible.

The BMMC specifies the items and quantities of Class IX items to be located in the brigade area. The BMMC bases this decision on the PLLs of supported units and the mobility requirements. The supported units' source of replenishment for the PLL is the support battalion maintenance company. The support battalion maintenance company maintains an ASL which reinforces their MPLs. As the base of supply for Class IX items, the maintenance company coordinates its actions with the materiel section of the BMMC.

In the ACR, a supporting AVIM company provides Class IX A items to the RAS. As previously mentioned in the aviation maintenance support paragraph in this chapter, a CSG OPORD tasks the aviation maintenance battalion to provide AVIM to the AVUM troop. The AVUM troop commander forwards requests for Class IX A items to the AVIM company.

A separate brigade may operate with a division. Typically, the support battalion ties in directly to the COSCOM. However, if planners feel support is more responsive and the DISCOM has the capability, the battalion may tie into the division support system. In such cases, the BMMC passes requests to the DMMC. If the item is available in the MSB Class IX section, the DMMC passes an MRO to the MSB which provides the item to the support battalion. If the MSB does not have the item, the DMMC passes a requisition to the COSCOM MMC. The support battalion S2/S3 also coordinates with the DISCOM support operations section on the status of the separate brigade maintenance system.

Figure 9-6 shows the flows of Class IX requests and stocks for the separate brigade.

OFFENSE AND DEFENSE OPERATIONS

Personnel inspect equipment and perform required maintenance before an offensive operation. They eliminate shortages whenever possible and set up reserve

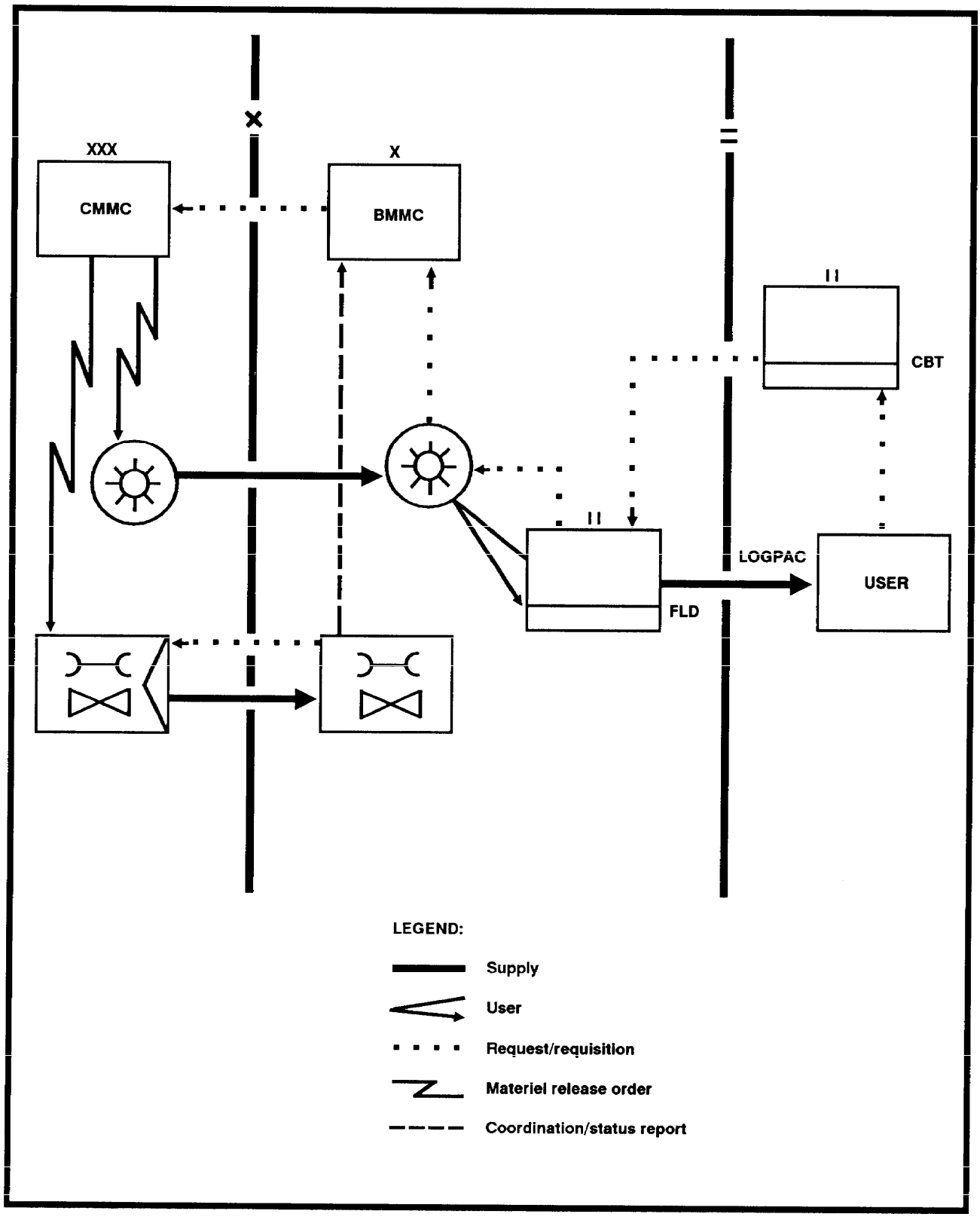


Figure 9-6. Class IX supply.

stocks. They increase the stockage of certain items on the basis of the operation, geography, terrain, and weather. For example, in many offensive operations, MSTs going forward increase the stockage of small, high-usage reparable, such as automotive subassemblies and fire control instruments.

As the tempo increases and distances lengthen, maintenance support assets move forward. However, planners considering such forward deployments take into account MST vulnerability, possible enemy counterattacks, and maneuver element requirements for space and roads. Maintenance elements require security assistance if they bypass pockets of enemy activity. Continuous movement forward also requires the commander to adjust the maintenance timelines. As lines continue to lengthen, expedient maintenance techniques as listed below are required:

- Having procedures to allow MSTs to draw parts and components expected to be required in large quantities.
- Setting up MCPs between UMCPs and the base shop.
- Increasing emphasis on evacuation, with repair in forward areas limited to component replacement, adjustments, and servicing.
- Using air transportation to move MSTs and repair parts.
- Having MSTs OPCON to maneuver units.

During a defensive operation, typically, supported units are not as widespread as in offensive operations. Therefore, the company commander centralizes the maintenance company assets more.

In a static defense, movement is less frequent. Therefore, more time is available for maintenance operations. The company commander increases the timelines for forward repair. He also builds up reserves of critical items consistent with mobility requirements and capabilities. He emphasizes more inspections and technical assistance.

A dynamic defense has many of the same maintenance implications as an offensive operation. For instance, maintenance sites move frequently and vehicle maintenance requirements rise.

Chapter 10
Medical Company

Contents

ORGANIZATION AND MISSION

The support battalion medical company provides brigade (division) level HSS for units operating in the brigade area. This HSS includes medical staff advice and assistance as required on an area basis to all units in the brigade area. The company also provides unit-level HSS to units without organic medical support. Figures 10-1, 10-2, 10-3, and 10-4 show the organizational structures of the HSB, SIB/TDB, and ACR medical companies. Each company consists of a company headquarters, brigade/regimental medical supply section, treatment platoon, and ambulance platoon. The HSB and SIB/TDB also have a preventive medicine section, mental health team, and optometry team. The medical company of the support squadron depends upon elements of corps for mental health, optometry, and supplemental preventive medicine services. The HSB and SIB medical companies also have a surgical squad.

The companies perform the following services and functions:

- Provision of HSS advice to the brigade commander.
- Treatment of patients with minor diseases and illnesses, triage of mass casualties, initial resuscitation and stabilization, and emergency medical treatment. They also provide patients with advanced trauma management, initial surgery, and preparation for further evacuation of patients incapable of returning to duty.
- Ground evacuation for patients from battalion aid stations and designated patient-collecting points.
- Emergency dental care.
- Medical supply, medical equipment, medical unique (Class VIII) repair parts, and medical maintenance support to units in the brigade area.
- Medical laboratory and radiology services commensurate with division-level treatment.
- Outpatient consultation services for patients referred from unit-level MTFs.
- Patient holding for up to 40 patients able to return to duty within 72 hours.
- Level II surgical support service. (HSB and SIB only)
- Optometry support limited to eye examinations single vision, spectacle frame assembly, and repair services.
- Preventive medicine and consultation service for brigade units.
- Forward treatment support to forces involved in combat operations.
- Coordination with the UMT for required religious support.
- Reinforcement of unit-level medical elements. They also provide medical supervision for PAs in unit-level medical elements without an assigned physician.

MODULAR MEDICAL SUPPORT SYSTEM

The modular medical support system standardizes all medical treatment subunits within the brigade. The medical system duplicates modules at different levels of health care. Duplications allow the medical managers to rapidly tailor, augment, or reinforce medical units where the need is most critical. This support system acquires, receives, triages, and provides EMT and advanced trauma management for patients within the brigade area.

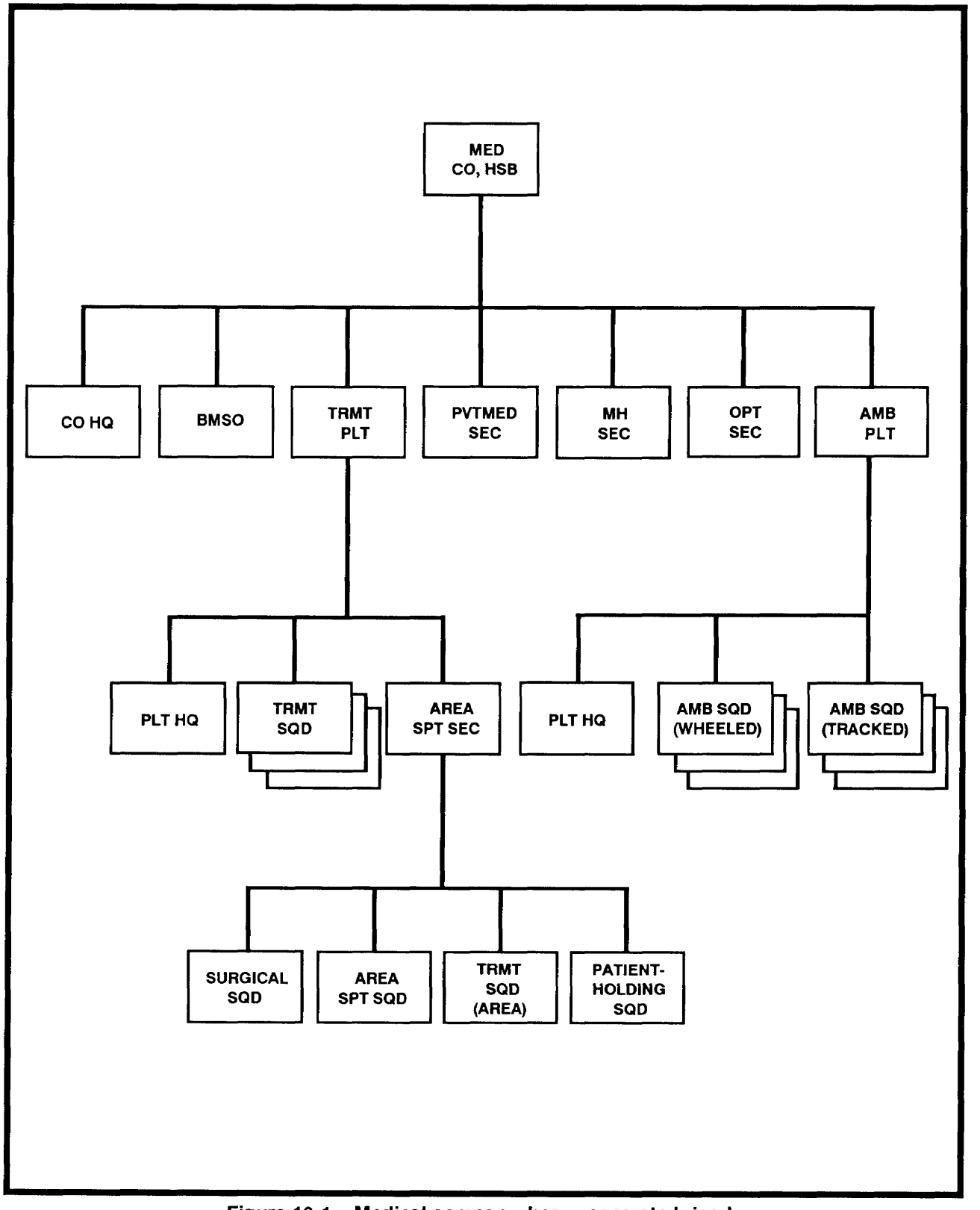


Figure 10-1. Medical company, heavy separate brigade.

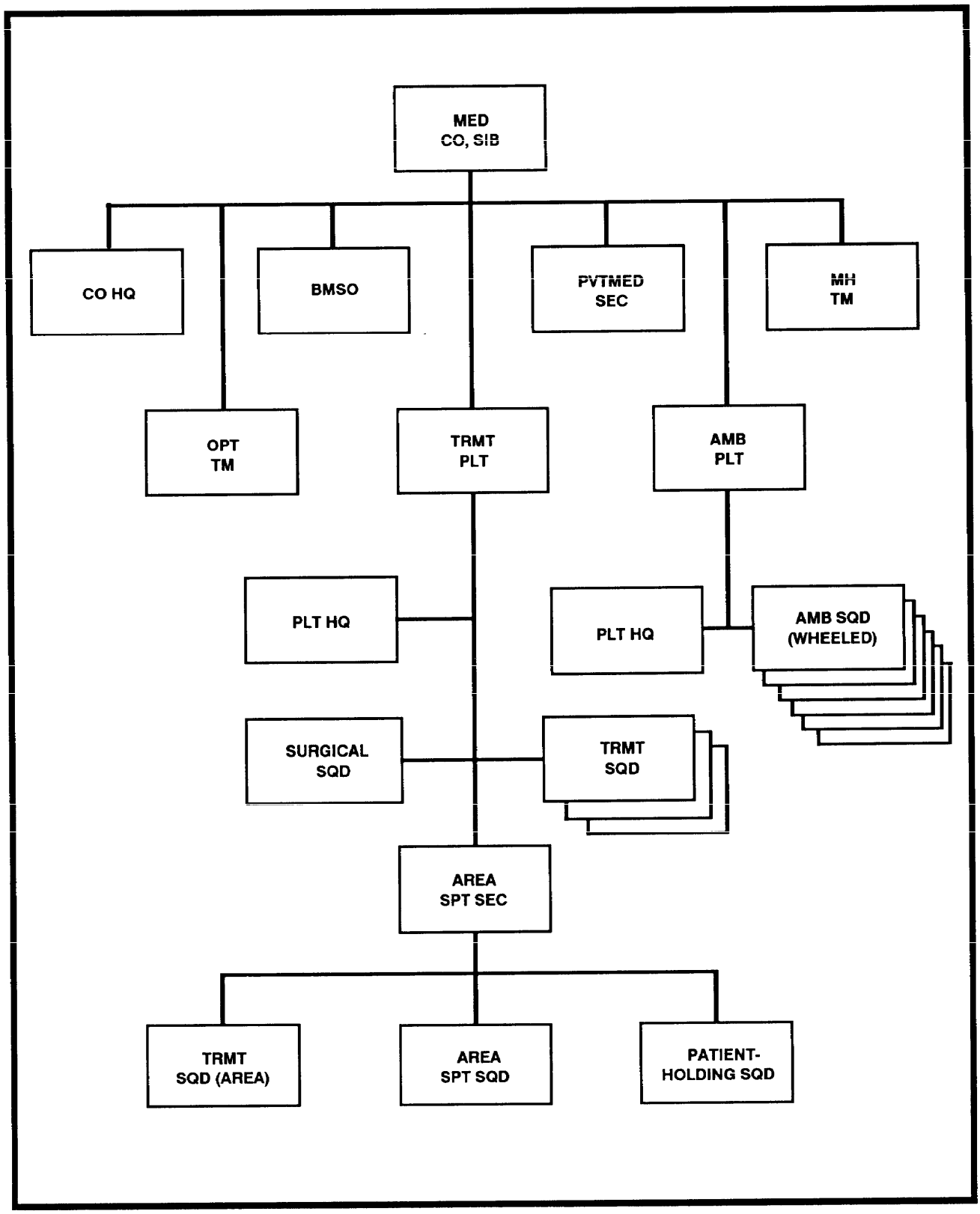


Figure 10-2. Medical company, separate infantry brigade.

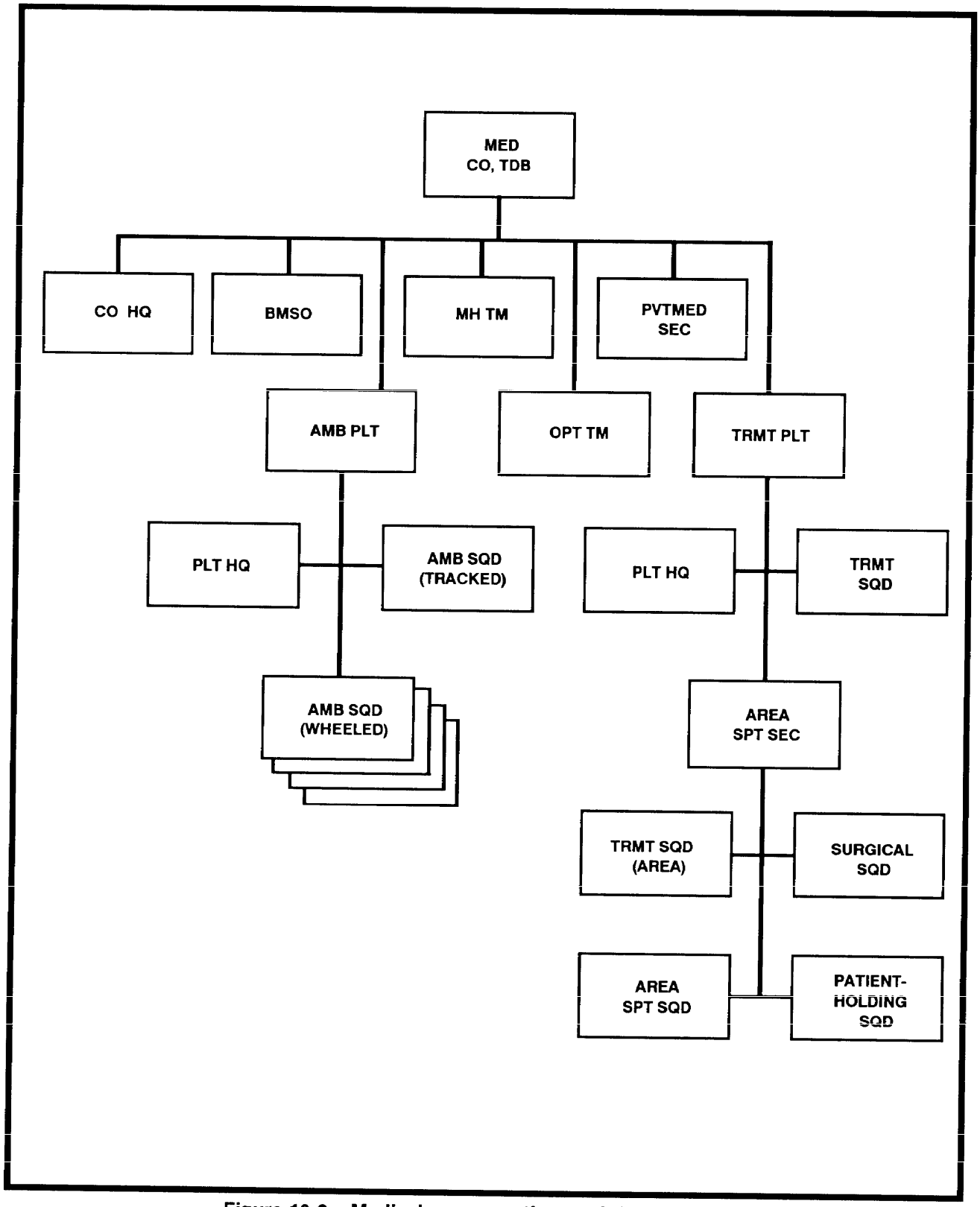


Figure 10-3. Medical company, theater defense brigade.

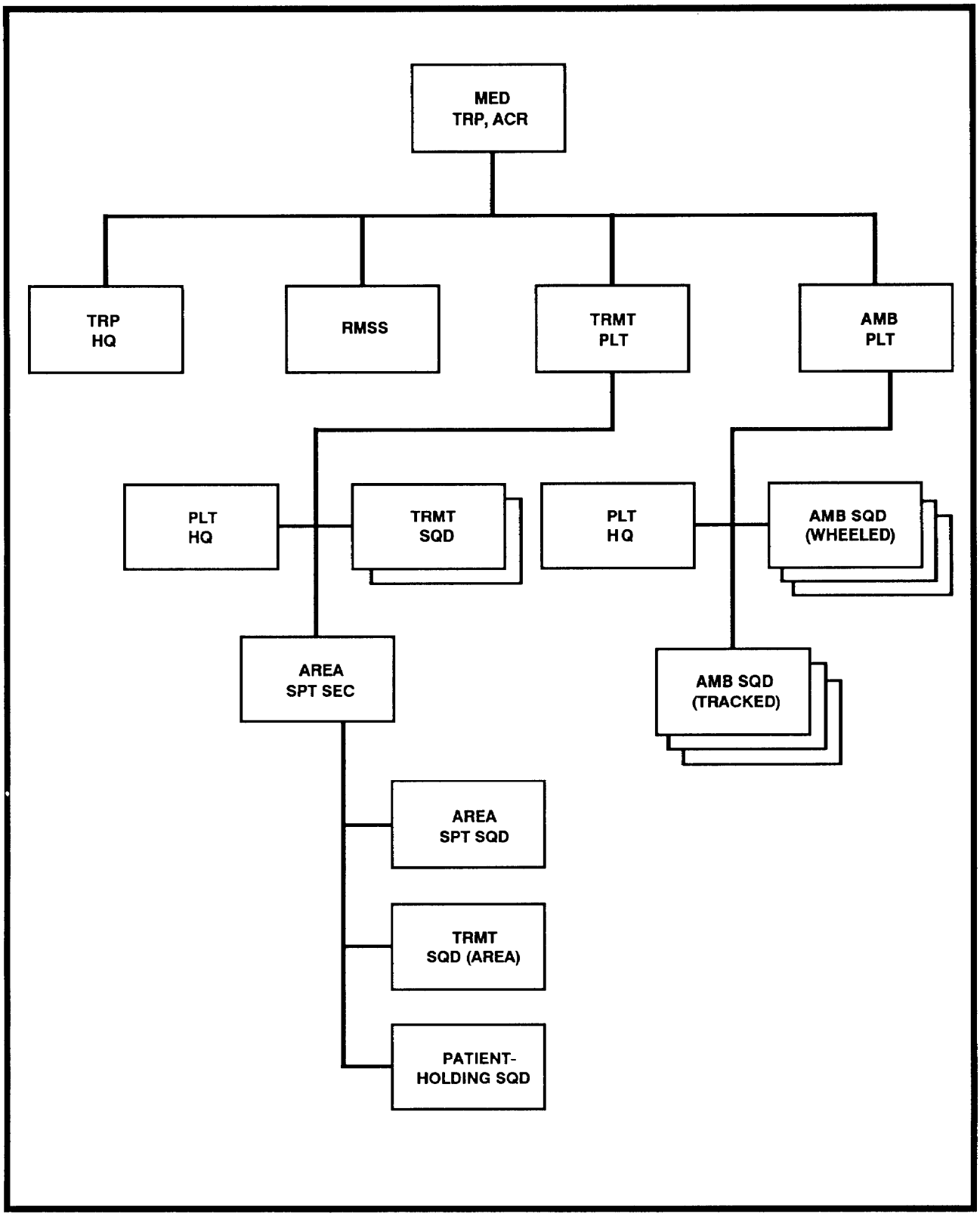


Figure 10-4. Medical troop, armored cavalry regiment.

Medical support originates in the forward area with a combat medic supporting each combat platoon. From this point HSS personnel evacuate a patient through the medical platoon BAS of a maneuver battalion to the support battalion medical company, if required. The support battalion medical company functions as the brigade clearing station. Five modules of the modular support system are —

- Combat medic. The combat medic is the first person in the HSS chain who makes medically substantiated decisions based on formal training. The combat medic is organic to medical platoons and sections of combat and combat support battalions. Medics provide support to the platoons and companies of the battalions.
- Ambulance squad. This squad, which can split into two teams, evacuates patients and provides care en route.
- Treatment squad. This squad provides advanced trauma management to battlefield casualties. ATM is emergency care that resuscitates and stabilizes patients for evacuation. Squads are organic to medical platoons of maneuver battalions and to support battalion medical companies. When not engaged in ATM, these squads provide routine sick call on an area basis. The treatment squad also treats and RTD those soldiers with minor illnesses or injuries.
- Area support squad. The area support squad provides emergency dental care and basic medical laboratory and X-ray diagnostic support. The squad collocates with a treatment squad and patient-holding squad. The three form an area support section. This section provides HSS on an area basis.
- Patient-holding squad. This squad holds and provides minimal care for up to 40 patients who return to duty within 72 hours. This squad is organic to the support battalion medical company.

ECHELONS OF CARE

The objective of HSS is to conserve trained manpower. The tailored and phased HSS system ensures the greatest number of RTD personnel as far forward as possible. Echelons of care provide medical treatment. Each echelon of care contains capabilities represented by each lower echelon of care or treatment (Figure 10-5).

Echelon I (Unit Level)

Designated individuals or elements organic to combat, CS, and medical units provide this medical support and treatment. Unit-level HSS places major emphasis on those measures (maintain the airway, stop bleeding prevent shock) necessary to stabilize. Unit-level HSS allows for the evacuation of the patient to the next level of care.

Individual. This immediate far forward care consists of those life-saving steps that do not require the knowledge and skill of a physician. Two different skill levels provide the care required in the forward area and form a major source of RTD personnel.

- Self-aid/buddy-aid. Each soldier is proficient in a variety of specific first aid procedures. These procedures include aid for chemical casualties, with particular emphasis on lifesaving tasks. This training enables the soldier or buddy to apply immediate care to alleviate a life-threatening situation. FM 21-11 discusses lifesaving measures.
- Combat lifesaver. The unit commander selects nonmedical unit members to receive additional training to increase medical skills beyond basic first aid procedures. After training these soldiers are called combat lifesavers. The unit commander selects one soldier per squad, crew, team, or equivalent-sized unit. The soldier performs the additional duty of combat lifesaver when the tactical situation permits.

Combat Medic. This is the first individual in the HSS chain who makes medically substantiated decisions based on medical MOS-specific training.

Treatment Squad (Battalion Aid Station). This element has personnel trained and equipped to provide physician-directed ATM. They provide ATM to battlefield casualties and, when not engaged in combat, routine sick call. Like elements provide this level of care in division, brigade, corps, and COMMZ units.

Echelon II (Division Level)

This echelon is also known as division level. HSS personnel provide care at the clearing station which is operated by the treatment platoon of a medical company. Additional capabilities include enhanced diagnostic aids, emergency dental care, radiological and laboratory services, and limited holding capacity. Here, HSS personnel evaluate the patient to determine his priority for continued evacuation to the rear or they treat and RTD him.

Echelon III (Corps)

Echelon III is the lowest echelon with hospital facilities. Within the COMMZ, the mobile army surgical hospital and the combat support hospital provide

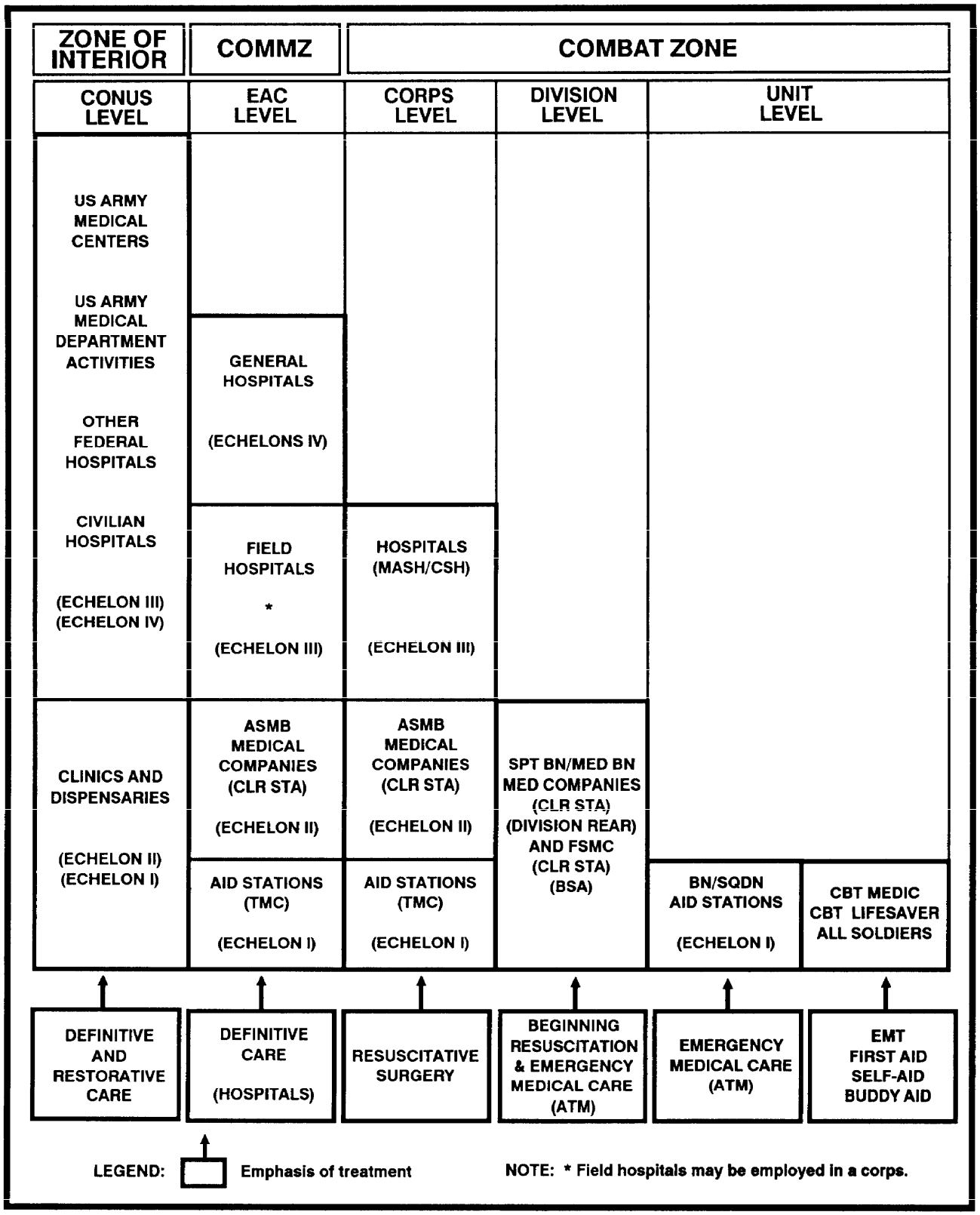


Figure 10-5. Levels and echelons of health service support.

the capability for initial surgery/medical intervention. HSS personnel stabilize patients for continued evacuation or RTD. In the COMMZ, the field hospital provides Echelon III area support and RTD care. Although the field hospital is located in the COMMZ, it is an Echelon III facility.

Echelon IV

At this echelon, HSS personnel may treat the patient at the general hospital. The COMMZ facilities are more sophisticated and specialized. Emphasis is directed to definitive care. HSS personnel may stablize the patient for further evacuation to CONUS or for reconditioning rehabilitation for RTD.

Echelon V

Medical support provides this echelon of care in CONUS. HSS personnel evacuate to CONUS those patients not expected to RTD within the theater evacuation policy. Military facilities and Bureau of Veteran Affairs hospitals provide hospitalization, possibly overflowing into civilian hospitals.

MASS CASUALTY MANAGEMENT

Early medical intervention and sorting and continuing evaluation of patients are necessary to minimize mortality and morbidity. Forward medical support is critical to meet this need. Medical planners and leaders anticipate and manage mass casualty situations. These situations severely tax brigade and corps medical systems. When possible, the brigade shifts its resources to meet these needs. The corps medical brigade/group has to provide additional resources.

The keys to managing these situations are the use of on-site triage and EMT teams, effective communications, and skillful use of air and ground ambulances. Rapid buildup of evacuation assets at the mass casualty location eases the situation. Also, planning for prompt movement of patients to all available treatment facilities helps. This move dissipates the medical work load by distributing casualties on the basis the patient's condition and the treatment facility capabilities.

Medical planners establish and thoroughly coordinate medical contingency plans for the handling of mass casualty work loads. They synchronize other battlefield operating systems to alleviate the situation. Planning includes –

- Deploying (immediately) available treatment and evacuation elements in direct support of the affected force for triage and evacuation.
- Coordinating for on-call available corps medical assets to support the forward medical company so it can continue to support forces not affected.
- Maintaining brigade SOPs for the use of nonmedical vehicles and aircraft to alleviate Level II medical evacuation backlog.
- Identifying nonmedical vehicles to help in evacuation.
- Providing en route medical care on nonmedical vehicles.
- Identifying required communications nets and procedures.
- Identifying procedures for medical equipment exchanges.
- Identifying the sites of medical facilities.

In mass casualty situations, the principle behind medical management changes from treating the worst cases first to providing the greatest good to the greatest number. At no time is the abandonment of a single patient contemplated. Medical managers base the categorization and scope of treatment on clinically sound criteria. They place emphasis on what can be done to save the lives of as many casualties as possible. As each patient moves from one treatment station to another (BAS to brigade clearing station), his condition is continually evaluated. Once medical assets are no longer overwhelmed by the number of casualties, treating the worst first again becomes the overriding principle.

CENTRALIZED CONTROL

The medical company commander retains control of the medical company assets, Medical resources are limited. The medical company commander employs medic-id elements to respond to the brigade commander's plans in a timely manner.

SECTION FUNCTIONS

COMPANY HEADQUARTERS

The company headquarters provides command and control of the company and other medical units that are attached. It provides unit-level administration, general supply, and NBC operations and communications support. FM 10-14 discusses unit supply operations, FM 43-5

discusses unit maintenance, and FM 10-63-1 discusses unit mortuary affairs functions.

The medical company commander also serves as the brigade surgeon. As such, he keeps the brigade commander informed on the medical aspects of brigade operations and the health of the command. He regularly attends brigade staff meetings to provide this input and to obtain information to facilitate medical planning. Specific duties in this area include –

- Assures implementation of the health service support section of the brigade SOP.
- Recommends the allocation of medical resources within the brigade.
- Supervises technical training of medical personnel and the combat lifesaver program in the brigade or ACR.
- Determines procedures, techniques, and limitations in the conduct of routine medical care, EMT, and ATM.
- Monitors and coordinates requests for aeromedical evacuation from supported units.
- Ensures implementation of automated medical systems.
- Informs the COSCOM surgeon (and DISCOM surgeon if operating as part of a division) on the brigade's medical support situation.
- Monitors the health of the command and advises the commander on measures to counter disease and nonbattle injury.
- Assumes operational control of augmentation medical units when directed.
- Exercises technical supervision of subordinate battalion or squadron surgeons.
- Assumes technical supervision of the physician assistants organic to subordinate units in the absence of their assigned physicians.
- Provides the medical estimate (FM 8-55) and medical threat input for inclusion in the commander's estimate.

BRIGADE MEDICAL SUPPLY SECTION

The BMSS plans, supervises, and controls medical supply and medical equipment support for the brigade. The BMSS provides Class VIII resupply, medical equipment repair parts, and medical equipment maintenance support to brigade and attached units on an area basis. The BMSS develops and maintains prescribed loads of contingency medical supplies. It manages the medical quality control program and supervises unit biomedical equipment maintenance support. The section monitors the brigade medical assemblage management program. It also coordinates the development of preconfigured Class VIII packages.

PREVENTIVE MEDICINE SECTION

The PVTMED section supervises the command preventive medicine program and ensures preventive medicine measures that protect brigade personnel against the following

- Food-borne diseases.
- Water-borne diseases.
- Arthropod-borne diseases.
- Environmental injuries (heat and cold injuries).

This section provides advice and consultation in the areas of environmental sanitation and epidemiology. It provides the same for entomology, limited sanitary engineering, and pest-management. This section also trains unit field sanitation teams.

The specific functions of this section include but are not limited to the following:

- Assists the brigade surgeon in staff estimate preparation.
- Assists the battalion S2/S3 in determining requirements for medical intelligence collection, particularly with respect to disease prevalence. See FM 8-10-8 for more information on medical intelligence collection.
- Deploys PVTMED teams in support of specific units and operations.
- Monitors water supplies.

MENTAL HEALTH SECTION

The HSB mental health section (for the SIB/TDB – mental health team) provides staff supervision for the command preventive psychiatry/combat stress control program in accordance with AR 40-216. The section collocates with the brigade clearing station in the BSA. Acting for the brigade surgeon, this section establishes policy and guidance for the prevention, diagnosis, management, and RTD of battle fatigue casualties. It has technical responsibility for the diagnosis, treatment, and disposition of neuropsychiatric disorders and disease cases. It also has responsibility for the psychological aspect of nuclear surety programs.

During tactical operations, mental health personnel ensure a 24-hour NP diagnostic and evaluation capability at the clearing station. The brigade psychiatrist or his authorized representative evaluates the BF and NP patients before they are evacuated out of the brigade. If patients will RTD within 72 hours, mental health personnel hold them for treatment at the BSA patient-holding facility. In cases where patients require longer than the holding policy at brigade level allows, HSS personnel transfer them to the corps-level CFRP facility.

For all BF and NP patients being RTD, the mental health personnel work actively through the personnel system. They also work through contact with each soldier's unit to ensure successful reintegration into his original unit or into a new unit.

OPTOMETRY SECTION

The optometry section provides treatment within the capabilities of its equipment. It focuses on prevention of eye problems and support of the treatment squads. The optometry section also provides:

- Routine eye examinations and refraction.
- Spectacle frame assembly using presurfaced single-vision lens.
- Optical repair services.

TREATMENT PLATOON

The treatment platoon operates the brigade clearing station in the BSA. It also provides assets to reinforce supported unit medical elements. Platoon elements receive, triage, treat, and determine disposition of patients. The treatment platoon in each medical company has a headquarters, treatment squads, and an area support section.

The platoon headquarters is the command and control element of the platoon. It determines and directs the disposition of patients and coordinates their further evacuation.

The area support section operates the brigade clearing station. The area support section consists of several squads that operate as a single medical unit and are not normally used to reinforce other units. The area treatment squad is the base treatment element of the clearing station. The squad consists of two teams which provide troop clinic service, trauma treatment, and tailgate medical support. When the clearing station moves, one of the treatment squads along with elements of the holding squad serves as a jump element. They set up the new clearing station while remaining elements close out operations at the old site. The area support squad consists of the dental and diagnostic support elements of the clearing station. The patient-holding squad operates a 40-bed facility for patients awaiting evacuation and patients expected to be RTD within 72 hours.

The surgical squad in the HSB and SIB/TDB provides lifesaving or initial surgical service to brigade units. It performs early surgery whenever a likely delay in the evacuation of a patient threatens life or the quality of recovery. The squad performs initial surgery for up to 40 wounded/injured patients with its organic medical equipment set. The squad collocates with the patient-holding squad to provide pre/postoperative care.

Each of the medical companies has four treatment squads in the treatment platoon. (In the separate brigade, one of the squads is included in the area support section. In the ACR, two are.) Each squad employs treatment vehicles with medical equipment sets — two trauma sets and two general sick call sets. These squads provide troop clinic services and trauma treatment. The treatment platoon reinforces supported units medical elements and alleviates mass casualty situations. Each treatment squad may be split into two treatment teams. The treatment squads are not track mounted. They carry the equipment and supplies necessary to treat chemical agent casualties, to include the M51 shelter system.

AMBULANCE PLATOON

The ambulance platoon performs ground evacuation from units in the brigade area requiring brigade-level medical treatment. It provides ambulance reinforcement to the battalion aid stations. It also provides ambulance support from designated collection points to the clearing station. The platoon has a headquarters and ambulance squads. Refer to Figures 10-1, 10-2, 10-3, and 10-4 for the number and type of ambulance squads for each separate brigade. The headquarters provides command and control and plans for the employment of the platoon. It coordinates support with the medical platoons of the supported maneuver battalions. It also plans ambulance routes and establishes AXPs for ground and air ambulances as required. Each squad splits into two ambulance teams and provides evacuation from forward areas.

OPERATIONS

The company commander/brigade surgeon has direct access to the brigade commander. He advises the brigade commander on medical aspects of brigade operations and on the health of brigade personnel. The company XO (the field medical assistant) is the principal assistant to the company commander on the tactical employment of the company assets. Figure 10-6 shows a sample medical company layout. The basic considerations which influence the employment of medical assets within the brigade are —

- The brigade commander's plan.
- The anticipated patient load.
- Expected areas of casualty density.
- Medical treatment and evacuation resources available.

Within their limits, HSS personnel may have to defend themselves against a Level I threat. Planners include HSS in rear operations and area damage control planning.

Having a single manager of HSS in an area of operations enables shifting scarce medical resources. The

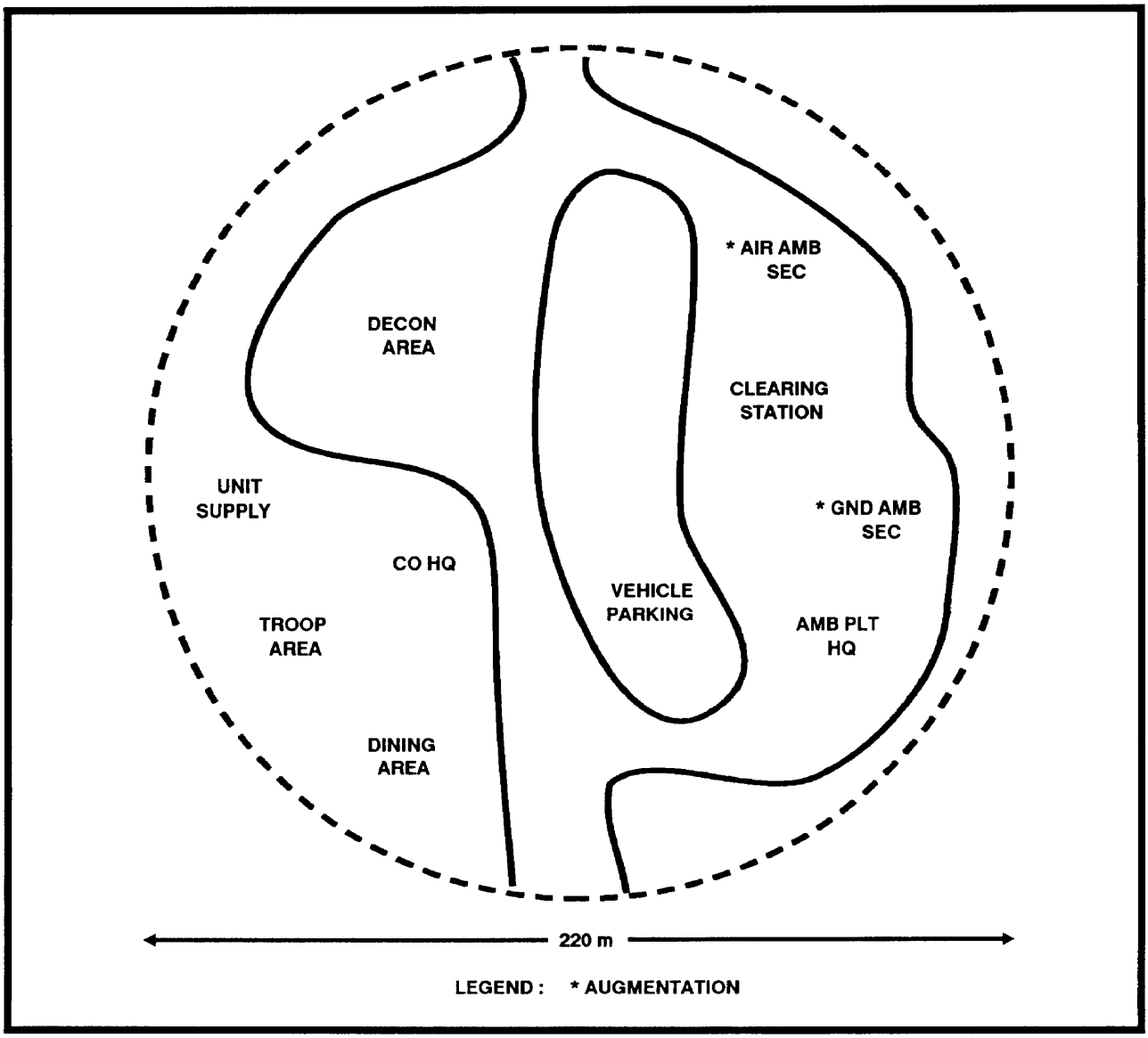


Figure 10-6. Sample medical company layout.

medical company commander ensures that the medical annex of the OPLAN includes –

- Procedures to handle and treat NBC casualties and provision for chemical protective shelter systems and decontamination augmentation.
- Provision for A2C2 for supporting air ambulances and for road clearances and MSR priorities for ground ambulances.
- Augmentation of medical support assets for contingency operations. This may include ground and air evacuation assets, modular trauma treatment squads/teams, and combat stress control augmentation.
- Provision for medical representation on casualty damage assessment elements.

Several provisions of the Geneva Conventions affect HSS operations in the brigade sector. HSS personnel treat and evacuate the sick, injured, and wounded prisoners through normal channels. Medical personnel do not guard prisoners. The echelon commander provides the guards. However, personnel physically segregate prisoners from US and allied patients. Medical personnel evacuate EPW patients from the combat zone as soon as possible. HSS personnel retain only those EPWs whose medical condition renders them nontransportable. They retain them temporarily in the combat zone until their condition permits further evacuation. Medical personnel are required to treat civilian casualties. These patients are transferred to civilian facilities at the earliest possible time. The Geneva Convention protects properly identified personnel performing medical duties in medical units. Details are in DA Pamphlet 27-1 and FMs 8-10 and 27-10.

The medical company, in coordination with the support battalion S2/S3, also develops a combat lifesaver program for support battalion personnel. Training is most critical for elements which deploy separately such as MSTs, contact teams, and truck drivers. However, the program covers all elements of the support battalion.

CLEARING STATION OPERATIONS

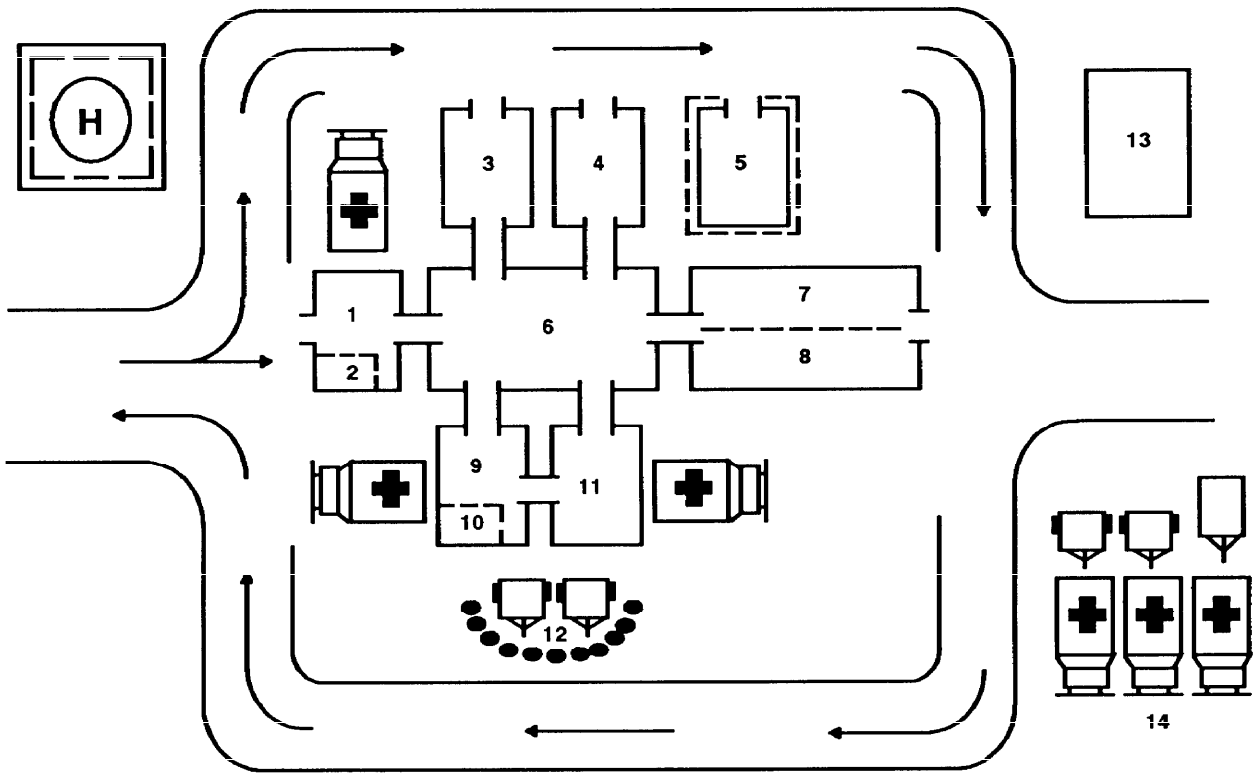
The treatment platoon of the medical company operates the clearing station. It collocates with the mental health, preventive medicine, and optometry sections. Also operating at the clearing station are any elements of the FSMC treatment section not deployed forward. In addition to providing Level II support for units in the brigade area, the clearing station provides unit-level support to units in the BSA without organic medical assets. The clearing station also serves as the backup for the BAS. During static situations, ambulance teams are also stationed at the clearing station. They provide routine sick call runs and emergency standby support to units operating in and around the BSA. A suggested layout of a typical clearing station with surgical squad capability is shown in Figure 10-7.

The clearing station performs the functions discussed for the area support section of the treatment platoon. HSS personnel give necessary treatment to seriously ill or wounded patients arriving at the station. They also stabilize the patients for movements. Medical and dental officers treat patients with minor injuries and illnesses within their capability. They hold these patients for continued treatment or observation for up to 72 hours. They treat and immediately RTD or they evacuate them to the appropriate MTF for further treatment or evaluation. Other functions of the clearing station include –

- Providing consultation and clinical laboratory and X-ray diagnostics for unit physicians and physician assistants.
- Recording all patients seen or treated at the clearing station and notifying the brigade S1.
- Verifying the information contained on the field medical card of all patients received at the MTF.
- Monitoring casualties when necessary for NBC contamination before medical treatment. Details are in FMs 8-9 and 8-10-4 and TM 8-215.
- Ensuring NBC casualties are properly handled according to the guidance in Chapter 2 of this manual.

After an attack on the BSA, a treatment team of the treatment section and an ambulance team may be OPCON to the BCOC as part of the ADC element. Units are responsible for collecting casualties. They provide first aid and get casualties to a medical facility.

The preventive medicine section and unit field sanitation teams use preventive medicine measures to protect against food- and water-borne diseases. They use such measures to protect against arthropod-borne diseases and environmental injuries (such as heat and cold injuries). The section emphasizes preventive measures. In past conflicts, more soldiers have become ineffective from DNBI than as a direct result of combat. The section cannot wait until problems appear to take action. For example, it cannot wait for the first case of



LEGEND:

1. Emergency medical service area
2. Medical laboratory area
3. Dental care area
4. Neuropsychiatric service area
5. Optometry service area
6. Common area
7. Holding ward
8. Postoperative care area (staffed by surgical detachment personnel)
9. Preoperative care area
10. X-ray area
11. Operating room
12. Power generators
13. Treatment platoon CP
14. Treatment section

H Helipad

Figure 10-7. Suggested layout of a brigade clearing station.

malaria or sandfly fever to suppress mosquito or sandfly populations in troop assembly areas. The section may coordinate with the designated civil-military officer and the local population. See AR 40-5 for more on preventive medicine.

In the mental health team, the brigade combat stress control coordinator advises the brigade surgeon on mental health considerations. He keeps abreast of the tactical situation and plans for BF/NP care when maneuver units are pulled back for rest and recuperation. He assists in patient triage and ensures BF/NP patients are handled properly. Normal treatment follows these guidelines:

- HSS personnel give mild (duty) cases a brief respite of one to six hours of comfort and reassurance and return them to their units.
- HSS personnel may assign moderate (rest) cases to work at a logistics facility in the BSA for one to two days. During this time, however, they are under medical supervision. The medical company remains responsible for such services as feeding the patients. Moderate cases may also be held at the holding facility if space is available.
- HSS personnel hold serious (hold) cases in the clearing station holding facility for up to 72 hours if behavior is not too disruptive. The brigade CSCC provides guidance to clearing station personnel on treating BF/NP patients. Treatment consists of sleep, hydration, quality food, hygiene, general health measures, and restoration of confidence. It also includes soldierly work details and individual counseling. The attending physician prescribes medication only to briefly aid in sleep or to control disruptive behavior. The CSCC also helps the attending physician to coordinate RTD of patients fit to perform normal duties.
- HSS personnel evacuate more serious (refer) cases beyond the ability of the clearing station to manage to the supporting division MSB medical company. If the brigade is not operating with a division, HSS personnel evacuate the soldier to the corps. Ambulance aides use physical restraints during transportation when necessary. HSS personnel do not use air ambulance unless no other alternative is feasible. The physician, in coordination with the brigade CSCC, transfers soldiers who cannot RTD in three days directly to a corps reconditioning facility. In such cases, the physician annotates the patient's field medical card as "battle fatigue" unless a specific neuropsychiatric disorder has been formally established.

EVACUATION

The ambulance platoon of the support battalion medical company provides evacuation. This platoon's ground ambulance assets normally provide evacuation to the FSMC clearing station from forward sites. Figure 10-8 shows the flow of patient evacuation.

The FSMC ambulance platoon and a forward air ambulance team of the supporting corps air ambulance company normally provide evacuation from the BAS. These assets also support other units in the brigade area on an area basis. Typically, the FSMC field sites one team from the ambulance platoon at each BAS. The ambulance platoon locates the other ambulances at AXPs. They also locate them at designated patient collecting points or at the clearing station. Within the BSA, units are responsible for getting wounded, injured, and sick soldiers to the clearing station.

An ambulance exchange point is a point where patients are exchanged from one ambulance to another. Planners normally designate these points as a part of the HSS plan. Support battalion tracked and wheeled vehicles carry patients from the BAS to an AXP where wheeled or tracked ambulances take over for the trip to the brigade rear. Use of AXPs returns evacuation assets to their support positions faster because the crews are familiar with the road net and the supported unit's tactical situation.

Another form of ambulance shuttle system involves the use of ambulance loading points and relay points. In this type of system, ambulance loading points are stationed ready to receive patients. Medical personnel station ambulances at relay points ready to replace ambulances leaving loading points to evacuate patients. They also require control points at crossroads or junctions to direct empty ambulances from relay points to loading points.

An air ambulance team of the corps air ambulance company is normally field sited at the BSA. Administrative and logistics responsibilities, discipline, internal organization, and training are the responsibility of the parent air ambulance company. The team leader knows the tactical planning process well enough to ensure appropriate employment of the air evacuation assets. He also obtains the required airspace management information. He coordinates aviation support requirements and airspace C2 matters with the brigade S3 (air). When

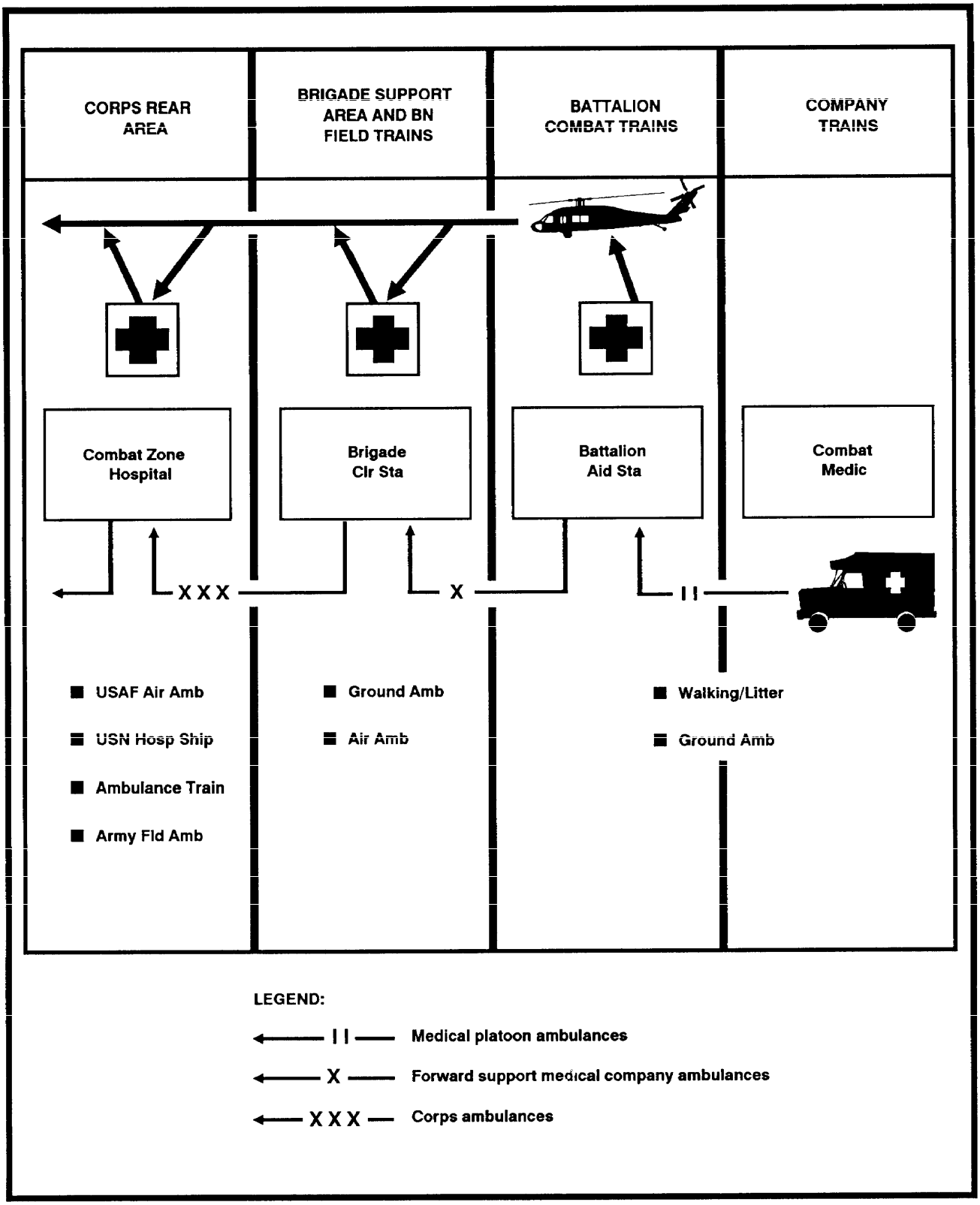


Figure 10-8. Patient evacuation flow.

air superiority exists, the team evacuates urgent patients from battalion aid stations to the BSA clearing station. The treatment platoon sets up and marks the helicopter landing zone at the forward triage site.

In determining which of the available means of evacuation (air or ground) is the most appropriate, the treating physician specifies the mode of transportation which best supports the clinical condition of the patient. As a minimum, he considers the following factors:

- The clinical condition of the patient, with the principal consideration being which mode of transportation contributes least to the patient's morbidity.
- The current tactical situation as it impacts upon the safety of the patient and the evacuation means.
- The geographical and climatic conditions.
- The time and distance to a supporting treatment facility as these relate to a patient's condition.

Patients' units normally keep ammunition and individual weapons belonging to patients to be evacuated out of the brigade. If they do not and patients arrive with weapons or ammunition, the clearing station collects and disposes of them according to command SOP. Options include giving them to the brigade S4, the support battalion S4, or the supported unit's designated representative.

CLASS VIII SUPPLY

Medical logistics systems provide medical supplies, equipment, and repair parts. The brigade medical supply section manages Class VIII items. This function includes the management of medical maintenance for the brigade.

The brigade's mission, its location, and guidance from the brigade surgeon and the COSCOM surgeon determine the number of days of supply and additional items for the BMSS to maintain. Brigade units normally stock two days of medical supplies. The BMSS maintains five days of supplies. During the initial deployment, lodgment, and early buildup phases each FSMC receives preconfigured push-packages of medical supplies. The LOGPLAN defines preconfigured medical supply packages tailored to meet the mission. Supply personnel normally send these packages directly to the brigade until the MEDLOG battalion sets up line item requisitioning. While preconfigured packages are intended for use during the initial phase, operational needs may dictate continued use in exceptional cases. Brigade planners coordinate such support with the MEDLOG battalion.

Once the routine supply system is established, the BMSS issues from stocks on hand or sends the requisition to the MEDLOG battalion. The BMSS coordinates shipment of materiel from the corps to the forward area with the brigade transportation office. Returning evacuation assets also carry supplies forward.

Trauma and sick call sets make up most of the sets in the brigade. The commonality of these sets allows the supply system to satisfy the brigade's major medical resupply need through a simple resupply process. Corps medical logistics units prepackage supplies to reconstitute the sets. Each set has three to five days of supplies for the brigade. The bulk of the BMSS stocks consist of these sets.

UNIT MEDICAL MAINTENANCE AND OPTICAL SUPPORT

The biomedical equipment specialist provides medical maintenance. The corps MEDLOG battalion provides higher level support.

The medical company provides single-vision lens optical fabrication support. The corps MEDLOG battalion provides multivision lens fabrication support.

SUPPORT IN SPECIFIC TACTICAL SITUATIONS

Offense

The basic characteristics of HSS in offensive operations are –

- As areas of casualty density move forward, the routes of evacuation lengthen, requiring forward movement of medical assets.
- Heaviest patient loads occur during disruption of enemy main defenses, at terrain or tactical barriers. They also occur during assaults on final objectives.
- Initially, the medical company locates as far forward as combat operations permit. This tactic allows maximum use of facilities at the initial location, thus enhancing overall effectiveness of support.

Two basic problems confront the medical company in the offense. First, communications contact with supported units must be continuous. Also, the medical company must maintain the mobility of treatment elements. It maintains contact through evacuation elements operating between the unit-level facilities and the clearing station. Treatment elements are minimally staffed consistent with the patient work load. Medical personnel evacuate

patients as promptly as possible. Therefore, the medical company positions available ambulance assets forward.

The BMSS issues treatment elements maximum allowable loads of medical supplies before the start of the attack. From the clearing station, supplies move forward via ambulances in response to informal requests from supported medical elements and through exchange of medical equipment received from BASS.

Defense

HSS of defensive operations is more difficult than of offensive operations. Casualty rates are lower, but forward acquisition is complicated by enemy action and the initial direction of maneuver to the rear. Increased casualties among HSS personnel reduce treatment and evacuation capabilities. HSS personnel expect the heaviest casualties, including those produced by enemy artillery and NBC weapons, during the initial enemy attack and in the counterattack. Insecure ground routes permit evacuation only periodically. The enemy attack disrupts ground and air communications routes and delays evacuation of patients to and from aid stations.

The probability of enemy penetration requires locating treatment elements farther to the rear than in the offense. However, their locations should not interfere with the maneuver of reserve forces.

The depth and dispersion of the mobile defense create significant time and distance problems in evacuation support to security and fixing forces. Security forces are forced to withdraw while simultaneously carrying their patients to the rear.

Retrograde

HSS in retrograde movements varies widely. It depends upon the operations, the enemy reaction, and the situation. Firm rules for all retrograde operations are difficult to set, but planners consider certain factors:

- Time is extremely important in retrograde operations. With less time available, the brigade surgeon carefully evaluates the capability to collect, treat, and evacuate all patients.
- The enemy disrupts command, control, and communications. SOPs delineate measures to counteract factors impeding evacuation.
- Sorting of patients is critical. Planners consider the type of transportation available for evacuation. The ambulance platoon evacuates seriously wounded patients as quickly and comfortably as possible. Proper sorting and rapid evacuation of patients lessen the need to setup complete medical clearing stations.
- When a patient's condition precludes movement or when the patient load exceeds the means to move them, the tactical commander decides whether or not to leave patients behind. The surgeon ensures that the tactical commander understands the need to reach a timely decision in this regard. HSS personnel and supplies stay with patients left behind.
- Planners identify locations for successive positions. Generally, movement is toward existing medical elements. Initial locations are farther to the rear than in other types of operations. For continuity of support, medical personnel occupy and prepare the next rearward location before closing the forward facility.
- The rate of movement, the distance involved, and the tactical situation determine the frequency of displacement. Support battalion medical elements move before there is danger of involvement in the action of forces conducting the retrograde.

A rearward passage of lines requires detailed planning between surgeons of the units concerned. Planning covers patient collection points and AXPs with corps assets. It also covers Class VIII resupply. Medical elements remain mobile. This permits their rapid movement without the need to abandon patients. The medical planner helps maintain mobility by keeping the patient load low by coordinating evacuation with supporting medical elements.

* Appendix A

Sample Tactical SOP for the Support Battalion and Support Squadron Command Post

This appendix contains a sample annex to a support battalion/squadron SOP. The purpose of this appendix is to provide a guide for a format and level of detail. It is not intended to be prescriptive.

ANNEX_ (LOC/TOC ELEMENT) TO CP OPS, Tactical SOP, Support Battalion/Squadron

1. Purpose: To prescribe the tactical standing operating procedures of the LOC/TOC element of the support battalion/squadron.

2. Scope: Applicable to the HHC/BMMC, support battalion (separate brigades) and HHT/RMMC, support squadron (ACR).

3. Responsibility: Support battalion/squadron S2/S3 section.

4. Organization:

a. The LOC/TOC will operate in a two-shift configuration to provide 24-hour-a-day operations.

b. The LOC/TOC consists of the personnel and equipment assets organic to the command section (less the S1, S4, and chaplain) and the materiel management office.

c. Figures A-1 and A-2 depict the layout of the LOC/TOC for the support battalion/squadron. In the HSB and SIB/TDB the S2/S3 section operates out of a 5-ton expandable van. The command section works in and through the van. However, this section also works out of the command briefing tent set up in the support battalion LOC/TOC area. The BMMC works out of a tent. In the ACR, the S2/S3 section and RMMC each operate out of a 5-ton expandable van. These two vans are backed up to a common platform/trailer.

5. Duties:

a. Commander and XO:

(1) Perform the specific duties of the commander and the personnel of the command section as detailed in FM 63-1.

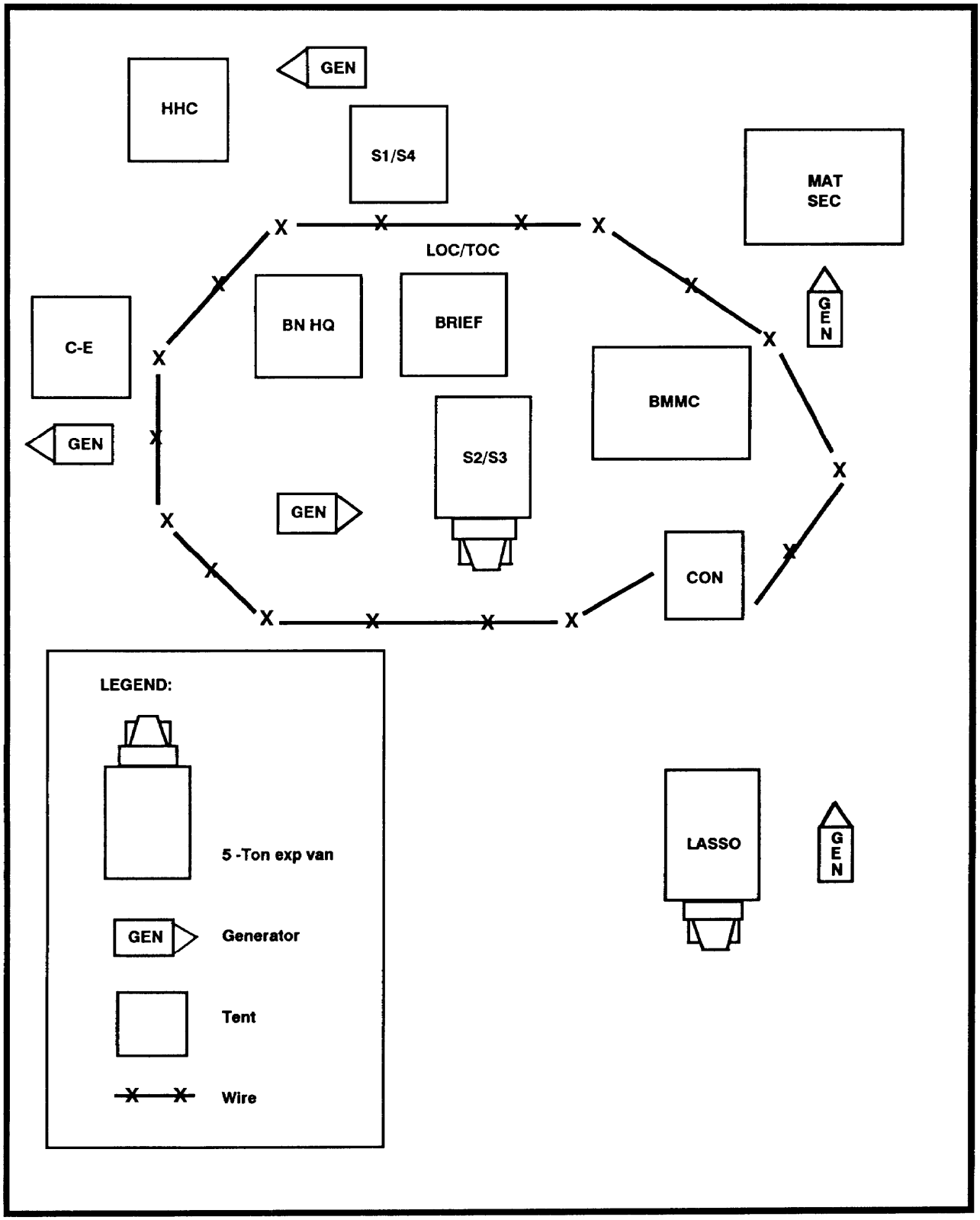


Figure A-1. Sample support battalion command post.

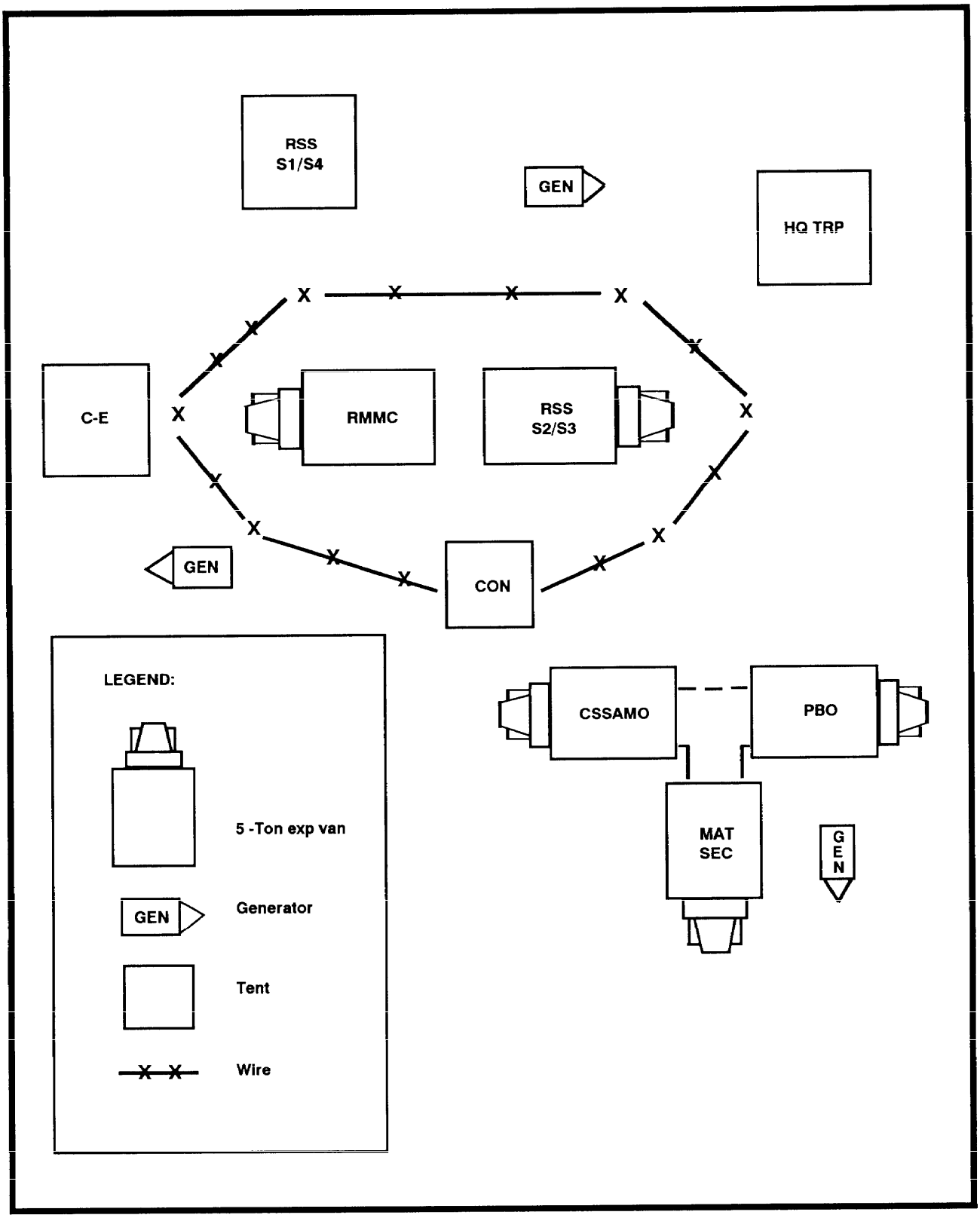


Figure A-2. Sample support squadron command post.

(2) Provide command and control of the support battalion/squadron CP and subordinate units.

(3) Supervise activities of subordinate units.

(4) Coordinate brigade logistics and HSS operations.

(5) Ensure that the support battalion/squadron mission is working IAW the brigade commander's intent.

(6) Provide staff liaison.

(7) Maintain coordination with the brigade rear CP. Ensure also that the base cluster layout is established IAW the overall brigade plan.

(8) Serve as base cluster commander for BSA/RSA.

b. S2/S3 Section:

(1) Prepare the staff estimates.

(2) Prepare OPLAN/OPORD.

(3) Monitor the location and movement of subordinate units.

(4) Establish LOC/TOC security.

(5) Maintain daily log of significant events.

(6) Provide intelligence support.

(7) Plan and implement OPSEC for current and future operations.

(8) Determine status of OPSEC program.

(9) Develop and direct preparation for NBC defense plan.

(10) Coordinate all logistics and HSS functions. In the case of the ACR, the support operations branch has the responsibility.

(11) Direct all NBC operations to include preparation for friendly NBC strikes, radiological/chemical surveys, and all decontamination operations.

(12) Analyze spot reports.

(13) Determine the support battalion/squadron tactical support requirements.

(14) Direct reconnaissance and movement activities and prepare road movement orders.

(15) Organize, brief, and coordinate the activities of the advance/quartering parties.

(16) Brief march column commander.

(17) Coordinate subordinate units crossing contaminated areas.

(18) Select and provide layout plan for all new or proposed locations for the section.

(19) Operate the LOC/TOC.

(20) Coordinate establishment of defense for support battalion/squadron elements in the brigade rear.

(21) Identify corps CSS assets and requirements. In the case of the ACR, the support operations branch has responsibility.

c. CSS Automation Management Office: (ACR, Support Squadron) :

(1) Receive, distribute, implement, retrieve, and dispose of all STAMIS software for the regiment.

(2) Coordinate signal support actions/requirements with the corps signal office.

(3) Assist units with CSS automation COOP planning and execution.

(4) Maintain the master library of CSS software and STAMIS user manuals for the ACR.

d. BMMO/RMMO:

(1) Receive from the battalion/squadron commander for implementation or help S2/S3 section develop logistics plans,

estimates, and directives relating to supply and maintenance support operations.

(2) Manage Class I (includes emergency water distribution), II (includes unclassified map supply), III, IV, V, VII, and IX supplies and water.

(3) Maintain property book accountability for brigade units.

(4) Develop and control the brigade ASL.

6. Internal LOC/TOC Procedures:

a. Plans and orders:

(1) The support battalion/squadron staff prepares all battalion/squadron plans and orders; the S2/S3 section publishes the plans and orders.

(2) The S2/S3 section publishes OPLANs/OPORDs, FRAGOs, and warning orders in hard copy and distributes them as follows (one each):

- Commander, support battalion/squadron.
- HHC/HHT.
- BMMO/RMMO.
- S2/S3.
- Each subordinate company.
- Brigade S3.
- Brigade S4.
- BCOC.
- Others as needed.

(3) The S2/S3 section prepares FRAGOs in written format and issues (in priority of methods) by messenger\LO, FAX, FM, or RATT.

(4) The S2/S3 section issues warning orders as soon as a brigade order is received and analyzed.

b. Maps and overlays:

(1) Maps:

(a) The S2/S3 orders and stocks a basic load of four sets of contingency maps. Two sets of terrain analysis maps are also stocked.

(b) The LOC/TOC operates with a minimum of four sets of maps, each mounted on a map board. One set is for operations, one for intelligence data, one for the BMMO/RMMO, and one for briefings. Personnel assemble the fourth set for use on jumps.

(c) Personnel highlight vertical and horizontal grid numbers in yellow.

(d) All drops display three grid reference crosses: one in the upper left, one in the lower center, and one in the upper right. All drops use the same locations. Personnel prepare the following drops for each operation:

1. Operations. Includes tactical boundaries and locations of all battalions, separate companies, and command posts . Personnel post the date/time group of the most recent update in the top middle of the drop. The S2/S3 section maintains the drop which hangs at all times on the operations map.

2. Support operations. Includes the MSRs and the current and projected locations of all logistics units down to company/troop level and all logistics facilities. Personnel label logistics facilities with the date/time group of the opening and projected closing (if appropriate) above the symbol. They use 0/0 to indicate an on-order opening or closing. The S2/S3 section maintains the drop with input from the BMMO. It hangs at all times over the operations drop on the operations map. Personnel normally roll it above the operations drop.

3. Intelligence. Includes all significant intelligence data to include all identified and suspected locations of enemy units. Personnel outline all enemy positions with a red border. The S2/S3 section maintains it and hangs it at all times on the intelligence map.

4. Rear operations. Includes all rear operations boundaries, base clusters, and the locations of all units down to company size within the BSA/RSA. The base cluster operations center maintains it with the same procedures used for the operations drops.

(2) Overlays:

(a) Personnel normally prepare overlays for OPORDs/OPLANs on opaque overlay paper or, if necessary, on a drop.

(b) All overlays have the standard OPORD/OPLAN heading in the upper right corner.

c. Charts:

(1) At a minimum, personnel maintain the following charts:

(a) Significant activities. Maintained by the on-duty S2/S3 personnel. It shows critical tactical and logistics events.

(b) Enemy order of battle. Maintained by the S2/S3 section. It indicates in list form the identified opposing enemy units and their estimated strength in percentages.

(c) Intelligence incidents. Maintained by the S2/S3 section. It is number coded to the location of incidents posted on the intelligence drop and provides a one-line description of each incident.

(d) LOC/TOC security sketch. Maintained by the S2/S3 section. This chart shows the setup and security plan for the support battalion/squadron CP base.

(2) The S2/S3 ensures that these charts are maintained in the LOC/TOC at all times. Additionally, there are five blank acetate covered charts for use as needed.

d. Warnings:

(1) All warnings are by secure land line or RATT and passed with flash precedence.

(2) Immediate dissemination of STRIKEWARN or CHEMWARN with or without encoded desired ground zero coordinates (depending on the time sensitivity for safety to US forces) is required.

e. Briefings:

(1) Daily update briefing for the support battalion commander:

(a) It is held at 1700 or as the commander determines.

(b) The XO controls the briefing.

(c) The sequence is as follows: XO, S2/S3, S1, S4, transportation officer, BMMO, other issues or unit representatives.

(2) Operations order briefing:

(a) Each new OPORD or service support order is briefed to the support battalion/squadron commander and the subordinate commanders as soon as possible after completion.

(b) The S3 initiates the briefing using the following sequence: analysis of the AO, enemy situation and capabilities, weather, friendly situation, mission, and execution.

(3) Situation update:

(a) When the support battalion/squadron commander enters the LOC/TOC, the duty officer updates him on the current friendly situation, the current logistics capabilities, and the current enemy situation to include a summary of recent intelligence incidents.

(b) The duty officer provides the same briefing to the S2/S3 and XO after returning from a long absence and to subordinate LOS.

f. Operations:

(1) Shift Changes:

(a) Personnel man shifts in accordance with the schedule published by the S2/S3.

(b) Outgoing duty personnel thoroughly brief incoming replacements to completely familiarize them with all activities within their area during the last shift. This briefing includes a physical review of the log, the log file, and the current operations and intelligence drops.

(c) The on-duty shift is responsible for awakening the replacement shift. The replacement shift is present in the LOC/TOC no later than 30 minutes prior to the start of their shift.

(d) The current shift duty officer releases outgoing personnel when he is satisfied that the incoming personnel are properly briefed.

(2) Communications:

(a) The LOC/TOC is the NCS for the support battalion/squadron command net.

(b) The LOC/TOC duty officer/NCO monitors the brigade command/operations net and maintains a log.

(c) The S2/S3 section monitors the brigade 1/0 net and maintains a log.

(d) The LOC/TOC duty officer/NCO ensures that the support battalion command net is audible throughout the LOC/TOC and that personnel maintain a log.

(e) Personnel log incoming and outgoing messages, mark them with the date/time group and log entry number, and file them in the log support file.

(3) Guidance for the LOC/TOC duty officer:

(a) Keep the maps current and accurate.

(b) Be prepared to brief the commander or visitors on current tactical operations and the logistics situation.

(c) Maintain all communications systems.

(d) Ensure all required reports are timely.

(e) Pursue subordinate unit's reports.

(f) Keep the duty log updated.

(4) Security:

(a) The HHC/HHT commander is responsible for the security of the LOC/TOC.

(b) Three rolls of concertina wire surround the LOC/TOC if available. If not, no less than one roll is used.

(c) An armed guard equipped with an access roster mans the entrance through the wire.

(d) All personnel entering receive a permanent or temporary LOC/TOC pass.

(e) The guard does not admit anyone to the LOC/TOC unless their name is on the access roster.

(5) Uniform:

(a) The commander determines the uniform for all personnel in the support battalion/squadron CP area. Protective mask and appropriate MOPP gear may be required.

(b) Personnel wear or carry the protective mask at all times.

(c) All soldiers have their individual weapon with them at all times.

(6) Administration:

(a) LOC/TOC duty NCO conducts a sensitive items check at the beginning and end of each shift. Personnel check weapons physically by serial number.

(b) Personnel tactically park all vehicles when not in use.

(c) Personnel strictly maintain noise and light discipline.

(d) All personnel maintain appropriate daily hygiene and appearance.

7. LOC/TOC Establishment and Layout:

a. The S2/S3 selects the general location of the LOC/TOC based on guidance from the support battalion/squadron commander. The S2/S3 selects the specific location and plans the internal arrangement of the LOC/TOC under the supervision of the XO in coordination with the HHC commander and the brigade rear CP.

b. The LOC\TOC SICP tents and vehicles take maximum advantage of natural cover and concealment. Personnel continually improve concealment by camouflage with natural material and nets.

The HHC/HHT commander provides traffic control in and around the LOC/TOC.

d. Sequence of movement is:

(1) Phase I - A quartering party conducts a survey of the proposed CP site. The XO controls the quartering party which consists of: the XO, communications officer, S2/S3 NCO, movement officer, S1 representative, HHC/HHT representative, three personnel from the HHC/HHT (NBC team), and three BMMC representatives. The duties of the quartering party in order of priority are--

(a) Secure the area.

(b) Establish communications with the LOC/TOC.

(c) Establish jump CP

(d) Designate sites for the elements of the support battalion/squadron headquarters.

(e) Serve as guides upon arrival of main body.

(2) Phase II - Once control passes to the jump CP, the LOC/TOC prepares and conducts convoy movement to the new CP location. The quartering party arrives approximately two hours before the main body.

(3) Phase III - When the LOC/TOC completes its reestablishment, control is passed back to it from the jump CP.

* Appendix B
Support Squadron 2d Armored Cavalry Regiment

Contents

GENERAL

This appendix contains information pertinent to the support squadron, 2d ACR. The appendix addresses information that differs from the information on the Support Squadron of the Armored Cavalry Regiment, found in the text of FM 63-1.

BACKGROUND

Changes in the Soviet Union and Europe have reduced the possibility of direct confrontation. The reduction of this direct threat in Europe has shifted emphasis to power projection in support of contingency missions throughout the world. As the potential for regional threats increases, contingency force operations across the range of military operations become the first response. This contingency force requires alight, rapidly deployable force with organic CSS for reconnaissance and/or security. The light armored cavalry regiment meets that need.

MISSION

The 2d ACR mission, in support of the contingency force, is to –

- Provide reconnaissance and security.
- Confirm or deny intelligence.
- Direct or control deep fires.
- Conduct counter-reconnaissance.
- Conduct combat operations in an economy of force role.

The 2d ACR is organized as shown in Figure B-1.

SUPPORT SQUADRON

The 2d ACR is supported by a support squadron that is its primary source of logistics. The leadership of the support squadron must anticipate support requirements and provide real-time support. The COSCOM or support element of a Joint Task Force provides GS supply support, reinforcing maintenance support, HSS, field services and transportation support to the ACR. When an ACR is the forerunner of a corps size force, elements of a forward CSG may deploy to provide support.

The 2d ACR commander organizes the combat elements in his force to best perform reconnaissance and provide security in close operations. These primary tasks are shown in Table B-1. The support squadron commander must plan and be prepared to support these type of operations.

The support squadron ensures the 2d ACR has sufficient CSS support, permitting it to operate independently for limited periods of time. Readiness support of the maneuver force across the nonlinear battlefield requires the CSS system to man, arm, fuel, fix, move, and sustain soldiers and their systems. This support is provided across the range of military operations. The support squadron

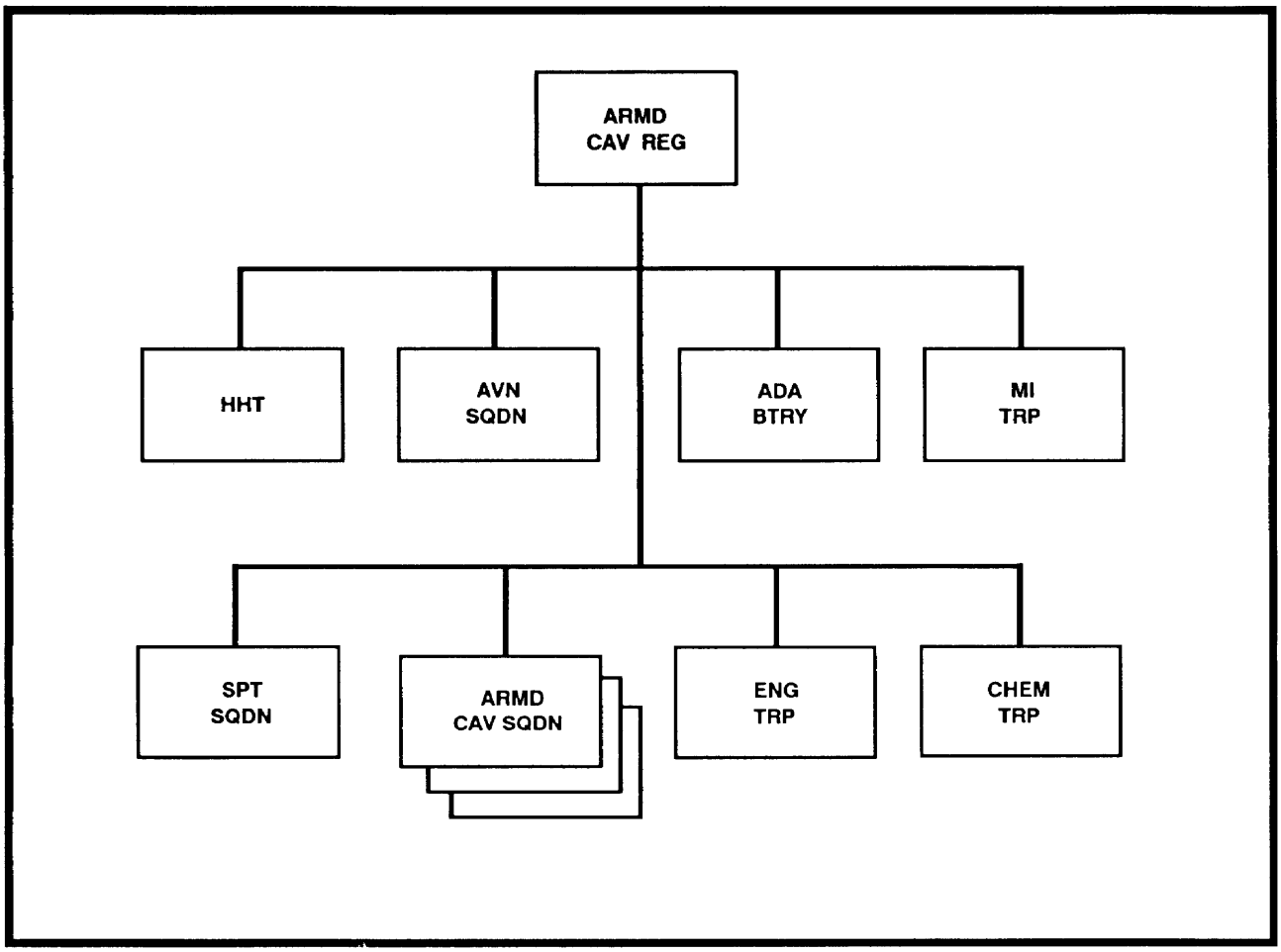


Figure B-1. 2d ACR

Table B-1. Primary tasks of the 2d ACR.

PROVIDE REAL-TIME INFORMATION TERRAIN ENEMY
PROVIDE REACTION TIME AND MANEUVER SPACE
PRESERVE COMBAT POWER
RESTORE COMMAND AND CONTROL
FACILITATE MOVEMENT
PERFORM REAR OPERATIONS

provides this support by adhering to the logistics characteristics of continuity, responsiveness, improvisation, integration, and anticipation.

The support squadron is the primary supply, transportation, maintenance, and health services managing element in the 2d ACR. The squadron commander plans, directs, and supervises direct-support level supply, maintenance, transportation, and HSS for the regiment commander. The support squadron provides centralized and integrated materiel management for Class I, II, III, I, V, VII, VIII, and IX supplies and water. It serves as the single, responsive, multifunctional CSS organization to support the regiment. The squadron is capable of supporting a variety of light and heavy attachments and task organizations. It is capable of detaching a single squadron support slice without degrading support to the regiment. This capability allows units to be tailored, augmented, or reinforced where the need is most critical. To ensure mobility equals that of the supported units, the support squadron is C-141 transportable. The support squadron requires 100 percent mobility in order to keep pace with the supported units in the regiment.

Figure B-2 depicts the organization of the support squadron. The support squadron consists of the following four troops:

- Headquarters and headquarters.
- Supply and transportation.
- Maintenance.
- Medical.

Each has a specific role in providing designated logistics assets in the squadron.

HEADQUARTERS AND HEADQUARTERS TROOP

The HHT consists of the support squadron headquarters and the headquarters troop as shown in Figure B-3. The squadron headquarters is responsible for the effective command and control of organic and attached units. It is also responsible for materiel management for the entire regiment. The headquarters troop provides the internal administrative, disciplinary, training, and security support functions for the squadron headquarters.

S&T TROOP

Figure B-4 depicts the S&T troop organization. The S&T troop supports as follows:

- The arming function through its Class IV (barrier material) and V resupply operations.
- The fueling function through Class III operations.
- The fixing function with Class IX in the RSA.
- The moving function by transporting personnel, supplies, and equipment with organic transportation assets.

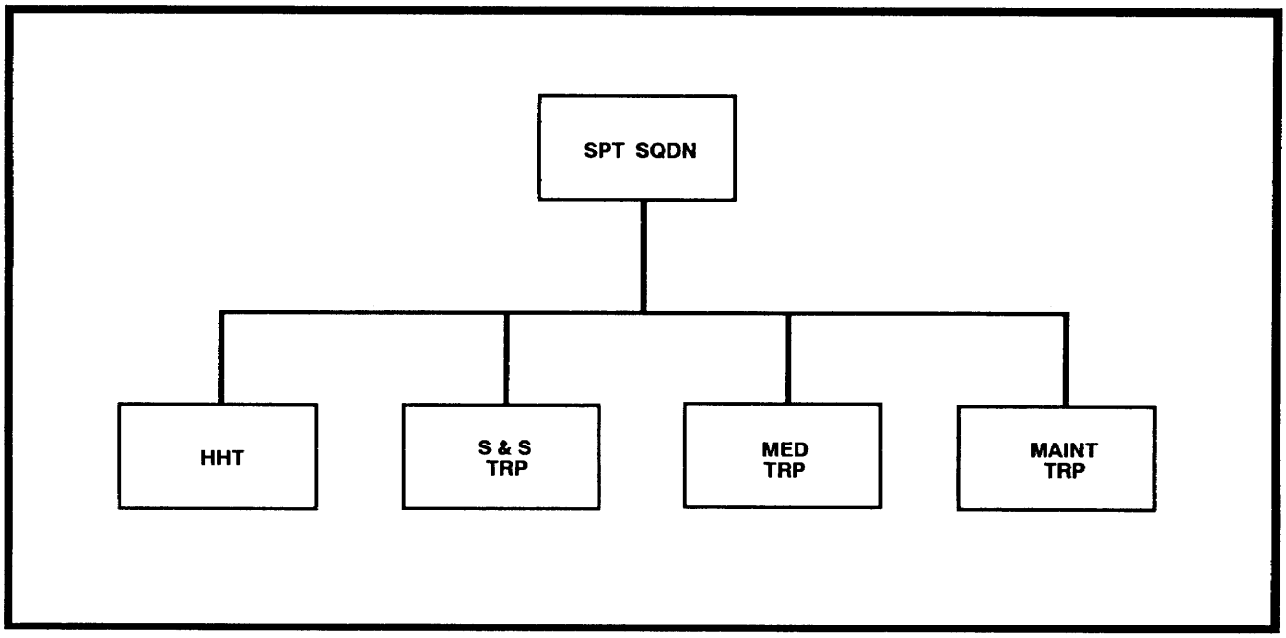


Figure B-2. Support squadron.

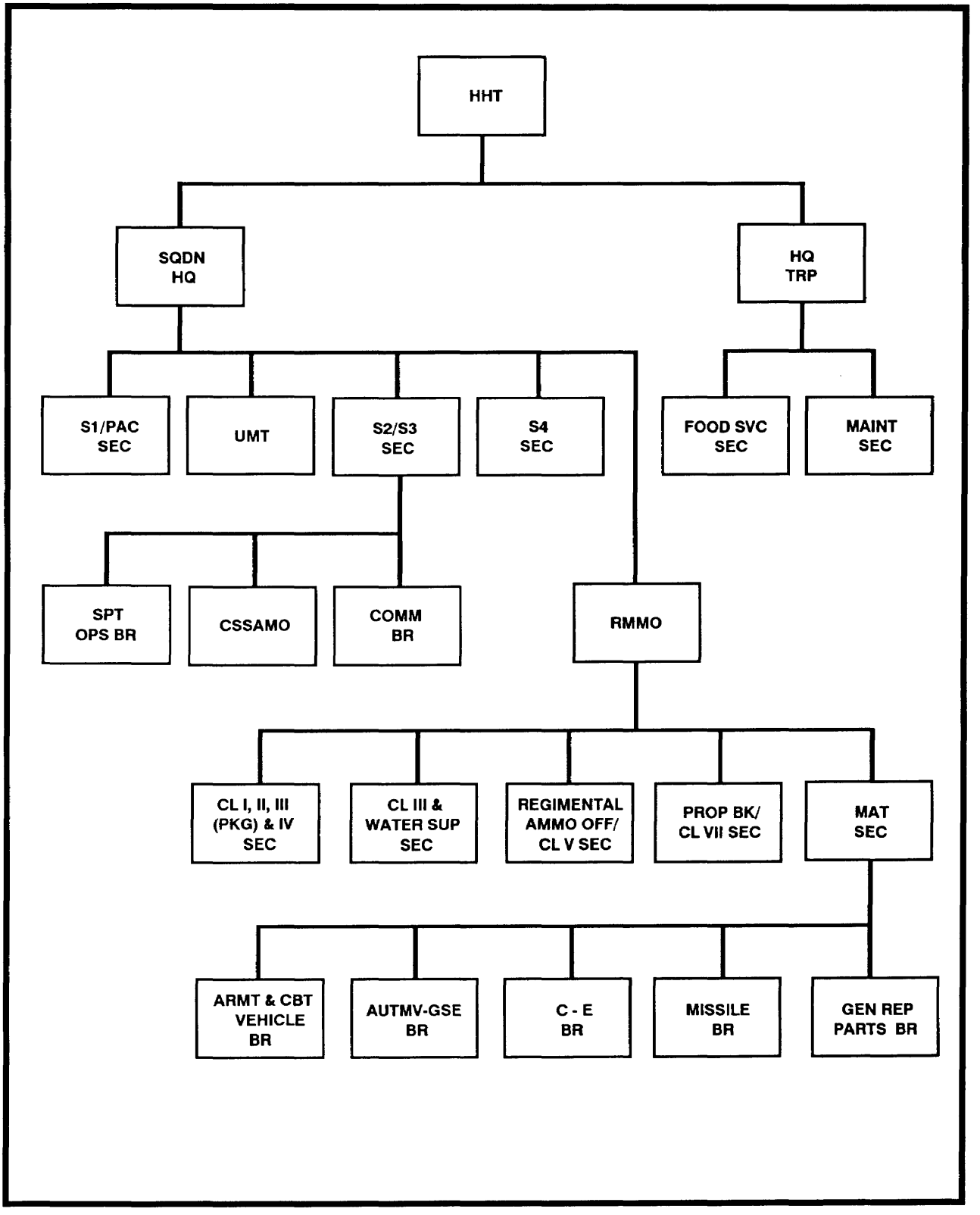


Figure B-3. Headquarters and headquarters troop.

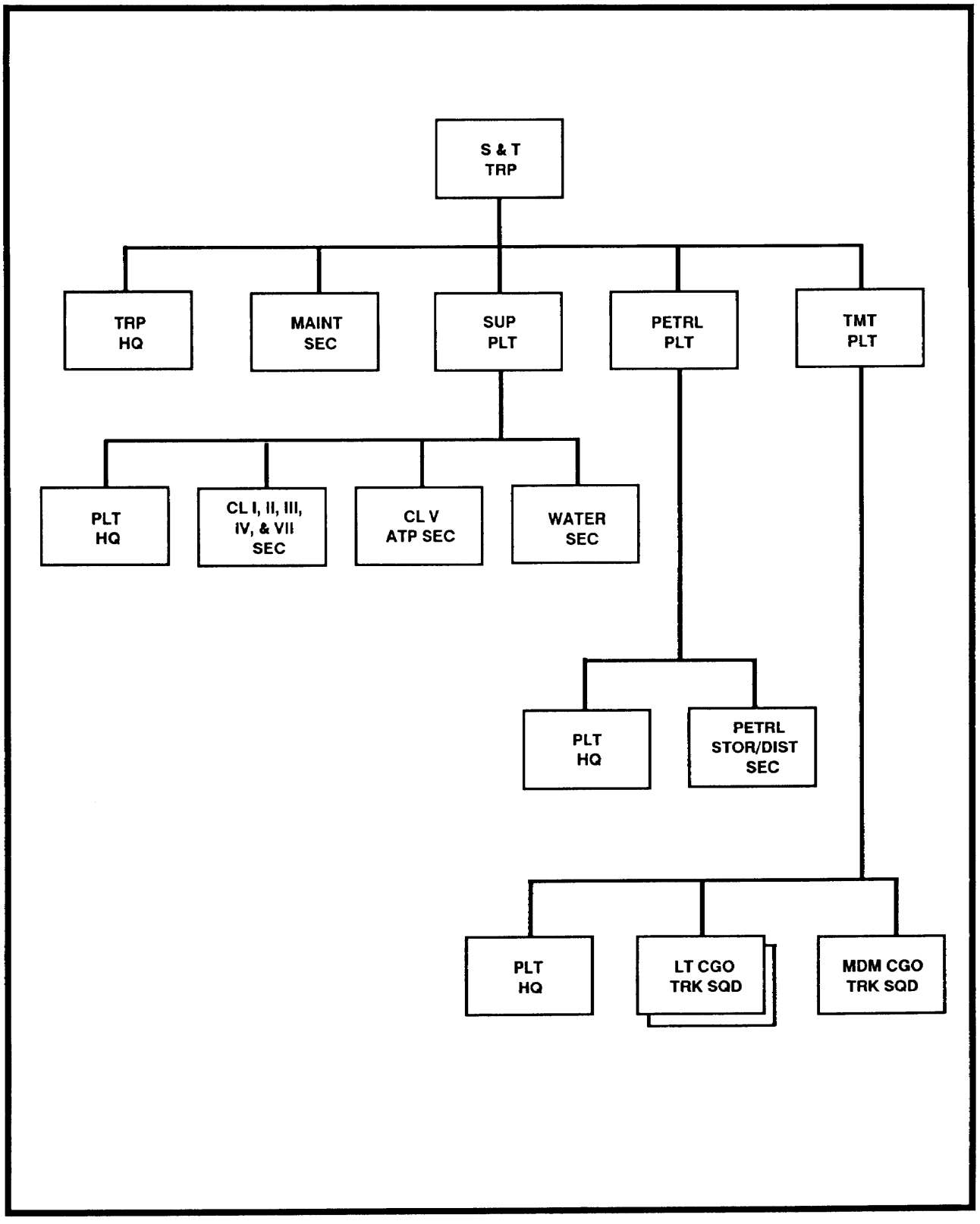


Figure B-4. Supply and transportation troop.

It also sustains the soldier by providing rations and water, clothing, and individual equipment.

MAINTENANCE TROOP

The maintenance troop, as shown in Figure B-5, supports the fix function with a DS maintenance and Class IX supply capability. DS maintenance support (less AVIM) is provided to all units assigned or attached to the 2d ACR. It provides on-shop and in-shop repair. In addition, each forward support platoon supports a cavalry squadron through a habitual relationship. The forward support platoons provide essential maintenance support to the combat critical equipment of the supported squadron. When combined with a forward supply section from the technical supply platoon (Class IX), the platoon can provide semiindependent support for an extended period. Work load, parts requirements, and production are passed to the maintenance control section using automated means. Reinforcing support may be provided by task organization. Those support assets are found within the automotive/ground support platoon or armament/missile/electronics platoon. The technical supply platoon receives, stores, and issues repair parts and reparable exchange to the units assigned or attached to the regiment. The main supply section operates the central support facility. The forward support sections maintain detachable, mobile facilities tailored to meet the requirements of the supported cavalry squadron.

MEDICAL TROOP

HSS for the 2d ACR is delivered at unit-level (Echelon I) and regimental-level (Echelon II). Unit-level HSS consists of –

- Disease prevention.
- Medical treatment or advanced trauma management.
- Patient collection.
- Patient evacuation.

It is provided by the medical platoons that operate squadron aid stations and are organic to maneuver squadrons. Combat medics of a maneuver squadron's medical platoon are routinely attached to maneuver troops for direct support. The squadron medical platoon also positions ambulances with maneuver troops for DS. Unit-level HSS is enhanced by first aid in the form of self-aid and buddy-aid. Regimental-level HSS includes Echelon I and Echelon II capabilities and is provided by the medical troop. The regimental-level expands services by adding the following capabilities:

- Surgical.
- Dcntal.
- Limited x-ray, laboratory, preventive medicine.
- Patient-holding capabilities.

Figure B-6 depicts the organization of the medical troop.

The medical troop headquarters provides command, control, administrative, and logistics functions necessary to perform the troop's medical mission. At this level, the troop commander advises the regimental commander on all medical matters affecting the regiment to include –

- Preventive medicine.
- Medical supply.
- Medical effects of NBC agents on personnel, rations, and water.

The troop deploys with a 5-day resupply stock for medical elements in the regiment. Advice is also provided on the status of organic vehicles, signal, and medical equipment. The medical troop commander also serves as the regimental surgeon.

The RMSS manages and distributes Class VIII supplies and provides unit-level medical maintenance for all medical elements of the regiment. It also procures and maintains a blood supply (group O packed red blood cells) for the regimental clearing station.

The treatment platoon operates the regimental clearing station that is located in the RSA. It receives, triages, and performs resuscitation for nontransportable patients. It treats and determines the disposition of all categories of patients based upon their condition. This platoon provides professional services in the area of resuscitative 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, two forward supporting treatment squads, and an area support section.

The two forward supporting treatment squads provide sick call services, emergency medical treatment, and advanced trauma management support. The primary missions of these squads are to—

- Reinforce maneuver squadron medical platoons.

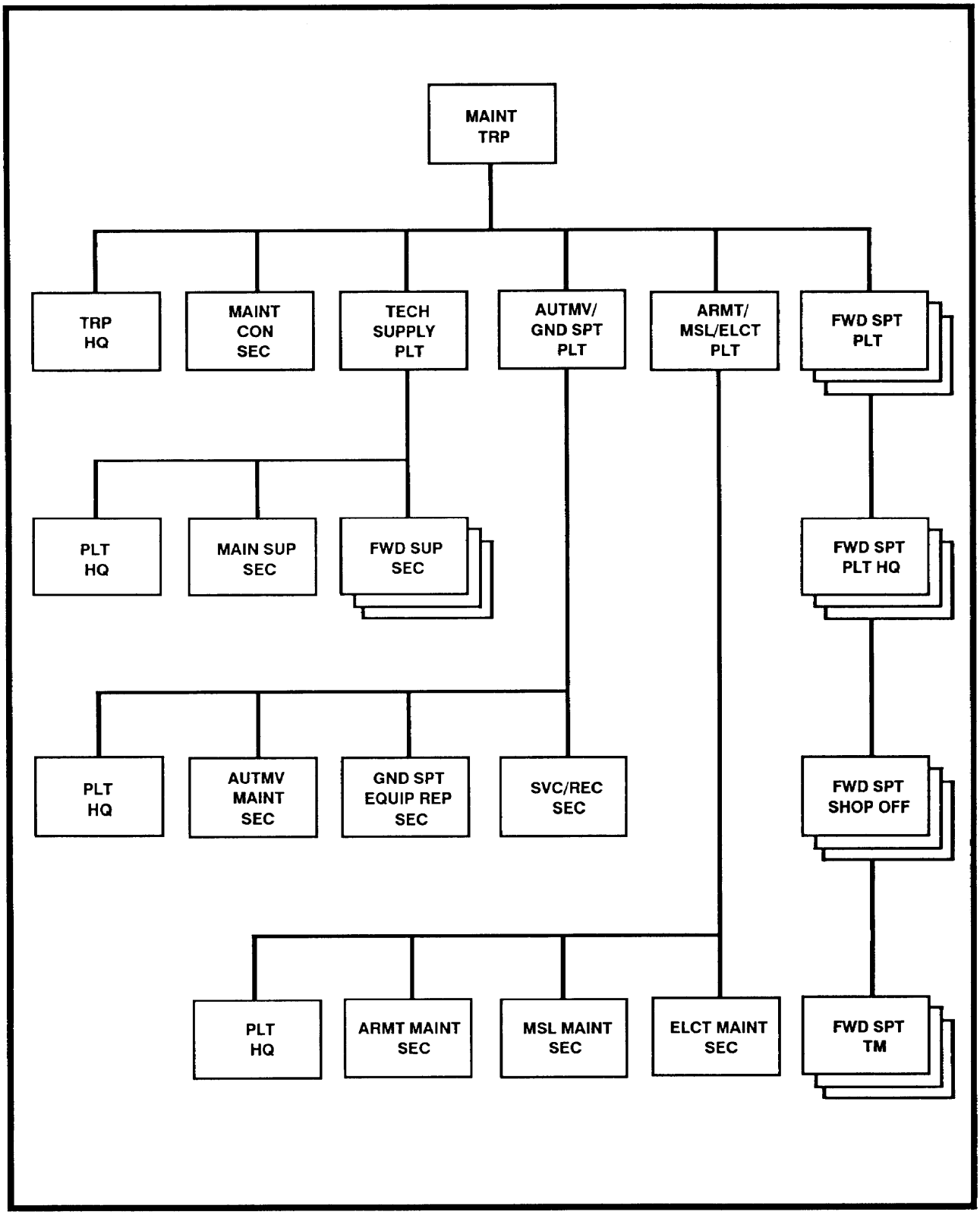


Figure B-5. Maintenance troop.

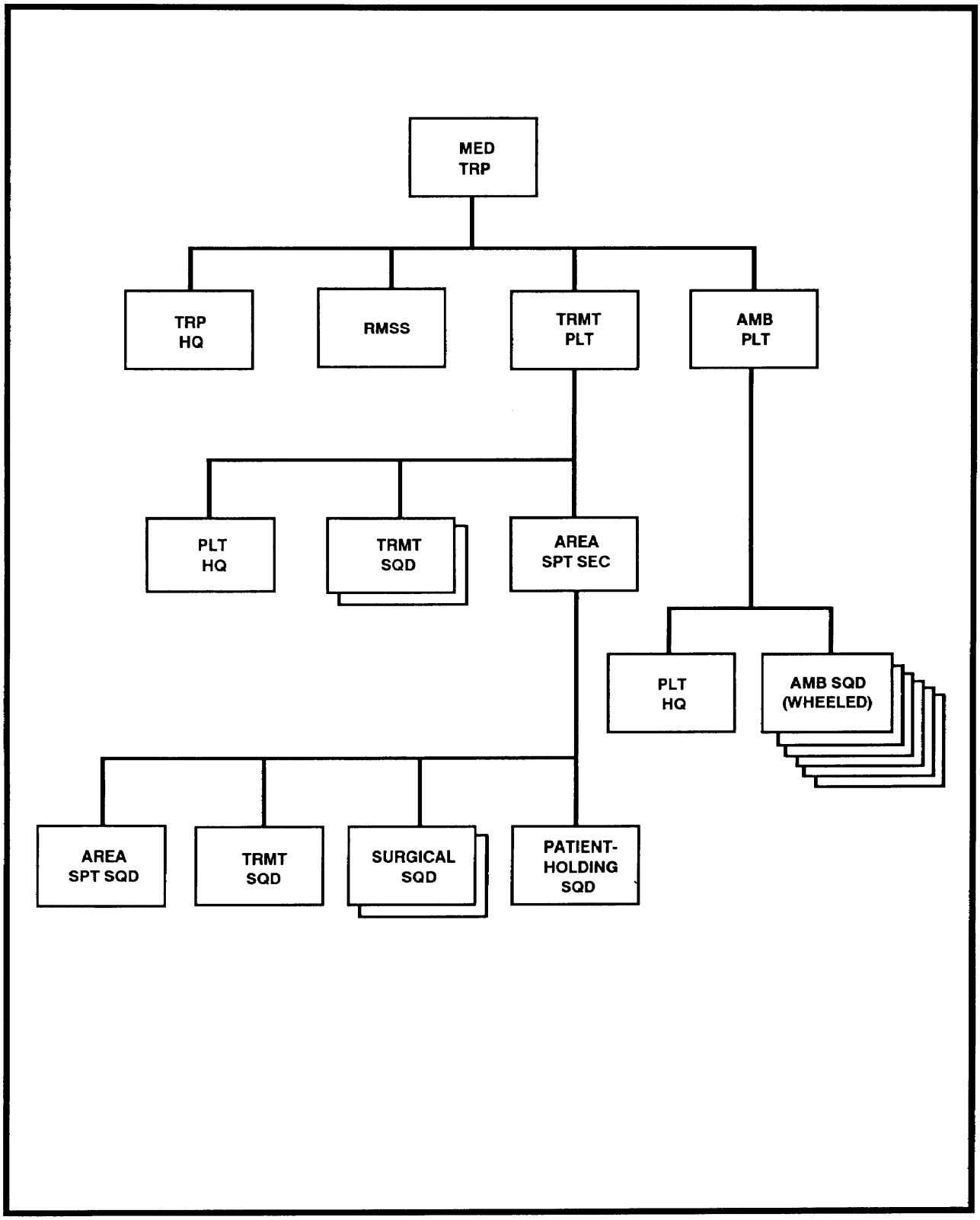


Figure B-6. Medical troop.

- Provide direct support for regimental task force operations.
- Provide support for area damage control operations.

Each squad has the capability to split and operate as separate treatment teams (Teams A and B) for limited periods of time. They deploy with a 3-day supply capability estimated for the supported unit.

The area support section of the treatment platoon is composed of an area support squad, an area treatment squad two surgical squads, and a patient-holding squad. These squads form the regimental clearing station. Elements of this section are not used to reinforce other medical elements.

The area support squad comprises the dental and diagnostic support element of the regimental clearing station. The dental element provides emergency dental care (to include treatment of minor maxillofacial injuries), sustaining dental care (designed to prevent potential dental emergencies), and limited preventive dentistry and consultation services. The diagnostic element is composed of a medical laboratory and a field x-ray capability. It provides for basic services commensurate with Echelon II medical treatment.

The area treatment squad is the base treatment element of the regimental clearing station. It provides sick call services, initial resuscitation (advanced trauma management), and emergency medical treatment for supported units.

The two surgical squads provide resuscitative surgery. They treat only those patients whose physical conditions could deteriorate significantly if they were moved any substantial distance without the immediate intervention of surgically stabilizing procedures. These conditions include —

- Continuing hemorrhage.
- Severe shock.
- Severe thigh wound.
- Cardiac wounds.
- Wounds causing airway compromise or respiratory distress.
- Deteriorating closed head wounds.

Generated post-surgical patients are held by the patient-holding squad with intensive nursing care provided by surgical squads' nursing staff. The patient-holding squad operates the holding ward facility of the regimental clearing station. The holding ward is staffed and equipped to provide care for up to 40 patients. It provides care for those patients awaiting immediate evacuation and those who entered with minor injuries and illnesses and are expected to be returned to duty within 72 hours. It also serves as the intensive nursing care area for the surgical squads.

Medical evacuation within the regimental operational area is provided by ground ambulances organic to maneuver squadron medical platoons and ground ambulances of the medical troop's ambulance platoon. Medical evacuation of patients out of the regimental operational area is provided by corps or joint task force direct support air and ground ambulances.

Maneuver squadron medical platoons normally position ambulance teams with supported maneuver troops to evacuate patients to the squadron aid station. From this point, patients are evacuated out of the squadron area either by ground ambulances from the supporting medical troop or supporting corps air ambulances. The squadron medical platoon does not evacuate patients beyond its squadron aid station.

The ambulance platoon of the medical troop performs ground evacuation and en route care for supported units. The ambulance platoon consists of a platoon headquarters and 6 ambulance squads (or 12 ambulance teams). To ensure contact is maintained with supported maneuver squadrons, the platoon collocates ambulance teams with squadron aid stations. Based on the METT-T, the platoon may establish an air/ground AXP midway between the supported maneuver squadrons and the regimental clearing station to ensure timely and uninterrupted evacuation and patient care. The platoon also provides medical evacuation support for all units located in the RSA (inclusive of regimental artilley, aviation, engineer, and CSS forces).

Corps or joint task force air and ground ambulance elements are normally collocated with the medical troop to provide for the evacuation of patients to supporting hospitals.

SUPPORT CONCEPTS

The support squadron of the 2d ACR provides support for all elements of the regiment as far forward as possible. This support forward doctrine is critical to maximize combat time by minimizing resupply, repair,

and evacuation times. This support covers the CSS functions outlined below.

ARM THE FORCE

The ammunition support structure provides the ammunition needed by the units under the 2d ACR commander and those units assigned or attached to the 2d ACR. Units begin operations with only a basic load. Follow-on supply consists of specific amounts of all types of ammunition to support continuity of combat operations. The amounts and types of ammunition needed depend on the type of operation and strength of the enemy. However, whenever possible, preplanned packages are designated. Arming relates to ammunition, barrier material, mines, and demolition munitions.

In the regimental support area, the S&T troop operates an ATP. The 2d ACR units draw all their Class V supplies from this rearm site. The 2d ACR depends upon a nondivisional ASP and CSA for resupply of Class V. The ground and air cavalry squadrons and howitzer batteries need to have their Class V as far forward as tactically possible. Class V operations are MHE intensive, requiring that the rearm site or customer vehicles have materials-handling capability. As much a spossible, transloaded ammunition is made up as combat configured loads. Combat-configured loads are predetermined ammunition packs based upon mission requirements. The combat-configured loads are usually configured at the corps storage area and shipped to the support squadron.

Units carry a limited amount of Class IV on combat vehicles. Use of airdrop and airlanding can minimize the need to carry a significant amount of Class IV into battle. The 2d ACR commander determines the Class IV stockage in the 2d ACR and the support squadron manages that stockage. Class IV supplies are limited and supply points stock them only when required to support a specific operation. The largest user of unique Class IV (wire, lumber, or nails) and Class V (demolition or mines) will probably be the regiment engineer troop to install and/or breach obstacles in both the offense and defense. Units use local resources whenever possible.

FUEL THE FORCE

Class III supplies include bulk fuels (motor gasoline, diesel fuel, aviation fuel, and JP-8) and packaged products (greases, oils, and lubricants). Early in any operation, fuel and lubricant resupply arrive as a prepackaged delivery. As the operation matures, fuel is delivered in bulk. Every effort will be made to use JP-8 as the single fuel on the bulkfield. This eliminates storage and distribution problems for all the other fuels. Fuel requiremcnts will increase significantly if operating under NBC conditions.

Corps or joint task force delivers Class III bulk products to the 2d ACR Class III supply point based on forecasted requirements. Because of limited on-the-ground storage in the RSA, resupplying tank semitrailers either transfer bulk products directly to support squadron vehicles or drop off bulk semitrailers in exchange for empty ones. (This second method is time saving, but requires additional record keeping.) Normally units pick up fuel at the refuel site in the RSA. If that is not possible, organic TPUs and 500-gallon drums maybe trailer mounted or sling loaded by helicopter to provide emergency resupply.

FIX THE FORCE

This area includes maintenance and Class VII and IX supplies.

Maintenance

DS maintenance from the maintenance troop includes base shop repair capability, forward support, battle damage assessment and repair, controlled exchange, cannibalization, and evacuation. See Chapter 9 of FM 63-1 for additional information. Maintenance assets in the corps or joint task force provide reinforeing support to the maintenance troop.

Forward Support. The maintenance troop of the support squadron works as far forward as possible. This reduces repair time, thereby maximizing combat power. Forward support platoons working at unit maintenance collection points become the key operational element for maintenance. The forward support platoons have the mobility to move with the supported unit, working to return the maximum number of weapon systems to combat. They must also be able to communicate with the maintenance control section so it can control maintenance operations across the regimental area.

Other Principles. The maintenance troop's role in combat is one of making repairs as far forward as possible. However, repairs cannot always be made on site. Troop maintainers make battle damage assessments, perform mission-essential maintenance, and determine recovery and evacuation priorities. The maintenance troop may use other procedures to return equipment to combat, such as controlled exchange or cannibalization.

Class VII

The corps or designated higher headquarters delivers Class VII items (such as weapon systems, vehicles and generators) to a Class VII supply point operated in the RSA or directly to the receiving unit. These items should be ready-for-issue whenever possible. The S&T troop maintains a temporary storage area for those items not throughput directly to a unit. Class VII items are intensively managed at the RMMC, using combat loss reports and coordination with the corps or designated higher headquarters G3, G4, and MMC. Close management permits the 2d ACR commander to know the operational status of subordinate units and to direct items to tactical units most critical to success of the mission.

Class IX

The maintenance troop maintains a combined ASL to receive and distribute common repair parts required by its maintenance personnel. It receives, stores, maintains, and manages reparable. It issues all Class IX items to supported units. The combat elements of the 2d ACR carry selected parts on their vehicles. These are parts that can be changed quickly, making the vehicle combat ready. The forward support sections may be attached to the forward support platoons to provide limited on-site repair parts support in the squadron UMCP. Requirements for additional parts will be passed by the section to the main supply platoon using the most readily available means.

MOVE THE FORCE

Transportation covers the transport of troops, supplies, and equipment where they are needed when they are needed. Once on the ground, 2d ACR units have sufficient organic transportation for ground mobility of personnel and equipment. Ground transportation beyond organic unit capabilities is provided by the S&T troop. It provides –

- Truck transportation for distribution of Class I, II, III (package), IV, VII, and IX supplies.
- Limited transport of personnel in support of regimental operations.
- Supplemental transportation for emergency distribution of Class V and water.

The regimental aviation squadron can provide very limited transportation for personnel, supplies, and equipment. Airdrop is also considered a function of moving supplies. The 2d ACR relies on corps or joint task force airdrop units for this support. The regimental transportation officer coordinates with the corps MCC or higher headquarters movements control agency to ensure that movement priorities and evacuation of unserviceable are set up to match CSS requirements.

SUSTAIN THE SOLDIERS AND THEIR SYSTEMS

Personnel Service Support

The S1/PAC section of the HHT processes combat-essential personnel information. They provide direct military personnel support to strength managers and commanders. They perform or process the following military personnel support functions or documents:

- Personnel data base management.
- Personnel accounting and strength reporting.
- Personnel information management.
- Enlisted and officer evaluations.
- Identification documents.
- Casualty reports.
- Enlisted promotions and reductions.
- Officer promotions.

Health Service Support

HSS conserves the trained manpower of the 2d ACR, providing the combat commander with the maximum force to pursue his objectives. EMS planners make assessments of medical support required before any operation begins. Anticipated casualty rates and an analysis of disease threats shape the extent of initial and follow-on HSS required by the 2d ACR. During the planning process, the HSS planners also consider the limits on the number of tactical and strategic airframes available, the planned duration of the operation, and the nature of the operation.

Deployment of Health Service Support. Medical troop personnel and equipment are deployed into the operational area with the 2d ACR. Medical units accompany soldiers at all times to provide prompt and efficient medical care and evacuation.

Class VIII. HSS planners have to consider that resupply of the 2d ACR can be difficult when it is operating well forward. Following deployment, resupply is made by preconfigured push packages. The air and ground ambulance backhaul system will be used in the delivery of supplies in the forward areas. Also, corps or joint task force air ambulances may be used to deliver urgently required Class VIII supplies from the supporting corps medical logistics element to the regiment.

Field Services Support

In the early stages of a contingency environment, field services are limited to those considered mission-essential. The corps or joint task force has the responsibility to augment the support squadron to provide field services or to ensure such services are available at the appropriate time and place to support the 2d ACR.

Food. Units in the 2d ACR carry MREs when initially deploying. They use follow-on supply for Class I. The Army Field Feeding System concept provides for three quality meals per day. The commander selects these meals from the family of rations, in accordance with tactical and logistics situations. The family of rations includes group rations (A, B, or T) and individual rations. Ration requests are based on feeder reports of unit daily strengths and the commander's specification of the types of rations consistent with tactical and logistics constraints.

Mortuary Affairs. Mortuary affairs services are an organic unit function. However, the corps provides support at levels above unit support. Otherwise, personnel may be pulled from other duties to perform recovery, identification, and evacuation tasks.

General Supply Support

General supply support encompasses the provision of clothing, water, arms, and major end items in support of the force. These classes of supply include all the systems that support the soldier. The quality and acceptability of rations, clothing, and sundry packages are critical in sustaining the morale of soldiers. This enhances their ability to perform effectively.

Water. Personnel in the 2d ACR carry filled canteens and enough full water containers to reach the AO and move forward from there. CSS planners determine the location of possible water points. The S&T troop water section can produce 72,000 gallons of potable water per day from a fresh water source or 48,000 gallons of potable water per day from a salt water source. The corps logistics system is responsible for providing additional water support in arid environments. Water maybe provided through contracting or HNS until units with purification, storage, and issue responsibilities are operational.

Clothing. Class II supplies are limited to essential items since clothing and individual equipment are bulky and impede mobility. The S&T troop maintains a limited amount of mission-essential, expendable items required to support combat operations. Combat in an NBC environment increases demand for Class II items. If necessary, supply personnel should arrange for resupply of protective overgarments and other Class II NBC-related gear.

SECURITY

Support squadron units are normally grouped into bases and base clusters to enhance their defense. Security operations center on those active and passive measures taken to protect the support structure. The makeup and location of bases and base clusters are the responsibility of the support squadron commander. The nature of reconnaissance and security operations keeps most of the regiment far forward on the battlefield. The support squadron commander is designated as the regimental support area commander. The support squadron CP collocates with the 2d ACR rear CP, and the staffs work closely to coordinate execution of rear operations. Each base is responsible for its own local security and must be capable of protecting itself against Level I attacks and delaying a Level II threat until a reaction force arrives. If the base faces a Level III threat, it takes action to prevent critical supplies and equipment from falling into enemy hands, to defend itself as long as possible, and to avoid capture.

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Glossary

A

A2C2 - Army airspace command and control

acctg - accounting

ACofS - Assistant Chief of Staff

ACR - armored cavalry regiment

ACS - armored cavalry squadron

ACT - air cavalry troop

AD - air defense

ADA - air defense artillery

ADC - area damage control

admin - administration

ADP - automatic data processing

ADTMC - algorithm-directed troop medical care

AFATADS - advanced field artillery tactical data system

AG - adjutant general

AISM - automated information systems manual

A/L - administrative/logistics

AM - amplitude modulated

amb - ambulance

AM-IHFR - amplitude modulated—improved high-frequency radio

ammo - ammunition

AMO - automation management office

anal - analyst

AO - area of operations

AR - Army regulation

armd - armored

armt - armament

arty - artillery

ASAS - all source analysis system

ASL - authorized stockage list

ASMB - area support medical battalion

ASP - ammunition supply point

ATCCS - Army Tactical Command and Control System

ATM - advanced trauma management

ATP - ammunition transfer point

autmv - automotive

AVIM - aviation intermediate maintenance

avn - aviation

AVUM - aviation unit maintenance

AXP - ambulance exchange point

B

BAO - brigade ammunition officer

BAS - battalion aid station

BCOC - base cluster operations center

BDA - battle damage assessment

BDAR - battle damage assessment and repair

BDC - brigade data center

bde - brigade

BDOC - base defense operations center

BDR - battle damage repair

BF - battle fatigue

bk - book

BMMC - brigade materiel management center

BMMO - brigade materiel management officer

BMO - battalion maintenance officer

BMSO - brigade medical supply office

BMSS - brigade medical supply section

bn - battalion

br - branch

BSA - brigade support area

BTO - brigade transportation officer

btry - battery

C

C2 - command and control

C3 - command, control, and communications

CA - civil affairs

cav - cavalry

cbt - combat

CCI - controlled crytographic items

CCS2 - Command, Control, and Subordinate System Structure

CCT - combat control team

cdr - commander

C-E - communications-electronics

CEB - clothing exchange and bath

CEWI - combat electronic warfare intelligence

CFRP - Combat Fitness Reconditioning Program

ch - chief

chem - chemical

CHEMWARN - chemical warning

CHS - common hardware/software

cht - chart

cgo - cargo

cl - class

clk - clerk

clr - clearing

cmd - command

CMMC - corps materiel management center

CNR - combat net radio

co - company

comm - communications

COMMZ - communications zone

COMSEC - communications security

con - control

CONUS - continental United States

COOP - continuity of operations plan

COSCOM - corps support command

CP - command post

CS - combat support

CSA - corps storage area

CSB - corps support battalion

CSCC - combat stress control coordinator

CSG - corps support group

CSH - combat support hospital

CSM - command sergeant major

CSR - controlled supply rate

CSS - combat service support

CSSAMO - combat service support automation management office

CSSCS - Combat Service Support Control System

CTA - common table of allowances

CTASC - Corps/Theater ADP Service Center

D

DA - Department of the Army

DAAS - Defense Automatic Addressing System

DAMMS-R - Department of the Army Movement Management System-Redesigned

DAO - division ammunition officer

DAS3 - Decentralized Automated Service Support System

DD - Department of Defense

decon - decontamination

den - dental

DISCOM - division support command

distr - distribution

DMMC - division materiel management center

DNBI - disease, nonbattle injury

DNVT - digital nonsecure voice terminal

doc - document

DS - direct support

DS4 - Direct Support Standard Supply System

DSU - direct support unit

E

EAC - echelons above corps

EAD - echelons above division

ECP-S - engineering change proposal-software

elct - electronics

EMS - emergency medical service

EMT - emergency medical treatment

eng - engineer

EOD - explosivc ordnance disposal

EODCG - explosive ordnance disposal control group

EODCT - explosive ordnance disposal control team

EPW - enemy prisoner of war

equip - equipment

ETA - estimated time of arrival

EW - electronic warfare

exp - expandable

F

FA - field artillery

FAADC-3 - forward area air defense command, control, communications, and intelligence

FARE - forward area refueling equipment

FARP - forward arming and refueling point

FAWPSS - forward area water point supply system

fax - facsimile

F&E - fuel and electronics

FLB - forward logistics base

fld - field

FLE - forward logistics element

FLOT - forward line of own troops

FM - field manual, frequency modulated

FRAGO - fragmentary order

FSMC - forward support medical company

FSSP - fuel system supply point

G

G3 - Assistant Chief of Staff, G3 (Operations and Plans)

G4 - Assistant Chief of Staff, G4 (Logistics)

gen - generator

gnd - ground

GP - general purpose

GS - general support

GSE - ground support equipment

GSR - ground surveillance radar

H

HEMTT - heavy expanded mobility tactical truck

HET - heavy equipment transporter

HF - high frequency

HF RATT - high frequency radio teletypewriter

HHC - headquarters and headquarters company

HHT - headquarters and headquarters troop

HMMWV - high-mobility, multipurpose, wheeled vehicle

HNS - host-nation support

hosp- hospital

HQ - headquarters

HSB - heavy separate brigade

HSS - health service support

I

IAW - in accordance with

IEW - intelligence and electronic warfare

IHFR - improved high frequency radio

inf - infantry

info - information

intel - intelligence

INTSUM - intelligence summary

I/O - intelligence/operations

IPB - intelligence preparation of the battlefield

iss - issue

L

LAB - laboratory

LAN - local area network

LASSO - logistics automation systems support office

ldr - leader

LEN - large extension node

LIC - low-intensity conflict

LO - liaison officer

LOC - line of communications

log - logistics

LOGCAP - logistics civil augmentation program

LOGPAC - logistics package

LOS - line of sight

LP - listening post

LRP - logistics release point

lt - light

M

MA - mortuary affairs

maint - maintenance

MASH - mobile army surgical hospital

mat - materiel

MBA - main battle area

MCC - movement control center

MCO - movement control officer

MCP - maintenance collection point

MCS - maintenance control section, maneuver control system

MCT - movement control team

mdm - medium

mech - mechanized, mechanic

med - medical

MEDLOG - medical logistics

MEDLOG-D - Medical Logistics – Division

MEDPAR-D - Medical Patient Accounting and Reporting – Division

METT-T - mission, enemy, terrain, troops, and time available

mgr - manager

mgt - management

MH - mental health

MHE - materials-handling equipment

MI - military intelligence

mm - millimeter

MMC - materiel management center

MOPP - mission-oriented protection posture

MP - military police

MPL - mandatory parts lists

MRE- meal, ready-to-eat

MRO - materiel release order

MSB - main support battalion

MSE - mobile subscriber equipment

msl - missile

MSR - main supply route

MSRT - mobile subscriber radio-telephone terminal

MST - maintenance support team

MTF - medical treatment facility

MWO - modification work order

N

NBC - nuclear, biological, chemical

NCO - noncommissioned officer

NCS - net control station

NICP - national inventory control point

NP - neuropsychiatric

NSL- nonstockage

NSN - national stock number

O

OCOKA - observation, concealment and cover, obstacles, key terrain, and avenues of approach

off - office
ofr - officer
O/O - on-order
OP - observation post
OPCON - operational control
OPFAC - operational facility
OPLAN - operation plan
OPORD - operation order
opr - operator
ops - operations
OPSEC - operations security
opt - optometry
OR - operating room
ord - ordnance
org - organization

P

PA - physician's assistant
PAC - personnel and administration center
PBO - property book officer
PERSTAT - personnel status
petrl - petroleum
pkg - packaged
PKO - peacekeeping operations
PLL - prescribed load list
plt - platoon
PM - provost marshal
POL - petroleum, oils, and lubricants
postop - postoperative
preop - preoperative
prop - property
PSNCO - personnel staff noncommissioned officer
PSYOP - psychological operations
pt - part
purif - purification
PVTMED - preventive medicine
PWIS - Prisoner of War Information System

Q

QSS - quick supply store

R

RAS - regimental aviation squadron
RATT - radio teletypewriter
RAU - radio access unit
rcvy - recovery
rec - receive
repro - reproduction
retrans - retransmission
rgmt - regiment
RM - reparable management
RMMC - regimental materiel management center
RMMO - regimental materiel management officer
RMSS - regimental medical supply section
ROM - refuel-on-the-move
ROWPU - reverse osmosis water purification unit
RP - release point
rqd - required
RS2 - regimental S2
RS3 - regimental S3
RS4 - regimental S4
RSA - regiment support area
RSR - required supply rate
RSS - regimental support squadron
RTD - return to duty
RWS - rigid wall shelter
RX - reparable exchange

S

S1 - Adjutant (US Army)
S2 - Intelligence Officer (US Army)
S3 - Operations and Training Officer (US Army)

S4 - Supply Officer (US Army)

S5 - Civil Affairs Officer (US Army)

SAAS - Standard Army Ammunition System

SALUTE - size, activity, location, unit, time, and equipment

SAMS - Standard Army Maintenance System

S&T - supply and transportation

SARSS - Standard Army Retail Supply System

SB - supply bulletin

SCOTT - single-channel objective tactical terminal

SCP - software change package

sec - section

SEN - small extension node

sep - separate

sgt - sergeant

SIB - separate infantry brigade

SIDPERS - Standard Installation/Division Personnel System

SINCGARS - single-channel ground and airborne radio subsystem

sit - situation

SOA - spectrometric oil analysis

SOI - signal operation instructions

SOO - support operations officer

SOP - standing operating procedure

SP - self-propelled

SPBS-R - Standard Property Book System – Revised

spec - specialist

spt - support

sqd - squad

sqdn - squadron

SST - system support team

sta - station

STAMIS - Standard Army Management Information System

stor - storage

STRIKEWARN - strike warning

sup - supply

supv - supervisor

svc - service

swbd - switchboard

sys - system

T

TAACOM - theater army area command

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

TB - technical bulletin

TC - training circular

TDB - theater defense brigade

tm - team

TM - technical manual

TMC - troop medical clinic

TMR - transportation movement release

TMT - transportation motor transport

TOC - tactical operations center

TOE - table of organization and equipment

TOW - tube-launched, optically tracked, wire-guided

TPU - tank and pump unit

TRADOC - United States Army Training and Doctrine Command

trans - transportation

trk - truck

trmt - treatment

trp - troop

U

ULC - unit-level computer

ULLS - Unit-Level Logistics System

UMCP - unit maintenance collection point

UMT - unit ministry team

US - United States

USAF - United States Air Force

USN - United States Navy

V

VA - Virginia

VHF - very high frequency

W

w - with

W - watt

WA - weather analysis

wh - wheeled

wpn - weapon

WSM - weapon system manager

wtr - water

X

XO - executive officer

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***Source of Procurement Commander,** CASCOM, ATTN:ATCL-SRR, Fort Lee, **VA 23801-6000**

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