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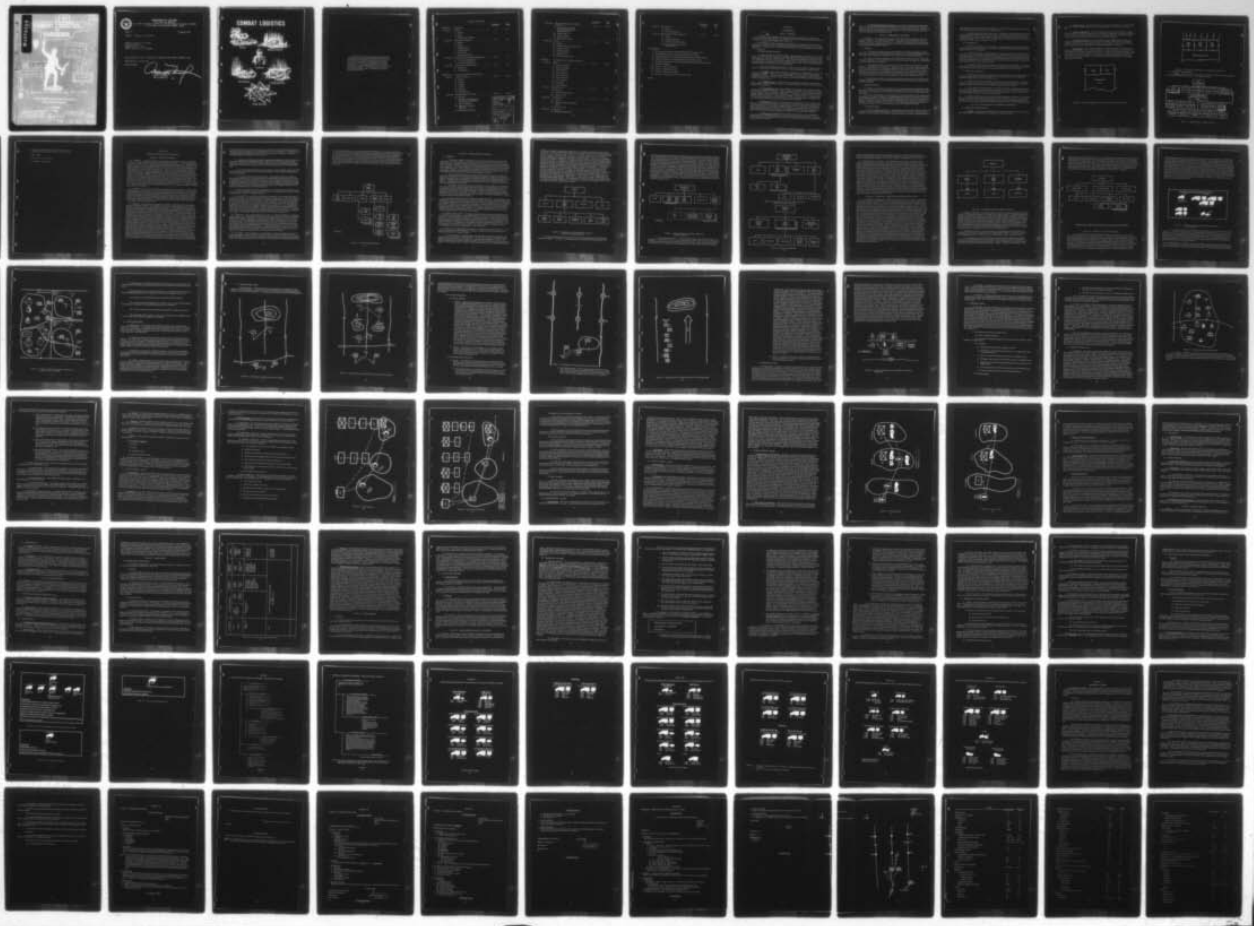

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# LEVEL II

# COMBAT LOGISTICS HANDBOOK

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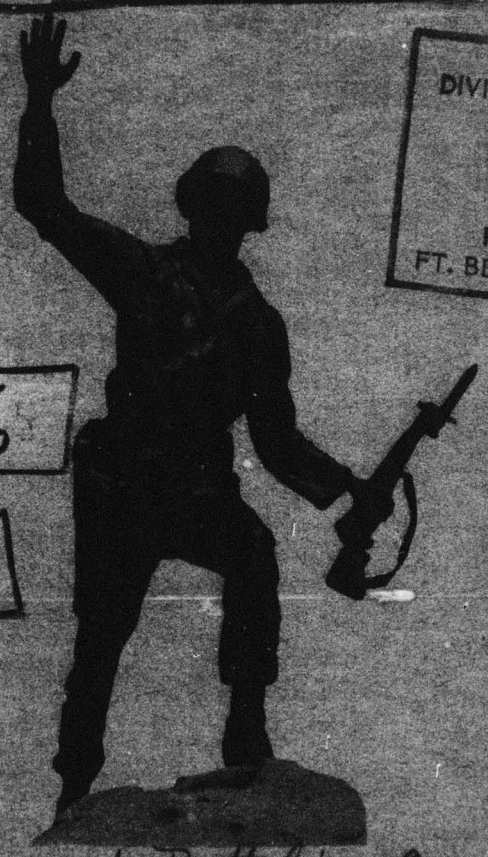

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# COMBAT LOGISTICS

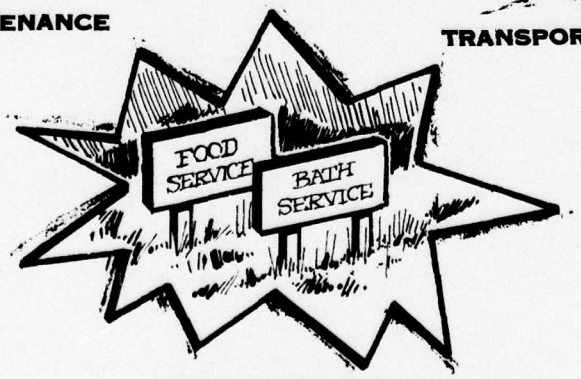
SUPPLY

MEDICAL SERVICE

PLANNING

MAINTENANCE

TRANSPORTATION

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This text has been prepared by the Brigade and Battalion Operations Department, United States Army Infantry School, and is approved for resident and extension course instruction by the United States Army Infantry School only. It reflects current thought of this school and conforms to printed Department of the Army doctrine as closely as possible. This publication is intended for instructional purposes only. Organizations are based upon final ROAD TOE.

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# CHAPTER 1

# INTRODUCTION

## Section I. GENERAL

1. PURPOSE. This handbook is designed to provide the student with a single source reference on the logistical portion of the combat service support system within the division, and to aid the student in understanding combat logistics.

2. SCOPE. This handbook contains a general discussion of territorial and command organization of a theater of war, and definitive considerations of logistical organizations, trains, operations, and planning at the combat battalion, brigade, and to a lesser degree, the division level.

3. COMBAT SERVICE SUPPORT.

a. The army division consists of combat, combat support, and combat service support units. The combat service support units are those that provide support in the fields of personnel management, logistics, and civil affairs. When the functions included in these three fields are implemented, we have a combat service support system. This handbook is designed to provide information and guidance in the field of logistics and, therefore, will consider in detail the logistical portion of the combat service support system.

b. The field of logistics encompasses six major areas or activities: Supply, medical services, transportation, maintenance, other services and miscellaneous related activities.

(1) Supply involves the determination of requirements, requisitioning, storage, and distribution of supplies. When items are in short supply, their issue must be controlled by establishing priorities. Priorities for supplies that have a direct bearing on tactical operations (fortification materials, weapons, radios, vehicles, fuel and ammunition) must be coordinated with the operations officer.

(2) Medical service is concerned with the evacuation of patients to field army hospital facilities, and the provision of limited or emergency treatment at battalion aid stations and division clearing stations.

(3) Transportation refers to the provisions of transportation for logistical support. Transportation organic and attached to units for logistical operations may be used for the movement of troops in tactical operations. When used for this purpose, coordination must be effected with the operations officer regarding its disposition. By and large, though, it will be used for logistical support operations. Traffic control is another aspect of the area of Transportation. This aspect encompasses the classification of routes and the establishment of regulatory measures to obtain the maximum use of the available roads and bridges.

(4) Maintenance involves all action taken to retain materiel in a serviceable condition or to restore it to serviceability. The maintenance battalion of the support command provides the division with direct support maintenance service for all equipment, except medical, signal cryptographic, and electrical accounting machine; it also provides the division with repair parts for the equipment it maintains. The combat battalion has an organic maintenance platoon which performs selected organization maintenance for the units of the battalion.

(5) Other Services embodies the provision of food service, graves registration and bath service. No graves registration or bath units are organic to the division. They are made available on an augmentation basis to the division support command in order to provide the division with these services.

(6) Miscellaneous Related Activities is the function of logistics that is performed almost exclusively by the S4 himself, for this area involves the preparation of the logistical estimate, the plan for logistical support to include the designation of trains areas, and the preparation of administrative instructions for dissemination. Other aspects of this area include rear area security and area damage.control.

## Section II. PRINCIPLES OF LOGISTICS

4. GENERAL. The principle that transcends all of the functions of logistics is that the impetus of support is from the rear to the front. All combat service support units have one function in common - to provide SUPPORT, i.e., SERVICE. Implementation of this principle is accomplished when combat service support units make their particular type of support available to the combat battalions as needed.

5. SUPPLY.

a. The division normally employs unit distribution for all types of supplies, except ammunition. Specifically, the division delivers supplies to the combat battalions whenever possible rather than requiring the battalions to come to the rear to pick up their supplies.

b. Only those supplies required for the accomplishment of the mission are maintained in the forward areas. The combat battalions do not have the organic personnel or transportation to maintain large stocks of supplies.

c. The logistical system must provide for a continuous flow of supplies to the combat battalions. This principle is a corollary to the previous one. If only those supplies required for the accomplishment of the mission are maintained in the forward areas, then it follows that there must be a continuous flow of supplies forward to replace those consumed in the accomplishment of the mission. Not all supplies are consumed at a uniform rate. Some, such as food, fuel, and ammunition, are used in measurable quantities on a daily basis. Others, such as weapons, vehicles, and radios, must be available as the need for replacement arises.

d. Supply economy must be practiced in combat as well as garrison. Using the right equipment to perform the task at hand and maintaining accountability of property results in conservation of supplies.

6. MEDICAL SERVICE.

a. Patients are evacuated no farther to the rear than required by their physical condition and the tactical situation. Implementation of this principle results in maintaining the maximum number of personnel for duty and reduces the burden on the evacuation means at all levels of command.

b. It is the responsibility of rearward units to evacuate the wounded from forward units. This principle is a specific example of the implementation of support from the rear to the front. The combat company does not have any organic transportation that can be used exclusively for medical evacuation. When the situation demands, wounded are evacuated on any available transportation. The combat battalion does, however, have transportation designated specially for this purpose and does evacuate from the forward areas to the battalion aid station.

7. TRANSPORTATION.

a. Avoid transloading of supplies. Transportation used to deliver supplies should go as far forward as the tactical situation permits, desirably directly to the user. It is not always possible, but, when possible, this principle should be followed to preclude transloading which is

time consuming and entails rehandling of supplies. An example of this principle is the delivery of fortification materials directly to the construction site.

b. Exercise minimum control over traffic. The objective of traffic regulation and control is to obtain the maximum use of available routes and maximum flow of traffic. This is accomplished by exercising only that control necessary to avoid confusion and interference with tactical operations. Over control is to be avoided because it normally results in less than maximum flow of traffic and poor utilization of routes.

8. MAINTENANCE.

a. Preventive maintenance is the keystone to keeping equipment in operating condition. Proper and timely maintenance service will usually keep equipment operating at peak efficiency and extend the life of the equipment.

b. Repair of equipment is accomplished as far forward as possible. When a deficiency develops on an item of equipment, repair is effected as far forward and by the lowest unit possible, preferably on-site. If an item cannot be repaired on-site, it is evacuated only as far to the rear as necessary to effect the repair, consistent with the nature of the repair and the capability of the maintenance unit. Implementation of this principle results in the return to service of the equipment at the earliest practicable time.

c. Maintenance units must be as mobile as the units they are supporting. If a maintenance unit does not have mobility equal to that of the supported unit, it will not be able to move at the same speed and, thus, not be able to provide the required service for the unit.

9. LOGISTICAL PLANNING.

a. Logistical planning must be continuous and comprehensive. If the right support, to include the right people to provide the support, is to be at the right place at the right time, logistical planning must be continuous and thorough.

b. Minimize vulnerability of logistical resources to enemy indirect fires. This principle has primary application at the combat battalion level and is implemented by dividing the battalion's logistical resources between a forward location and a rear location.

c. Locate logistical installations where they will not interfere with tactical operations. This principle has application at all echelons of command, but, at the combat battalion level, it also involves minimizing the size of the forward logistical installation to reduce confusion and to provide maximum maneuver space for combat elements.

d. Employ logistical units where they best can accomplish their mission. If a logistical unit, all or in part, can accomplish its mission best from a forward location, it should be so located. On the other hand, some logistical units, all or in part, can accomplish their mission best in a rear location and should not be employed forward just to be close to the supported unit.

## Section III. TERRITORIAL AND COMMAND ORGANIZATION

10. TERRITORIAL ORGANIZATION.

a. General. To delineate responsibilities and establish operational areas, the physical area wherein a war is being conducted is organized on a territorial basis.

b. Theater of War. The physical area, to include that area of land, sea, and air which is, or may become, involved directly in the operations of war is classified as the theater of war.

c. Theater of Operations. A theater of operations (Fig 1) is that portion of a theater of war necessary for military operations, either offensive or defensive, pursuant to an assigned mission, and for the administration incident to such military operations. A theater of operations is normally divided into a combat zone and a communications zone.

d. Communications Zone. The communications zone (COMMZ) comprises the area from the rear boundary of the combat zone to the rear boundary of the theater of operations. COMMZ includes the area for operation and defense of the supply, evacuation, transportation, and other combat service support agencies required to support the combat zone.

e. Combat Zone. The combat zone (Fig 2) is that part of a theater of operations required by combat troops for the conduct of operations. It also includes the area necessary for the immediate combat service support of such forces. Depth of the combat zone depends on the forces involved, the nature of planned operations, the character of the lines of communications, the terrain, and enemy capabilities. The combat zone is normally divided into field army, corps, and division areas. Each area is under the control of the commander of the organization to which it pertains.

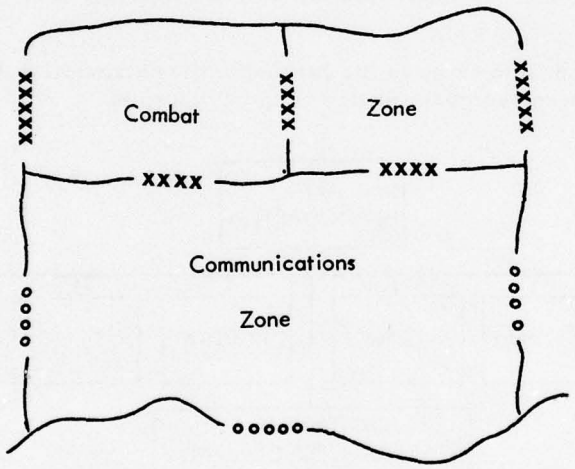



Figure 1. Territorial Organization of Theater of Operations (Schematic)

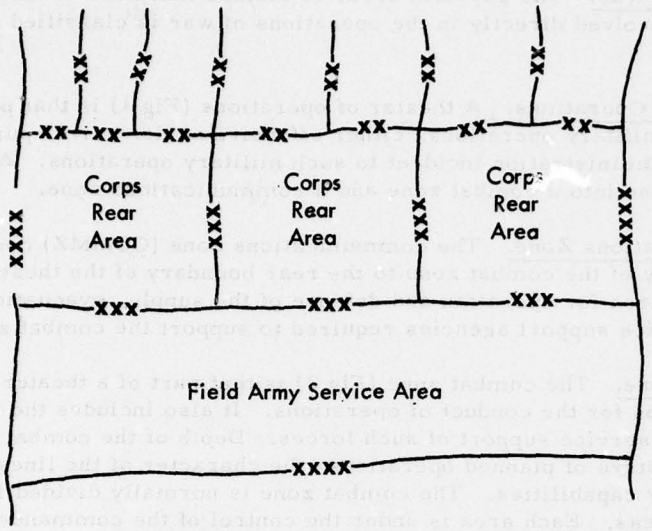



Figure 2. Territorial Organization of the Combat Zone (Schematic)

11. COMMAND ORGANIZATION.

a. General. The field army is the largest self-contained US Army command organization that has both combat and combat service support functions.

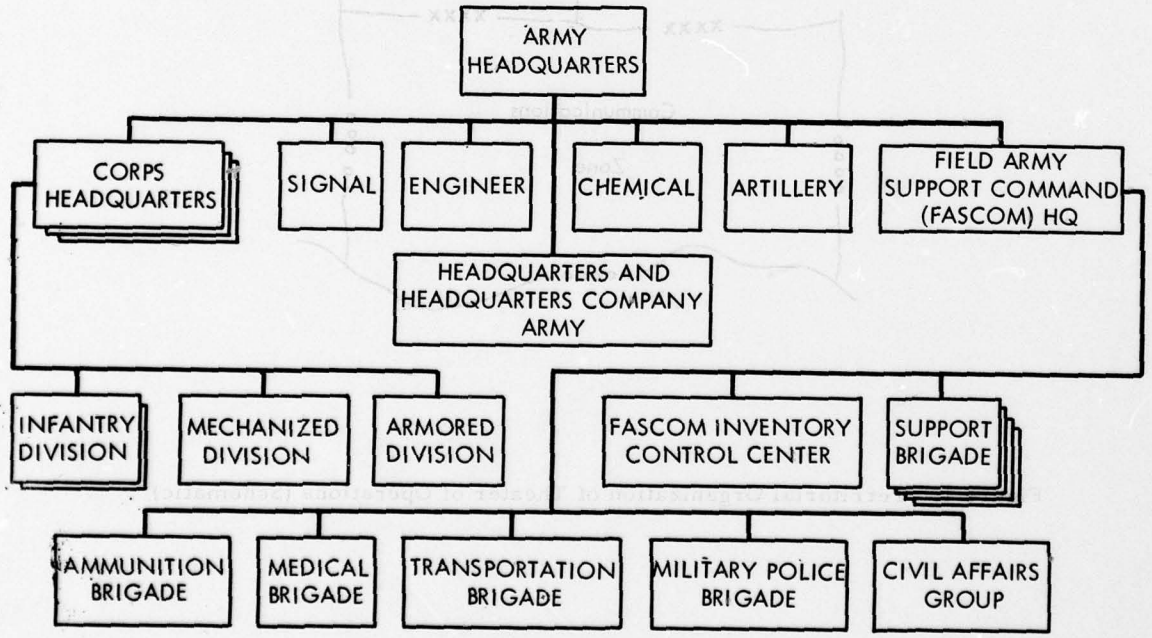
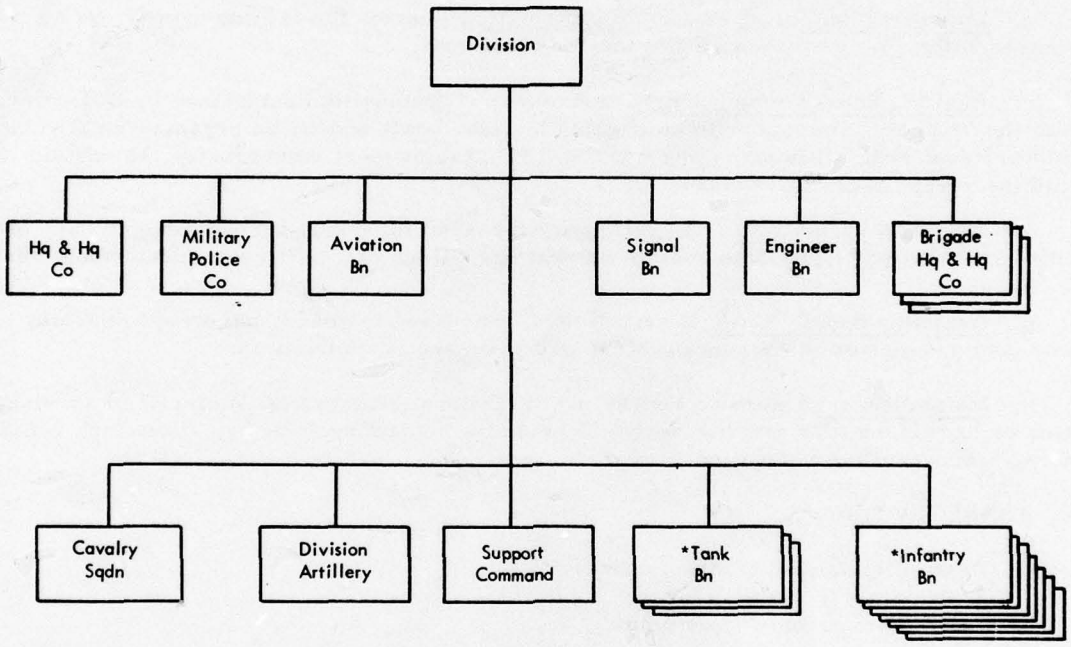



Figure 3. Organizations of a Type Field Army

b. Field Army. The field army (Fig 3) consists of a headquarters, certain assigned troops, and a variable number of corps, divisions, and service troops. It has no fixed, prescribed organization. The number and types of corps, divisions, and other combat and supporting elements are determined by the mission, availability of forces, availability and use of nuclear weapons, terrain and climate, and probable hostile forces. The field army commander is responsible for the organization and operation of services necessary for immediate support of units within the field army. Long range planning and preparation of detailed estimates of personnel and logistical needs is required to insure adequate support.

c. Corps. The corps is primarily a tactical unit of execution and maneuver, and is not normally in the logistical channel between division and field army. The corps is essentially a task organization of the combined arms employing a variable number of divisions, brigades, and combat support units.




*The number and type of combat battalions will vary with the type of division, i. e., Airborne, Infantry, Mechanized Infantry, and Armored, and with the mission of the division.

Figure 4. Organization of a Type Division

d. Division. The division (Fig 4) is the basic large unit of the combined arms and services. The division commander is responsible for combat and combat service support operations within the division. The division is a relatively fixed organization, with variances found

primarily in the number and type of combat battalions assigned. The division communicates directly with the field army on most matters of combat service support. Exceptions include the control and allocation of ammunition and other supply items as the situation requires; coordination with corps is required in these matters.

## Section IV. DEFINITIONS AND ABBREVIATIONS

12. DEFINITIONS.

a. Requisition: A formal request prepared on a prescribed form for an item of supply.

b. Trains: A grouping of personnel, vehicles and equipment needed to provide adequate logistical support for a unit.

c. Supply Point Distribution: A method of distribution wherein the receiving unit picks up its supplies at a supply point with its own transportation and delivers them to its own area.

d. Unit Distribution: A method of distribution wherein the issuing agency, using its own transportation, delivers supplies to the receiving unit.

e. Basic Load of Ammunition: The quantity of ammunition authorized by Department of Army or the Theater Commander to be carried by individuals and/or on organizational vehicles to initiate combat and, while providing a tactical reserve to meet emergencies, to sustain itself until routine resupply can be effected.

f. Required Supply Rate: An estimate expressed in rounds per weapon per day, of the amount of ammunition required to sustain combat operations of a particular unit without restrictions.

g. Available Supply Rate: A restriction, expressed in rounds per weapon per day, imposed by commanders on the expenditure and procurement of ammunition.

h. Maintenance: A service embodying all actions taken to keep materiel in serviceable condition or to restore it to serviceability. It includes inspecting, testing, servicing, repairing, rebuilding, recovery and evacuation.

13. ABBREVIATIONS.

a. DAO: division ammunition officer.

b. ASP: ammunition supply point.

c. SASP: special ammunition supply point.

d. SAL: special ammunition load.

e. RSR: required supply rate.

f. ASR: available supply rate.

g. MSR: main supply route (division).

h. SR: Supply route (used at battalion and brigade level).

i. WSP: water supply point.

j. GR: graves registration (when used within a symbol).
GRREG: graves registration (when used otherwise).

k. Tns: trains.

(1) Cbt Tns: combat trains.

(2) Fld Tns: field trains.

## CHAPTER 2

## LOGISTICAL ORGANIZATIONS AND TRAINS

### Section I. LOGISTICS OFFICERS

14. GENERAL. A logistics officer may be a planner, an operator or both. A logistical planner is one whose primary concern is planning logistical support. A logistical operator is one whose primary concern is the implementation of logistical functions, i.e., performing logistical operations, such as requisitioning, receiving, storing and distributing supplies. The logistics officer's role is determined, in part, by the presence or absence of units capable of implementing action in the field of logistics and, in part, by the responsibilities inherent in his assignment. If he is a logistics staff officer, he has an inherent responsibility for planning; thus, all logistics staff officers are planners and may be operators, but not all logistics officers are planners, Example: the support command commander's principal function is operating - he is the division level logistical operator. (He does plan for the utilization of his resources in executing the logistical portion of the division administrative plan; however, this planning is a function of his operational responsibilities, not a principal function itself.) If a logistics officer has direct control of units capable of implementing action in the areas of supply, medical service, transportation, maintenance and other services, he is a logistical operator. Within the division, there is a logistics staff officer at every echelon or level of command, except the combat company.

15. DIVISION. The member of the division commander's staff charged with general staff responsibility for logistics is the G4. He is a planner rather than an operator. In carrying out his responsibilities, he coordinates with the other general staff officers, particularly the G3, to insure proper and timely logistical support for the division's tactical operations. Another officer at division level directly concerned with logistics is the division support command commander; this officer is charged with the responsibility of implementing the logistical portion of the division administrative plan. In essence the division support command commander is the logistical operator at division level.

16. BRIGADE. The member of the brigade commander's staff charged with staff responsibility for logistics is the S4. The brigade S4 is first of all a staff officer and his primary function is to advise the commander on logistical matters. In accomplishing this function, he provides the commander with information on, and makes recommendations for, logistical support for brigade operations. This function represents WHAT he does; his other functions are discernible by considering HOW he executes his responsibilities. In executing his duties, the brigade S4 performs as a planner and a coordinator. He does not become directly involved in requisitioning, receiving, storing, or distributing supplies or providing transportation, maintenance or medical support for the units attached to the brigade; he is not a logistical operator. He accomplishes his planning function by analyzing the brigade mission to determine the logistical requirements, with particular attention to special requirements, such as the need for additional engineer support for maintenance of a supply route or additional boats/rafts to facilitate logistical operations in support of a river crossing. Definitively stated, he makes a logistical estimate. After determining the logistical requirements, he analyzes the availability/capability of the attached combat battalions and the forward support command elements to satisfy these requirements. Based on his conclusions, he makes recommendations to the brigade commander and, when appropriate, makes requests to the division G4 or support command commander for additional or special support. He culminates his planning for a specific operation by preparing and disseminating information and instructions to the attached units; instructions usually are disseminated by paragraph 4 of the operation order and/or fragmentary orders. He implements his coordinating function by monitoring the activities of the attached units

and the forward elements of the division support command to insure the attached units are receiving the required support and to be knowledgeable about the capabilities of the support command elements and the logistical elements of the attached combat battalions. Exceptions to his normal planner-coordinator role are fourfold:

a. Regardless of whether the brigade is operating independently or as part of the division, he has operational responsibility for the brigade trains. This responsibility entails designation of general areas within the brigade trains for elements located therein, displacement of the trains, and rear area security for and area damage control in the brigade trains area.

b. Processing requisitions for Class IV supplies, as these supplies require command authorization at each echelon, and making recommendations to the commander regarding approval or disapproval.

c. Processing requests for aerial resupply. The brigade S4 becomes involved in these requests because he is the link between the combat battalion S4 and division G4 (whose responsibility it is to obtain the delivery means), because the brigade commander may desire to establish a priority if more than one unit requests aerial resupply and both missions cannot be fulfilled simultaneously, and because he has the authority (through the brigade commander) to follow through and insure the supplies and delivery means are obtained and united and dispatched to the requesting unit in the minimum time.

d. When the brigade is operating independently, it will normally have elements of the division support command attached, and in such instances the brigade S4 does become, and has the wherewithal to become, a logistical operator.

17. BATTALION. The member of the battalion commander's staff charged with staff responsibility for logistics is the battalion S4. He, like the brigade S4, is a staff officer and his primary function is to advise the commander on logistical support operations of the battalion. But, unlike the brigade S4, he is both a planner and an operator. He has the capability to be an operator because there are units organic to the combat battalion that have the capability to implement action in the areas of supply, transportation, medical service, and maintenance; specifically, these units are the support, medical, and maintenance and communication platoons, though the latter is primarily under the staff supervision of the battalion S3. The battalion S4 plans for the logistical needs of the battalion and then directly supervises the logistical units organic to the battalion in the implementation of the logistical support plan.

18. COMPANY. At the combat company level there is no officer designated as a logistics officer; however, the company executive officer serves as the company commander's principal assistant for planning, organizing, and supervising the logistical operations of the company. The executive officer is responsible for preparing the company feeding plan and supervising feeding of the unit, initiating timely requests to battalion for fuel, ammunition, water, and replacement TOE items, supervising the distribution of fuel and ammunition within the company, supervising organizational maintenance of equipment (particularly vehicles and radios), and insuring medical support from battalion is available and functioning properly. The company supply sergeant is the commander's principal enlisted assistant for supply matters; he operates the company trains and assists the executive officer as required.

19. PLATOON. The platoon leader's responsibilities in the field of logistics consist of: insuring emergency medical treatment for his men and evacuation of wounded as soon as possible; being cognizant of the status of ammunition within his platoon and making timely requests by type and amount; keeping abreast of the status of TOE equipment and requesting replacement

items for equipment that is lost, damaged or destroyed (when lost as a result of other than combat loss, he must initiate action to determine responsibility for the loss); insuring his men receive water resupply as required; and, in defensive operations, determining requirements for fortification materials. In almost all instances, the responsibility to initiate action or accomplish the above functions rests with the platoon leader. There are other logistical matters which he must consider but, by and large, action in these matters is initiated by the company or higher headquarters. These matters include such items as food and transportation, and the provision of special clothing or equipment required for special operations or climatic conditions.

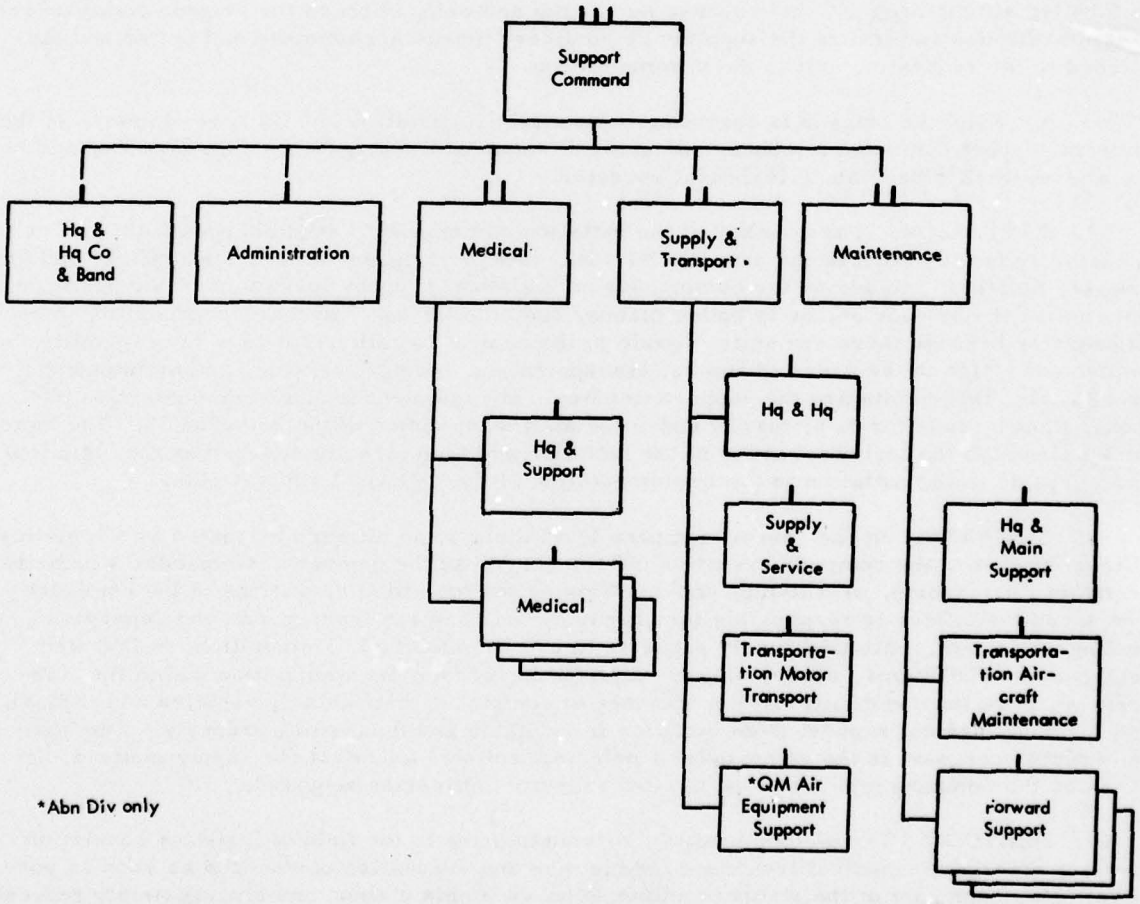



Figure 5. Division Support Command.

## Section II. DIVISION SUPPORT COMMAND

### 20. GENERAL.

a. The division support command (Fig 5) is part of the division base of each type-division and, with two exceptions, is the same in each division. The first exception is the Quartermaster Air Equipment Support Company; this unit is organic to the airborne division only. It provides the airborne division with air delivery equipment and performs maintenance on the equipment. The second exception is in the authorized strength of the support command in each of the divisions. The armored division support command is the largest, the mechanized infantry division, the next largest, the infantry division being somewhat smaller, and the airborne division support command being the smallest of the four.

b. The unit staff of the support command is comparable to that of the brigade and assists the commander in his three roles of commander, logistical operator, and adviser on logistical support matters. The support command commander is the logistical operator of the division. In fulfilling his responsibilities for implementation of the division administrative plan, he is supervised by division staff officers in the same manner as the other major subordinate commanders of the division.

c. The support command commander provides advice and assistance to the division commander and staff on quartermaster, medical, ordnance, and transportation matters and on all supply and direct support maintenance matters (except cryptographic) which are the operational responsibility of the support command. Within the policies of and authority delegated him by the division commander, the support command commander exercises technical supervision over supply, transport (except Army aircraft), service, and maintenance matters, to include training, throughout the division.

21. HQ & HQ CO & BAND AND THE ADMINISTRATION COMPANY. The Headquarters and Headquarters Company and Band consists of the unit staff for the support command commander, the company headquarters, the division band and the division ammunition office. The administration company, though a part of the support command, is under the general staff supervision of the G1 who normally has the Adjutant General supervise the company's personnel and administrative operations in support of the division. The support command commander's responsibility for this unit is limited primarily to control over tactical operations (movement and security) and supervision of unit level administration.

22. MEDICAL BATTALION. The Medical Battalion provides division level medical service, organizational maintenance of medical equipment, and procures and distributes medical supplies. It is organized with a headquarters and support company and three medical companies. Each medical company consists of a company headquarters, a clearing platoon, and an ambulance platoon. Habitually, a medical company is placed in support of each brigade. The support company of the headquarters and support company is organized identically to the medical companies, and provides backup support to the forward medical companies as well as providing support for units not supported by a medical company.

23. SUPPLY AND TRANSPORT BATTALION. The Supply and Transport Battalion is comprised of a Headquarters and Headquarters Company, Supply and Service Company, and a Transportation Motor Transport Company.

a. The Headquarters and Headquarters Company (Fig 6) provides the battalion commander with a unit staff and a "technical staff." The unit staff is found in the battalion headquarters and the necessary enlisted assistants in the battalion headquarters section. The company headquarters provides personnel to perform the usual company level combat service support. The "technical staff" is found in the division supply office. The Supply and Transport

Battalion commander is the division supply officer. His primary assistant for this function is a Major, assistant division supply officer; it is this officer who actually operates the division supply office on a day-to-day basis. In this office are supply managers, i. e., personnel who specialize in Engineer, Ordnance, Quartermaster, and Signal supply. Each of these sections process requisitions for equipment and supplies of their respective services. The transportation section is headed by a Captain, Transportation Corps, who is a motor transportation plans officer; specifically, he coordinates the activities of the Transportation Motor Transport Company and insures that the transportation required by the Supply and Service Company to effect distribution of supplies is available and is scheduled to meet the requirements. The two technical services not included in the division supply office are Medical and Chemical. The Medical Battalion is responsible for the provision of medical supplies. In combat there may be a chemical support unit attached to the Supply and Transport Battalion. If attached this unit processes requisitions for chemical supplies and procures and distributes them. If this unit is not attached to the battalion, the requisitions are processed in the division supply office as directed by the assistant division supply officer. It is through the division supply office that requisitions flow for all supplies, except Class V, repair parts, medical, and electrical accounting machine (EAM) supplies. (See paragraph 41 for Class V supply and paragraph 50d and e for repair parts; EAM supplies are a function of the Administration Company since it is the unit that has the electrical accounting machines.)

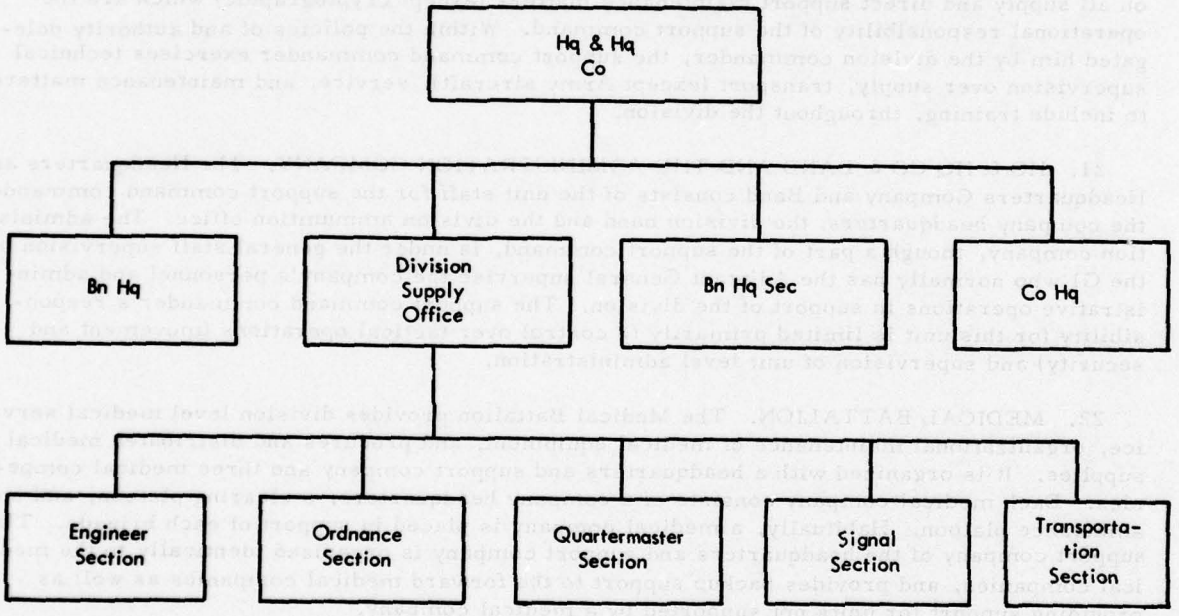



Figure 6. Headquarters and Headquarters Company, Supply and Transport Battalion.

b. The Supply and Service Company (Fig 7) is the operating agency of the Supply and Transport Battalion. It includes a main supply platoon, which operates division Class I, III,

and II and IV distributing points in the division support area; three forward supply sections; and, by augmentation, a bath section and a graves registration platoon (both of these elements are a normal augmentation in combat). The forward supply sections operate Class I and III forward distributing points in each of the brigade trains areas. The Class I distributing point is also capable of processing selected items of Class II and IV supplies. The bath section is capable of establishing nine bath points, each bath point having an eight shower head capacity. Exchange of clothing is no longer accomplished by the bath team; however, arrangements are usually made to have a Quartermaster Direct Support Company from army provide teams at each bath point for the exchange of clothing. The graves registration platoon consists of a division collecting, identification, and evacuation section which operates the division GRREG collecting point located in the division support area; this point is the place to which the dead are evacuated. The platoon also has three collecting and evacuation sections, one normally operating in each brigade trains area. Units are responsible for evacuating their dead to the collecting point in the brigade trains area and from there they are evacuated by the section to the division support area.

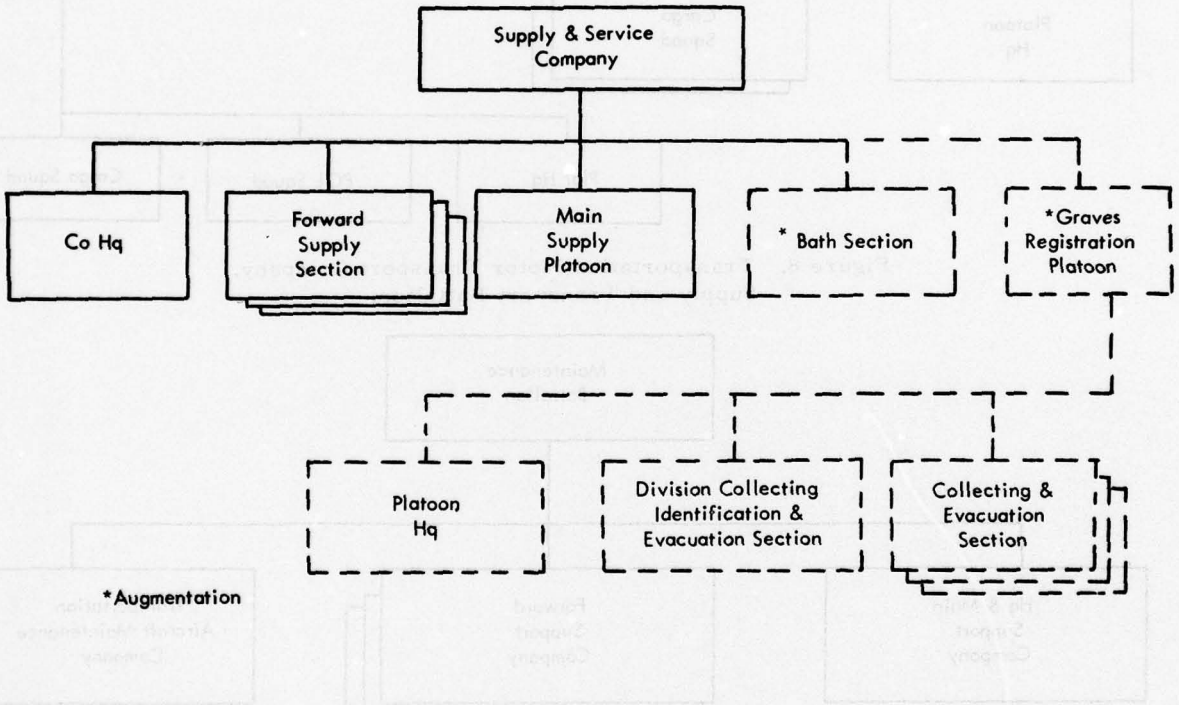



Figure 7. Supply and Service Company, Supply and Transport Battalion.

c. The Transportation Motor Transport Company (Fig 8) consists of three light truck platoons or a total of 60 2 1/2-ton trucks, a maintenance section, and a medium truck platoon which has one POL squad of ten 5,000-gallon fuel tankers and a cargo squad of ten 5-ton tractors and twenty 12-ton semitrailers; the semitrailers are used, in part, for mobile storage.

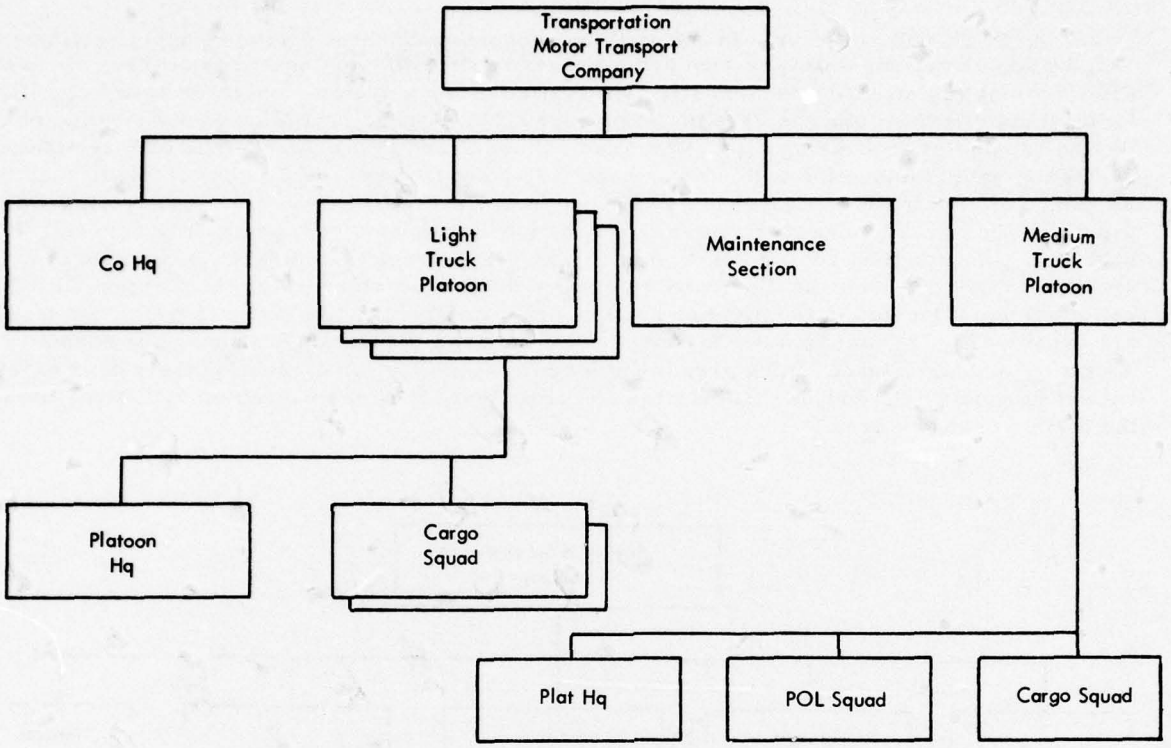



Figure 8. Transportation Motor Transport Company, Supply and Transport Battalion.

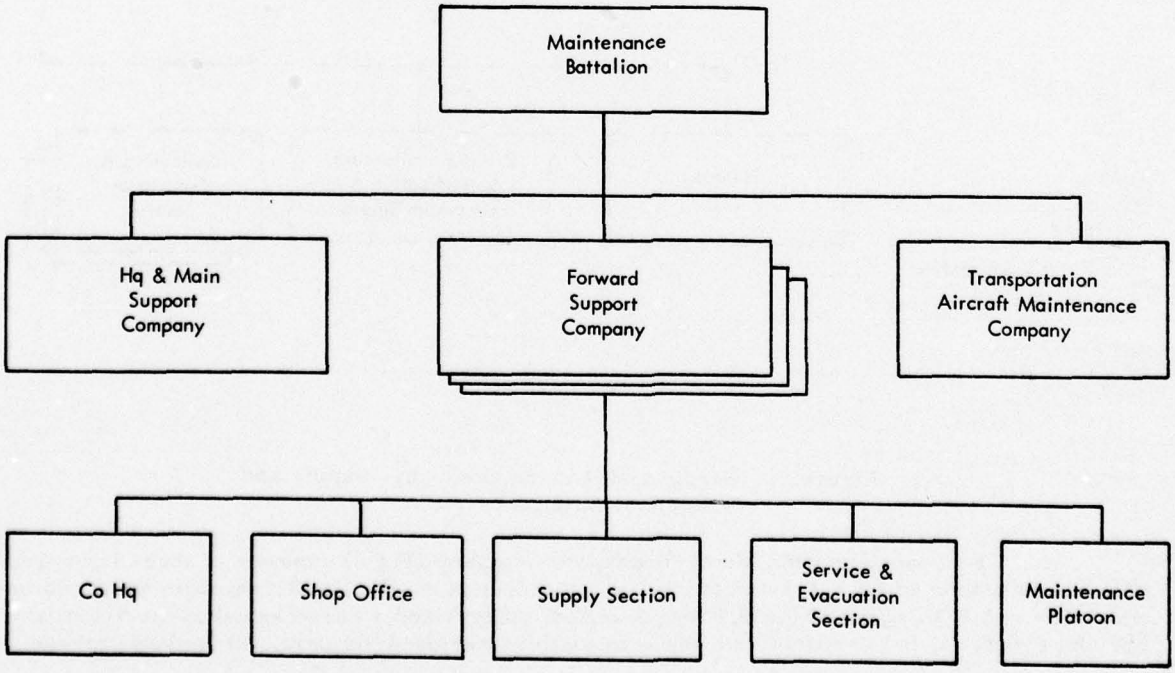



Figure 9. Maintenance Battalion.

In the mechanized infantry and armored divisions, there are two POL squads or a total of twenty 5,000-gallon fuel tankers. Based on 75% availability of vehicles, the company can haul 276 short tons of general cargo and, with one POL squad, 43,000 gallons of fuel in one lift.

24. MAINTENANCE BATTALION. The Maintenance Battalion (Fig 9) performs direct support maintenance for all equipment in the division except for signal cryptographic (performed by the Signal Battalion), EAM (performed by the Administration Company), and medical (performed above division level through the Medical Battalion). The Maintenance Battalion also provides repair parts for all equipment for which it is responsible to maintain, vehicle recovery and evacuation service, and operates maintenance collecting points in the division support area and the forward areas. The Headquarters and Main Support Company is located in the division support area and provides backup support to the forward support companies and direct support maintenance for division troops. One Forward Support Company is normally located in each of the brigade trains areas; it provides direct support maintenance service and repair parts to all the units attached to the brigade as well as other units operating in the vicinity of the brigade area. This unit, in conjunction with the forward supply section of the Supply and Service Company, also establishes a maintenance and salvage collecting point in the brigade area and/or along the brigade axis of supply and evacuation. The Forward Support Company concentrates its direct support efforts on engineer, ordnance, and signal equipment; other equipment requiring direct support repair is sent to the Headquarters and Main Support Company. The Aircraft Maintenance Company provides direct support maintenance and aircraft repair parts for all aviation units within the division; its service is by no means limited to the Aviation Battalion. In fact, it will frequently have a maintenance element forward in each brigade area to support the brigade aviation section.

## Section III. LOGISTICAL ELEMENTS IN THE COMBAT BATTALION

25. KEY LOGISTICS PERSONNEL, COMBAT BATTALION. The key logistics personnel in the infantry battalion, in addition to the S4, are the battalion surgeon, support platoon leader, and the motor officer (Figure 10). Each is a special staff officer and directly controls a combat service support unit in the battalion; all are under the staff supervision of the S4. The battalion surgeon, a Captain, Medical Corps, commands the battalion medical platoon. He is responsible for insuring adequate medical support for the battalion, obtaining assistance from division as required, and preparing the medical evacuation plan. The support platoon leader functions in two roles; in addition to being the support platoon leader, he is the assistant S4. When he is assisting the S4 in planning logistical support, he is functioning as the assistant S4; when he is executing logistical actions, he is performing in his role as the support platoon leader. He commands the support platoon and is responsible for the operation of the battalion field trains. The motor officer's primary responsibility is maintenance; however, in the infantry battalion, he also assists the S4 in the operation of the battalion combat trains. In the mechanized infantry or tank battalion, he will probably not have the time to devote to this function because of the magnitude of maintenance operations in these units. He exercises operational control over the maintenance platoon, which is commanded by a warrant officer. Though not shown in Figure 10 as one of the key logistics officers in the battalion, the communication officer does have logistical responsibilities. He was not shown because his primary responsibility is to operate the battalion communications system. His logistical responsibilities are twofold: the communication platoon requisitions signal repair parts from the maintenance battalion and is responsible for selected organizational maintenance of the signal equipment in the battalion. When problems arise regarding his logistical responsibilities, he informs the battalion S4 and seeks his assistance as appropriate. In implementing his responsibility for the operation of the battalion communication system, he is under the staff supervision of the battalion S3. See Appendix 1, Figures 1 and 2, for duties of Key Logistics Personnel, Infantry Battalion and Company Level.

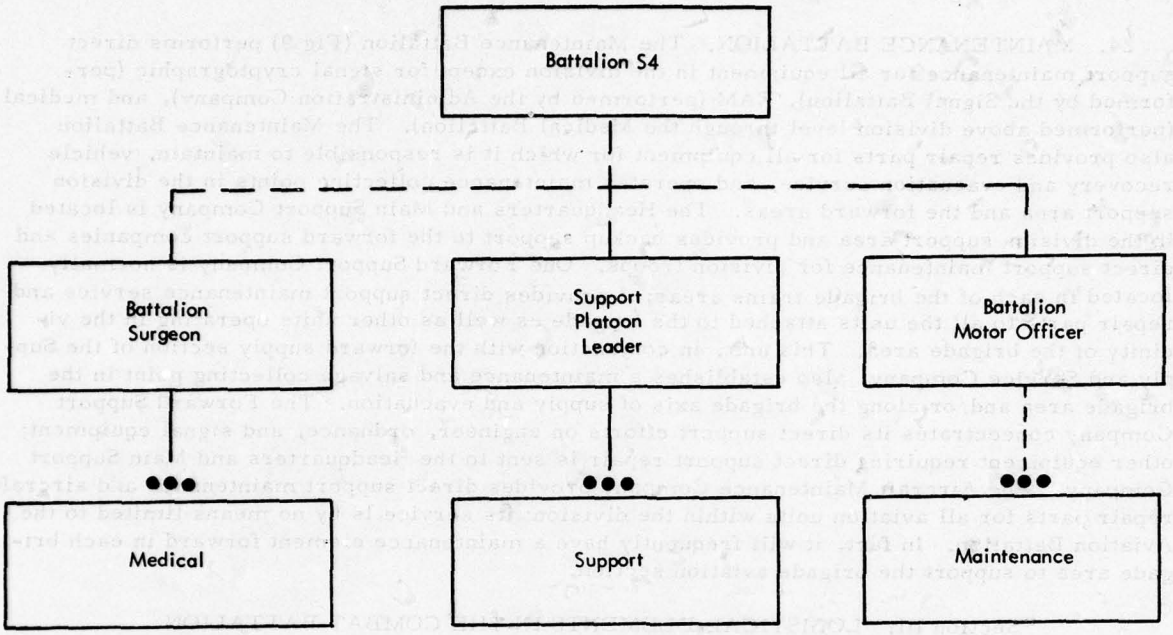


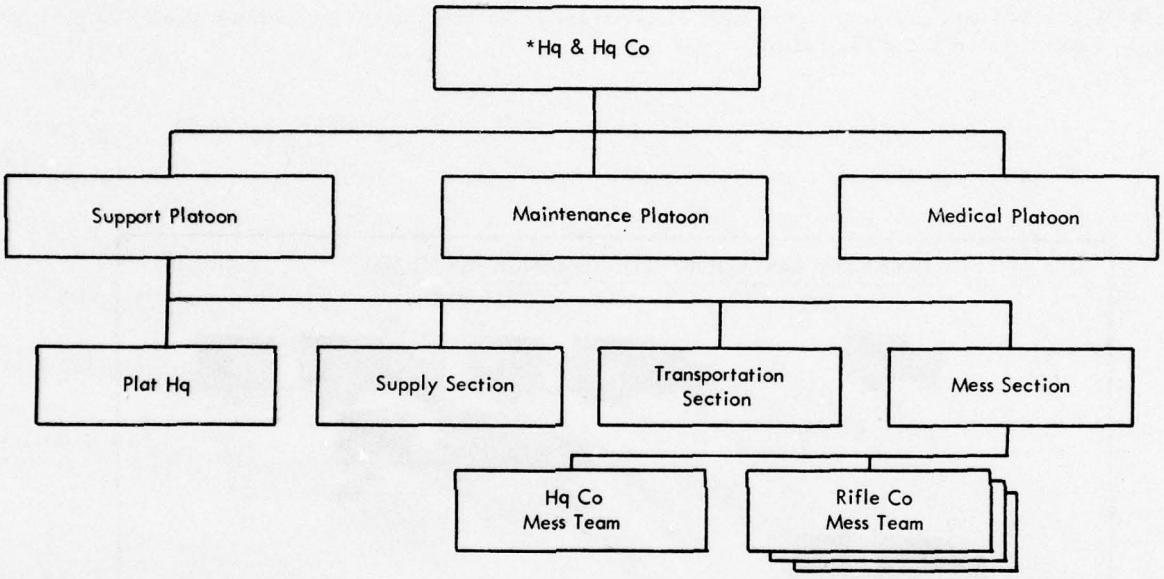

Figure 10. Key Logistics Personnel, Infantry Division.

26. MEDICAL PLATOON. The medical platoon consists of a platoon headquarters and three sections: the aid station, medical evacuation, and an aidman section. The platoon headquarter includes the platoon leader (Surgeon), a medical operations assistant (Lieutenant, MSC) and a platoon sergeant; the aid station section includes six enlisted men; the evacuation section includ thirteen men and six 1/4-ton frontline ambulances; and the aidman section has twelve company aidmen. Normally, four aidmen are attached to each rifle company; this permits one aidman per rifle platoon and one to operate the company aid post. This unit is organized the same in the mechanized infantry and tank battalions, except that there are two APC ambulances, one Carrier CP vehicle, and three 1/4-ton frontline ambulances; the APCs are used for battlefield recovery and the Carrier CP vehicle is used as a treatment vehicle.

27. SUPPORT PLATOON. The support platoon is responsible for the procurement and distribution of all classes of supply and for the preparation of rations. In addition to the platoon headquarters, there is a supply section, transportation section, and a mess section.

a. The supply section is under the direct supervision of the supply warrant officer. It is this section that prepares formal requisitions for the battalion, except for medical expendables and automotive and signal repair parts. Medical expendables are requisitioned by the medical platoon and obtained through medical channels. Automotive repair parts, which

include both engineer and ordnance items, are requisitioned by the maintenance platoon. Signal repair parts are requisitioned by the communications platoon. This division of responsibility results in greater responsiveness by permitting users to deal directly with the forward support companies which provide repair parts. The users maintain their own repair parts records and thus know when the need exists to replenish stock; further many of the repair parts transactions are on a direct exchange basis. The supply section is also responsible for computing data on usage factors for each class of supply; operating the support platoon CP; maintaining the battalion property book; and supervising the distribution of Class II and IV supplies.




*Units shown here represent only the logistical units organic to the Inf Bn Hq & Hq Co.

Figure 11. Logistical Units, Infantry Battalion.

b. The transportation section of the infantry battalion consists of two 5-ton trucks, six 2 1/2-ton trucks, four 1 1/2-ton cargo trailers, four 1 1/2-ton water trailers, two truck-mounted tank and pump units, and two trailer-mounted tank units; the mechanized infantry battalion transportation section has fourteen 5-ton trucks, eight 1 1/2-ton cargo trailers, four 1 1/2-ton water trailers, four truck-mounted tank and pump units, and four trailer-mounted tank units. This section is concerned primarily with the distribution of Class III and V supplies. The 1200-gallon fuel tanker, formerly a part of this section, has been replaced by a truck-mounted tank and pump unit and a trailer-mounted tank unit. Each truck-mounted tank and pump unit consists of two 600-gallon fuel tanks and a power driven pump; each trailer-

mounted tank unit consists of one 600-gallon fuel tank with a gravity dispenser. The tank and pump unit and the tank unit are portable and air droppable. In the infantry battalion, the tank and pump units are transported on the two 5-ton trucks and the tank units on two of the 1 1/2-ton cargo trailers; the six 2 1/2-ton trucks and the remaining two 1 1/2-ton cargo trailers are used to transport ammunition. Likewise, in the mechanized infantry battalion, the four tank and pump units are carried on 5-ton trucks and the four tank units on 1 1/2-ton trailers, leaving ten 5-ton trucks and four 1 1/2-ton cargo trailers to transport ammunition. The two truck-mounted tank and pump units coupled with the two trailer-mounted tank units gives the infantry battalion a 3600-gallon fuel carrying capability; with four of each of three units in the mechanized infantry battalion, it has a fuel carrying capability of 7200 gallons. Since the tank and pump units and the tank units are portable and can be removed from their carriers by the 5-ton wrecker, the 5-ton trucks and 1 1/2-ton cargo trailers can, if necessary, be used to carry ammunition or other supplies for limited periods of time.

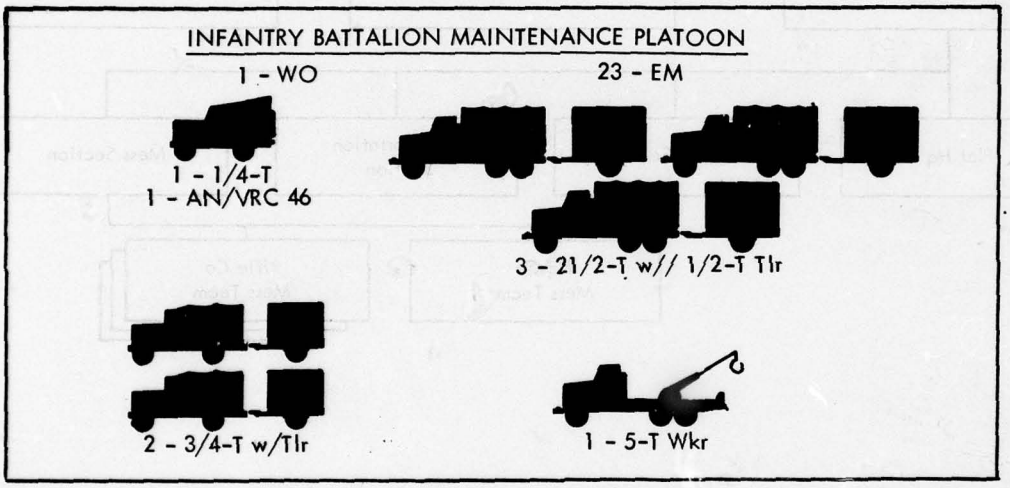



Figure 12. Vehicles and Radios in the Maintenance Platoon, Infantry Battalion.

c. The mess section has 29 enlisted personnel and four 2 1/2-ton trucks with 1 1/2-ton trailers. It is capable of operating on a centralized or decentralized basis; the section can be divided into four mess teams for decentralized operations. In combat the section will normally operate on a centralized basis in the battalion field trains. For organization of the tank battalion support platoon, refer to Infantry Reference Data. See Appendix II for detailed organization of the Infantry Battalion Support Platoon; Appendix III for detailed organization of Mechanized Infantry Battalion Support Platoon.

28. MAINTENANCE PLATOON. The infantry battalion maintenance platoon (Fig 12) consists of a warrant officer and 23 enlisted personnel. Equipment includes three 2 1/2-ton trucks with 1 1/2-ton trailers, two 3/4-ton trucks with trailers, a 1/4-ton truck with one AN/VRC-46

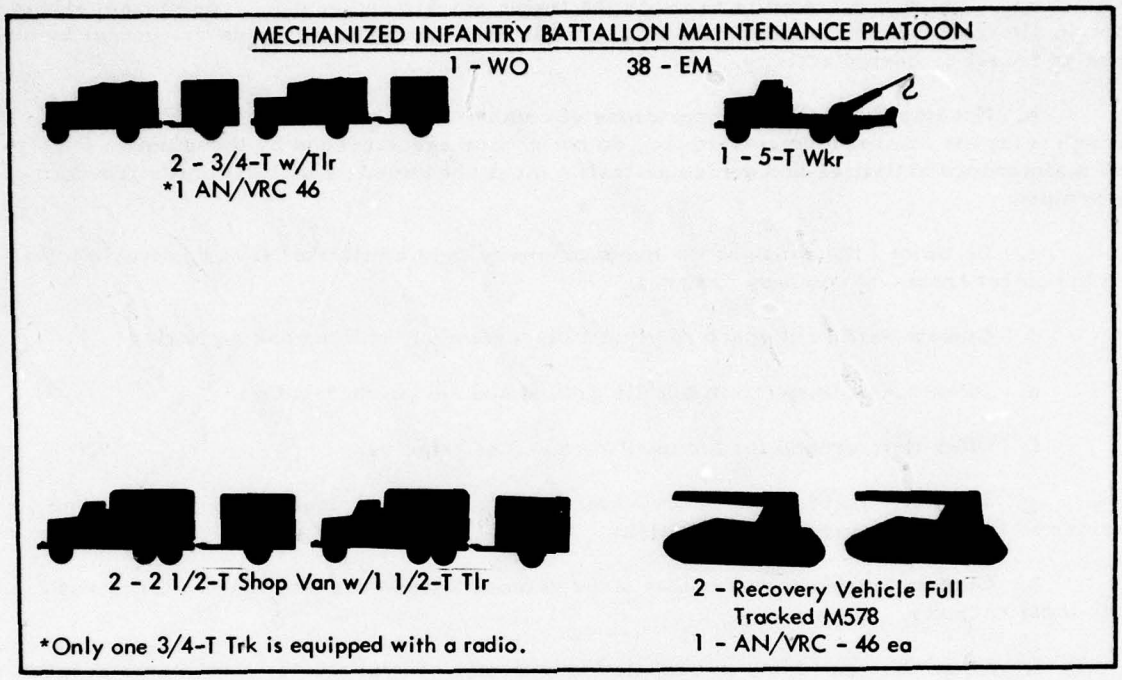



Figure 13. Vehicles and Radios in the Maintenance Platoon, Mechanized Infantry Battalion.

radio, and a 5-ton wrecker. The maintenance platoon of the mechanized infantry battalion (Fig 13) has a warrant officer and 38 enlisted personnel, two 2 1/2-ton shop vans with 1 1/2-ton trailers, two 3/4-ton trucks with trailers, and a AN/VRC-46 radio mounted in a 3/4-ton truck, a 5-ton wrecker, and two recovery vehicles with AN/VRC-46 radios. For organization of the tank battalion maintenance platoon, refer to Infantry Reference Data. See Appendix IV for detailed organization of the Infantry Battalion Maintenance Platoon; Appendix V for detailed organization of Mechanized Infantry Battalion Maintenance Platoon.

## Section IV. TRAINS

### 29. GENERAL.

a. The trains area is the place where logistical operations are conducted. The trains consist of the personnel, equipment, and vehicles necessary to provide logistical support for the unit.

b. Trains are established at the combat company, battalion, and brigade level. The personnel, equipment and vehicles necessary to provide logistical support for the division are organic to the division support command, and the area where the division support command is located is identified as the division support area.

30. CHARACTERISTICS OF TRAINS AREAS.

a. Be convenient to units served. If possible, there should be a convenient road net front to rear that will allow units to reach the trains quickly and easily. The system should contain alternate routes so movement can be made even though some roads are cut off by excessive travel or enemy activity.

b. Not interfere with the operations of combat elements. The areas must be far enough from the combat elements so they do not occupy space needed by these units. Supply and maintenance activities and vehicular traffic must not impede a tactical unit's freedom of movement.

c. Be beyond the range of the mass of enemy light artillery. (Not applicable to battalion combat trains or company trains.)

d. Contain sufficient space to permit dispersion of vehicles and activities.

e. Offer concealment from hostile ground and aerial observation.

f. Offer firm ground for ammunition and fuel vehicles.

g. Be where no terrain feature, such as an unfordable river, is or may become a barrier to supply and evacuation operations.

h. Contain terrain features that favor defense against air or ground attacks and facilitate local security.

i. Be so disposed that, in conjunction with other installations, they do not present a lucrative nuclear target.

j. Be near a source of water for vehicle use and bath service.

k. Offer, if appropriate, a suitable landing site for attached or supporting army aircraft employed in resupply or evacuation operations.

31. COMPANY TRAINS. The combat company is the lowest echelon that establishes a trains. The company trains normally is located at or near the CP in both the attack and defense. The activities of the company trains are supervised by the executive officer who has a 1/4-ton truck with trailer and an AN/VRC-47 radio.

a. Infantry Rifle Company. The trains normally consist of the supply sergeant, armorer, and a 2 1/2-ton truck with 1 1/2-ton trailer. This vehicle and trailer is used to transport a portion of the rifle company's basic load and some of its equipment. Examples of the type equipment are: lister bag, field wire, field cook sets, squad burners, and pioneer tools. (The 3/4-ton trucks and trailers in the weapons platoon, basically weapons carriers and ammunition resupply vehicles, also may be in the company trains area from time to time; further, the radio mechanic may operate in the trains area.)

b. Mechanized Infantry Rifle Company. The trains of this unit consist of the supply sergeant and a 13-man maintenance section which performs organizational maintenance on vehicles, weapons, and radios. Major items of equipment include a 2 1/2-ton truck with 1 1/2-ton trailer, 3/4-ton truck with trailer, personnel carrier with AN/VRC-53 radio, full-tracked recovery vehicle (M578) with AN/VRC-46 radio, and an organizational maintenance tool kit (No 1), radio repairman tool kit, and an electron tube test set.

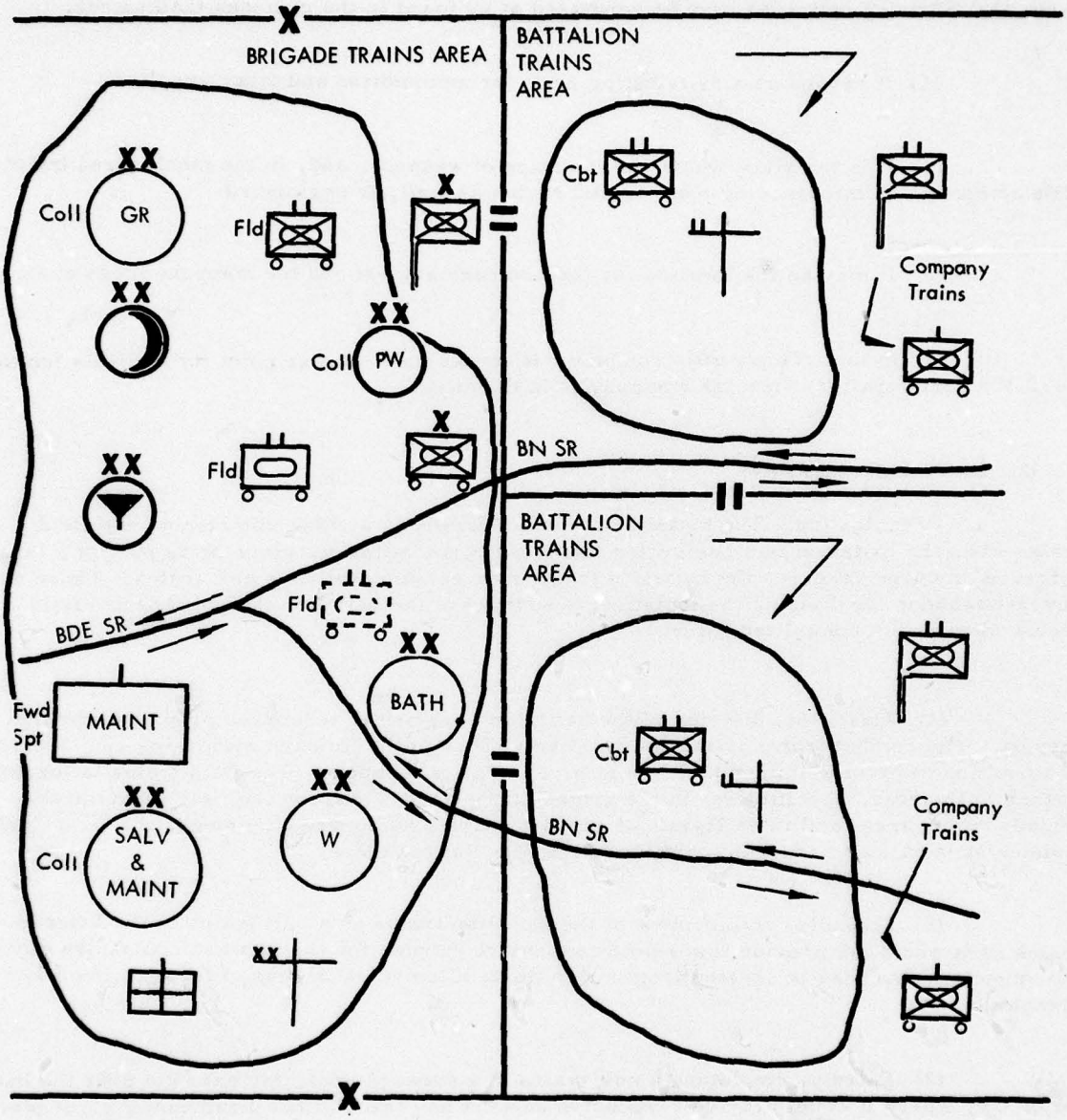



Figure 14. Relative Location of Company, Battalion, and Brigade Trains (Schematic).

c. Tank Company. Except for the addition of a mechanic and a 1/4-ton vehicle, the tank company trains parallel in organization and function the mechanized infantry rifle company.

d. Even though the trains is small at company level, particularly in the infantry company, the following activities may be conducted at or found in the company trains area.

(1) It serves as a distributing point for ammunition and other supplies.

(2) It is the place where maintenance of weapons, and, in the mechanized infantry rifle company, maintenance of vehicles and radios as well, is performed.

(3) It may be the location for the company aidpost and the company mess area.

(4) In the infantry rifle company, it serves as a storage point for bedrolls (on the 1 1/2-ton cargo trailer) when the company is in the attack.

32. BATTALION TRAINS.

a. Organization. The battalion trains habitually is divided into combat and field trains when the battalion is a committed force; when the battalion, alone or as part of a larger force, is in corps reserve, the battalion trains may be employed as a unit trains. There are several reasons for dividing the logistical resources of the battalion into combat and field trains when it is a committed force.

(1) First, this division of the battalion's logistical resources provides optimum support. The combat trains is located relatively close to the forward companies and, thus, is in a position to provide immediate, responsive logistical support. The field trains is located farther to the rear, specifically, in the brigade trains area; locating the field trains in the brigade trains area facilitates logistical support operations between the combat battalion and the division support command which also has elements located there.

(2) Secondly, employment of the battalion trains as a unit trains in the brigade trains area would not provide immediate responsive support for the forward companies since the brigade trains may be located from six to thirty kilometers in rear of forward friendly dispositions.

(3) Thirdly, employing a unit trains in a forward area, for example near the battalion CP, where it could provide responsive support has two distinct disadvantages. It places all of the battalion's logistical resources within range of the majority of the enemy's light artillery and a heavy shelling or the employment of a small yield nuclear round could result in loss of most of the battalion's logistical capability. Additionally, and no less important, employing a unit trains in the forward area negates the benefits and value of having support command elements in the brigade trains area.

b. Battalion Combat Trains.

(1) Composition. The combat trains, with its mission of providing immediate, responsive logistical support, is tailored to meet the requirements of the battalion mission or situation; it is not a fixed organization. It normally includes Class III and V distributing points,

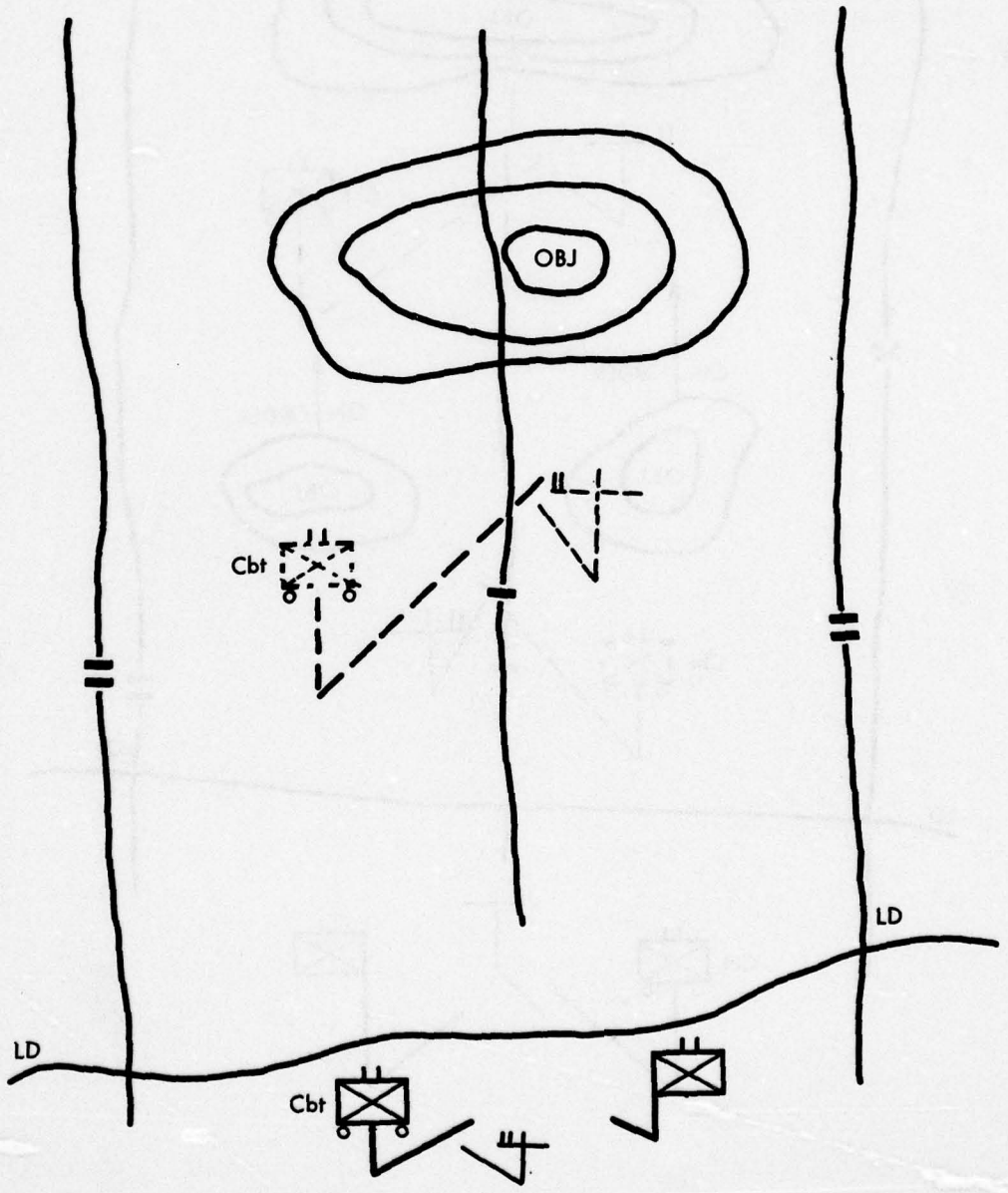



Figure 15. Employment of Combat Trains in the Attack.

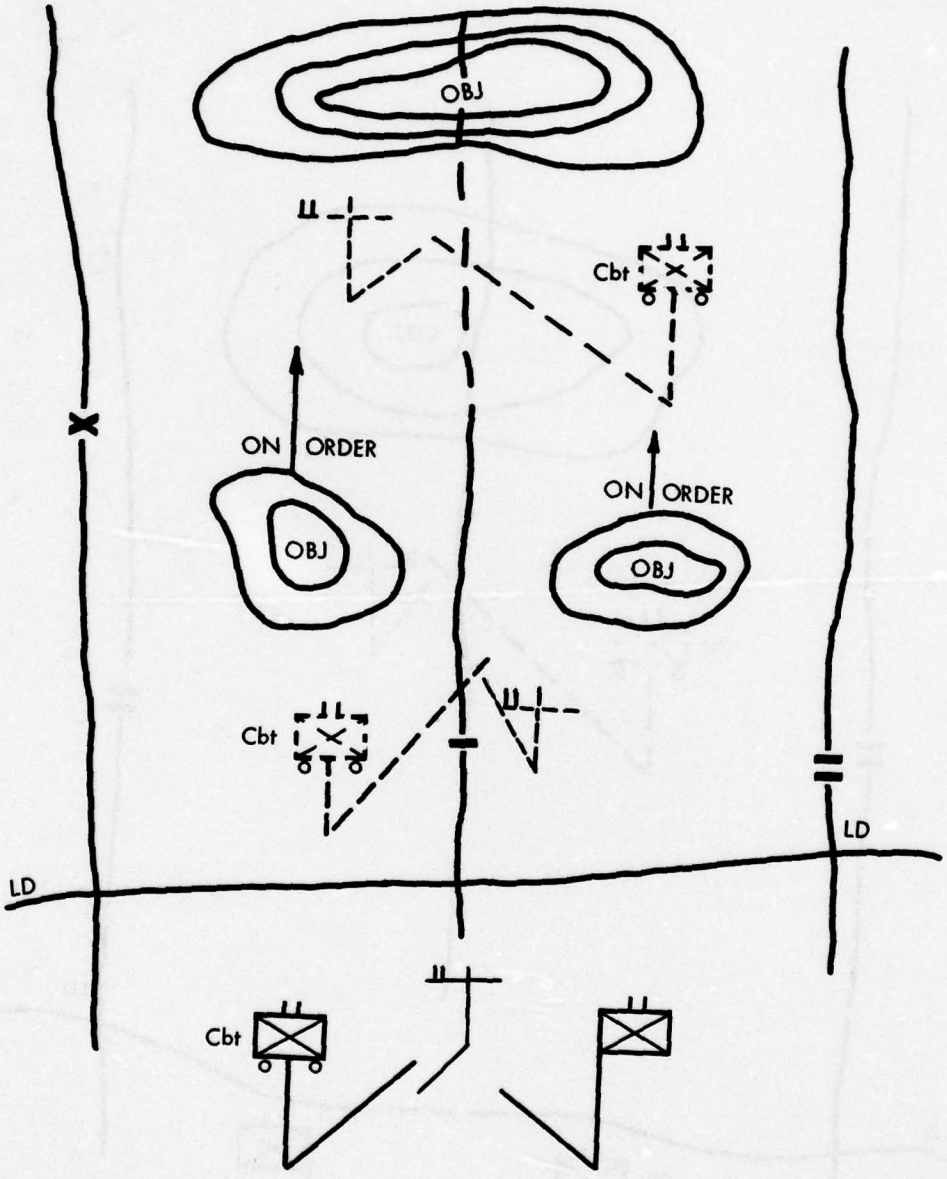



Figure 16. Employment of the Combat Trains in the Attack (Variation).

a maintenance element (consisting of several mechanics and at least one recovery vehicle) from the maintenance platoon, and the battalion aid station. The exact composition will depend on the mission and situation. As an example, in a defensive situation where there is little vehicular movement, there may be little or no Class III in the combat trains. The Class III vehicle may be sent forward from the field trains at night to top off the vehicles of the units as required.

(2) Tactical Employment.

(a) Infantry Battalion.

1. Offense. Regarding the employment of the infantry battalion combat trains in offensive operations (Figures 15 and 16), it must be remembered that dismounted attacks are relatively slow moving and objectives shallow; accordingly, the combat trains will normally remain in the position it is occupying (assuming the battalion is attacking from a defensive posture) at the time the attacking companies cross the line of departure and then displace forward in a single move when the battalion objective has been seized. If the battalion commander has designated an intermediate objective, the combat trains may displace to a point in rear of the intermediate objective and then on to the vicinity of the final objective at the appropriate time. This technique permits ammunition resupply for the attacking companies at the intermediate objective and facilitates evacuation of the wounded and dead. In implementing this technique, however, the nature of the terrain must be considered; if the combat trains is exposed to enemy observation and direct fire weapons, it should not be displaced prior to seizure of the final objective. When it is tactically infeasible to displace to the vicinity of an intermediate objective or if there is no intermediate objective, an ammunition vehicle(s) can be sent forward to a point near the attacking units to provide ammunition resupply. Under these circumstances, another approach is to have the companies use one of their 3/4-ton trucks, which is smaller and more maneuverable than a 2 1/2-ton truck, pick up small arms ammunition at the combat trains and deliver it to the company. Regardless of whether the combat trains is displaced once or twice, medical evacuation procedures are basically the same, the only difference being in the distance evacuation must be effected.

2. Defense. In defensive operations (Figure 17), the battalion combat trains is located between 1 1/2 to 4 kilometers behind the FEBA, depending on the nature of the terrain, the location of the battalion reserve, and the available road net. Additionally, it usually is located in the vicinity of the battalion CP.

(b) Mechanized Infantry Battalion.

1. Offense. In considering the employment of the mechanized infantry battalion combat trains in offensive operations, it is necessary to consider both slow moving attacks against shallow objectives (3 - 10 KM) and fast moving attacks involving extended distances (10 - 100 KM).

a. Slow Moving Attacks. In supporting a slow moving attack, the combat trains of the mechanized infantry battalion is employed in the same manner as the combat trains of the infantry battalion supporting a dismounted attack.

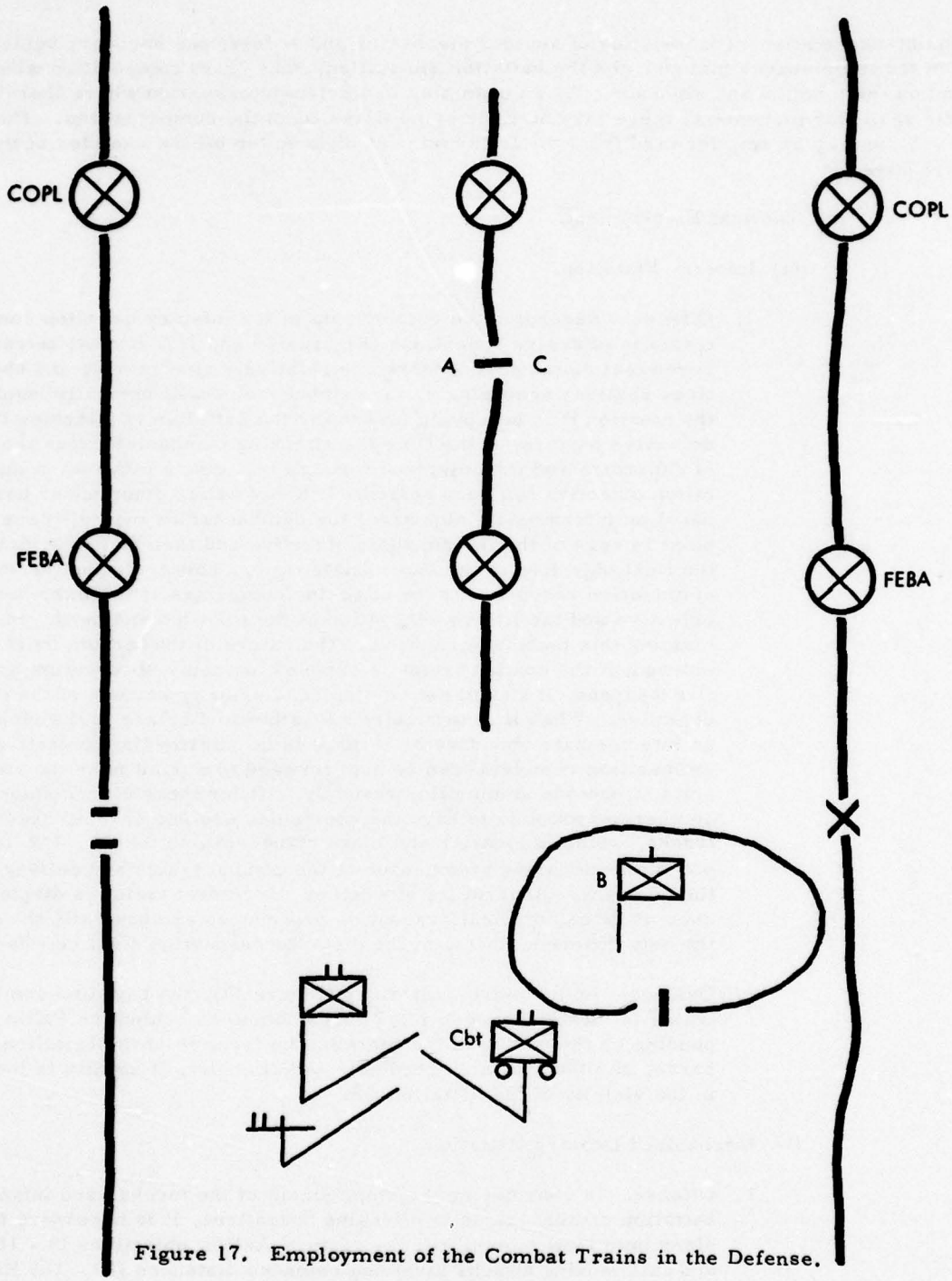



Figure 17. Employment of the Combat Trains in the Defense.

b. Fast Moving Attacks. In truly mounted operations where the battalion is moving rapidly over extended distances and in its carriers most of the time, the combat trains moves with the battalion on the axis or axes of advance (Figure 18); in essence, it is a mobile

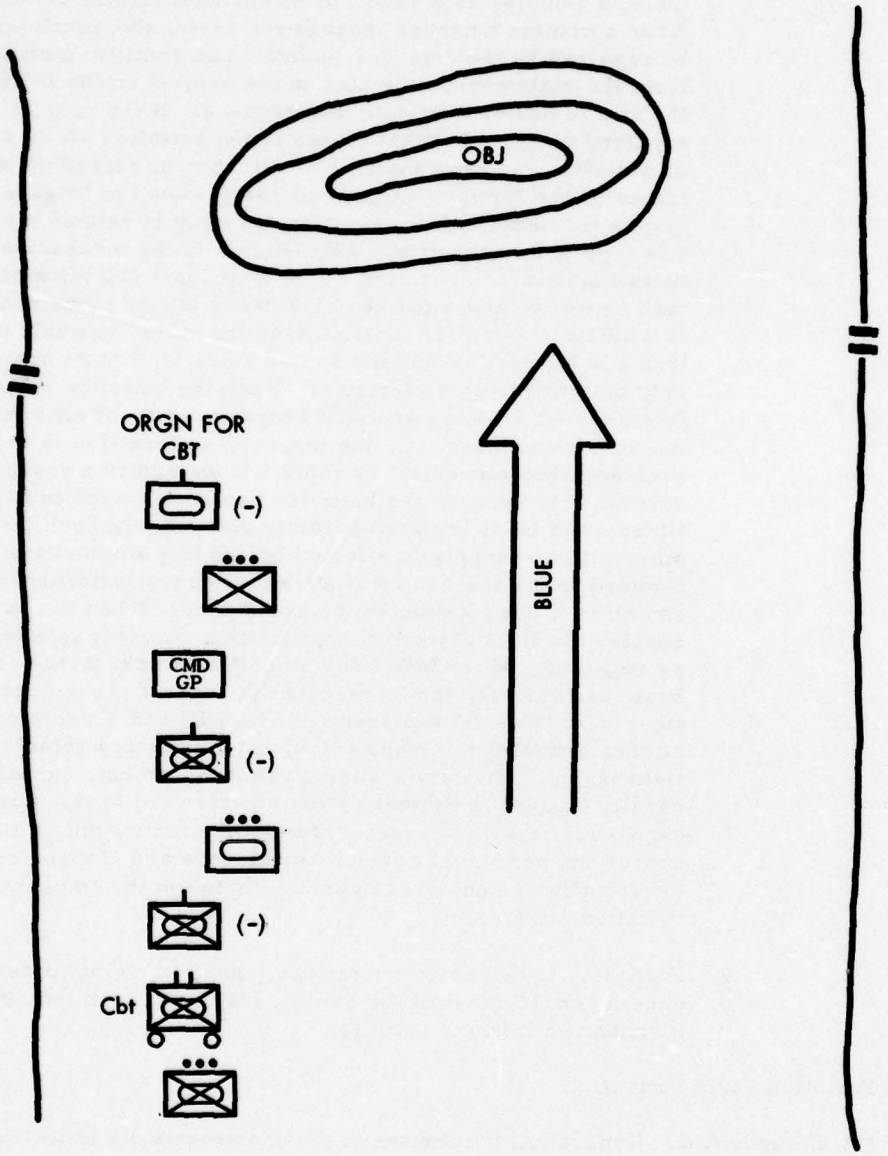



Figure 18. Employment of the Combat Trains in a Fast Moving Attack.

combat trains. When the battalion engages enemy resistance in sufficient strength to cause it to deploy, the combat trains disperses and seeks available cover and concealment. The requirement for logistical support operations while actually on the move is limited; the main exception to this fact is the breakdown of wheeled and tracked vehicles as a result of mechanical failure or enemy action. When a vehicle becomes inoperative during the attack and cannot be repaired by the company maintenance section, a contact team from the maintenance element in the combat trains is dispatched to the site to perform on-site maintenance. If the vehicle cannot be repaired on site, it is evacuated to the battalion SR by a company or battalion recovery vehicle; it will then be picked up by the field trains or the forward support company when the brigade trains displaces. Fuel and ammunition resupply is seldom a problem in this type of an operation. All vehicles of the mechanized infantry battalion have an operating range of at least 100 kilometers on fuel tank capacity, and most vehicles carry one or more cans of fuel in addition. Further, it is unlikely the battalion would move more than 100 kilometers without having some type of an objective, if only an intermediate objective. When the battalion seizes its objective, fuel vehicles are sent forward to top off all vehicles before the attack continues. In like manner, ammunition is seldom a problem when movement is rapid. If ammunition resupply is required, it is because the battalion has been forced to deploy several times or at least been temporarily delayed. In such instances, ammunition resupply is effected by sending ammunition vehicles forward to the companies at a time when the battalion is deployed and after it has eliminated the resistance. When the battalion reaches its final objective, ammunition resupply is effected again as required. When fuel and ammunition stocks in the combat trains begin to diminish, the S4 directs the support platoon leader in the field trains to send replacement Class III and V vehicles forward; he then consolidates loads and dispatches empty vehicles to the field trains. Similarly, during rapid movement, casualties are usually limited in number. When the forward companies do have casualties, they are evacuated from the battlefield by litterbearers and/or the personnel carrier ambulances and transferred to 1/4-ton frontline ambulances operating between the companies and the battalion aid station.

2. Defense. In defensive operations, there is no significant difference in employment of the combat trains between the infantry and mechanized infantry battalion.

c. Battalion Field Trains.

(1) Composition. Generally, it consists of those elements not in the combat trains. Specifically, it includes the remaining Class III and V vehicles of the support platoon's transportation section, the remaining elements of the maintenance platoon, and the support platoon headquarters, supply section, and mess section. The mess section is located in the battalion field trains when it is operating on a centralized basis. The installations depicted in Figure 19 represent the activities required in the battalion field trains for efficient operation and adequate backup support for the battalion combat trains. The Class V distributing point, operated by the transportation section of the support platoon, is located away from the maintenance area and the Class III distributing point to preclude traffic confusion and enhance safety. An

additional consideration, though not discernible from a schematic drawing, is that this installation should be located on firm ground. Ammunition vehicles, when loaded, are very susceptible to becoming bogged down in soft or swampy areas due to the weight of the ammunition. The Support Platoon CP, which is also the field trains CP, is located near the entrance to the field trains to serve as a logistics information center. The platoon CP is operated and manned by the personnel of the supply section. The salvage collecting point should be located close to the Support Platoon CP as the personnel of the supply section are responsible for its operation. The kitchen area is positioned away from the main road to avoid contaminating the food during cooking with dust and dirt caused by traffic. Additionally, it is desirable to locate it near a separate road to facilitate delivery of rations by division and pickup by the companies when supply point distribution is employed. The Class I distributing point, shown as a proposed installation in this case, is not required when the mess section is operating a centralized cooking facility in the field trains. When the mess section is divided into company teams for operations in each company area, a Class I distributing point is required to break down the rations into company lots. The maintenance area and motor park are located adjacent to each other to facilitate the operation of the Maintenance Platoon. When vehicles have been repaired, they can be removed from the maintenance area and placed in the motor park until the units can pick them up. The Class III distributing point is located near the maintenance area to provide a ready source of POL to facilitate maintenance operations and near the motor park since this is the point where all vehicles are parked when personnel visit the field trains. Another consideration in locating this installation is to position it near a turn-off road or trail that continues back to the main road; this will permit a vehicle to turn off the main road, refuel, and continue in the same direction back to the main road.

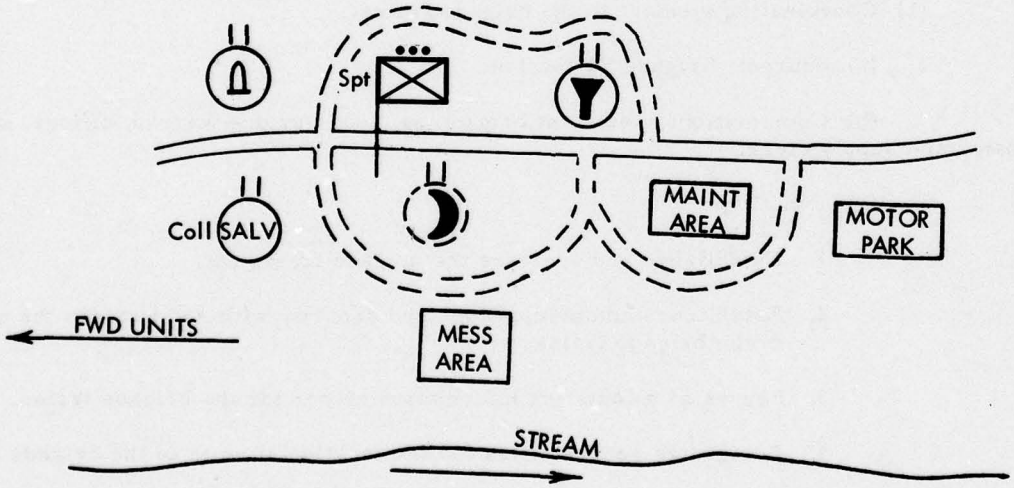



Figure 19. Interior Organization of the Battalion Field Trains (Schematic).

(2) Function. The field trains is the focal point of logistical activity in the battalion. It is in the field trains that formal requisitions are prepared, that action is taken to physically obtain supplies, that mess operations are conducted, that the majority of organizational vehicular maintenance is performed. It is from the field trains that supplies are sent forward and maintenance support emanates.

(3) Location. By and large the field trains is located in the brigade trains area. Occasionally, however, the battalion commander may have reason to want his field trains closer and may employ them independently of the brigade trains; this is the exception rather than the norm.

33. BRIGADE TRAINS.

a. Composition. The usual composition of the brigade trains lends itself to a fourfold classification: a coordinating element representing the brigade S4, the field trains of the attached units, the forward support elements from the division support command, and a water point from the engineer battalion. It is at the brigade trains that logistical operations are effected between the support command and the combat battalions. The brigade's responsibility for the trains is to designate locations for each of the installations in the trains and to control the movement and security of the trains. The forward support units from division operate under the control of their parent units, and the field trains of the battalions operate under the control of their parent battalions. This fact does not mean that the brigade S4 (or his assistant) has no function in the trains. He determines when and where the trains will displace, coordinates the security of all elements in the trains, and is present to solve any immediate problems of operation between the elements from division and the battalion field trains. (Usually the assistant brigade S4 is physically located in the trains while the brigade S4 operates from the brigade CP.)

(1) Coordinating element in the brigade trains.

(a) Source: Brigade S4 section.

(b) Composition: Assistant brigade S4, food service warrant officer, supply sergeant, and supply clerk.

(c) Functions:

1. Establishes and operates the brigade trains CP.

2. Establishes communications and security with and between the units in the brigade trains.

3. Serves as a logistics information center for the brigade trains.

4. Designates general sites for the location of units in the brigade trains.

5. Disseminates instructions regarding displacement to the units in the brigade trains.

6. Resolves operational conflicts among the units in the brigade trains.

7. Receives logistical reports from the attached battalions.

(d) Communications:

1. AN/GRC-46 radio mounted in a 3/4-ton truck (Division Administrative Logistical Net--Division RATT Net No 2).

2. AN/VRC-46 radio mounted in a 1/4-ton truck (Brigade Logistical Net).

(2) As a minimum the support command elements will include the forward support company from the maintenance battalion; a forward supply section, graves registration section, and a bath team from the supply and service company of the supply and transport battalion; and a medical company from the medical battalion.

b. Location. The location of the brigade trains is, of course, dependent on the tactical situation. As a rule of thumb, it may be located from six to thirty kilometers behind friendly forward dispositions. In the attack it will range from six to twenty kilometers, while in the defense it will be nine to twelve kilometers, and in a retrograde operation twenty kilometers or more. Prominent characteristics to consider in selecting a location are: out of the range of the mass of the enemy's light artillery, convenient to the units served, and not in a position that will interfere with tactical operations. Additionally, the location should be in the brigade's area of responsibility, i.e., forward of the brigade rear boundary. This consideration gives the brigade S4 optimum latitude in selecting a location. If it is necessary to locate it in rear of the brigade area, he will usually be more restricted and must coordinate with and obtain permission from the G4 to do so. It is located closer to the forward positions in the attack because as the attack progresses the distance will increase and the desirable characteristics will be attained. Moreoever, locating it closer in the attack will normally minimize the number of times the brigade trains must displace to support the attack. Conversely, in the defense and retrograde, it must be located farther to the rear initially to attain the desirable characteristics.

c. Size. It is not practical to establish a general rule fixing the size of the brigade trains area. This determination must be made for each situation based on an analysis of the terrain, availability of real estate, type of operation, enemy capabilities, logistical support requirements, and the nuclear environment. It is possible, however, to make a gross approximation of the minimum area required based on the logistical facilities normally present, and the number of personnel and vehicles in a type brigade trains. For a four-battalion brigade and the normal supporting elements from the division support command, the physical ground area required would probably encompass about six square kilometers.

34. DIVISION SUPPORT AREA.

a. Composition. The support area (Fig 20) contains the support command CP and the main support command units, whose mission is to provide backup support to the forward support command elements and logistical support for division troops, i.e., those units not receiving support from a forward support company, forward supply section, etc. The elements of the support command located here are the supply and transport battalion CP, division supply office, supply and service company, transportation motor transport company, maintenance battalion CP, headquarters and main support company, transportation aircraft maintenance company, medical battalion CP and its headquarters and support company, and the division ammunition officer. The supply and service company operates the division main Class I through IV distributing points, graves registration collecting point, and salvage collecting point. The headquarters and support company of the medical battalion establishes a division clearing station. The headquarters and main support company of the maintenance battalion operates a maintenance collecting point. Also in this area is the support command operations platoon from the signal support operations company of the signal battalion; it provides internal (within the division) and external (outside the division) communications support for the support command. Other elements that may be in this area include a water supply point from the engineer battalion and the division airstrip and aviation battalion.

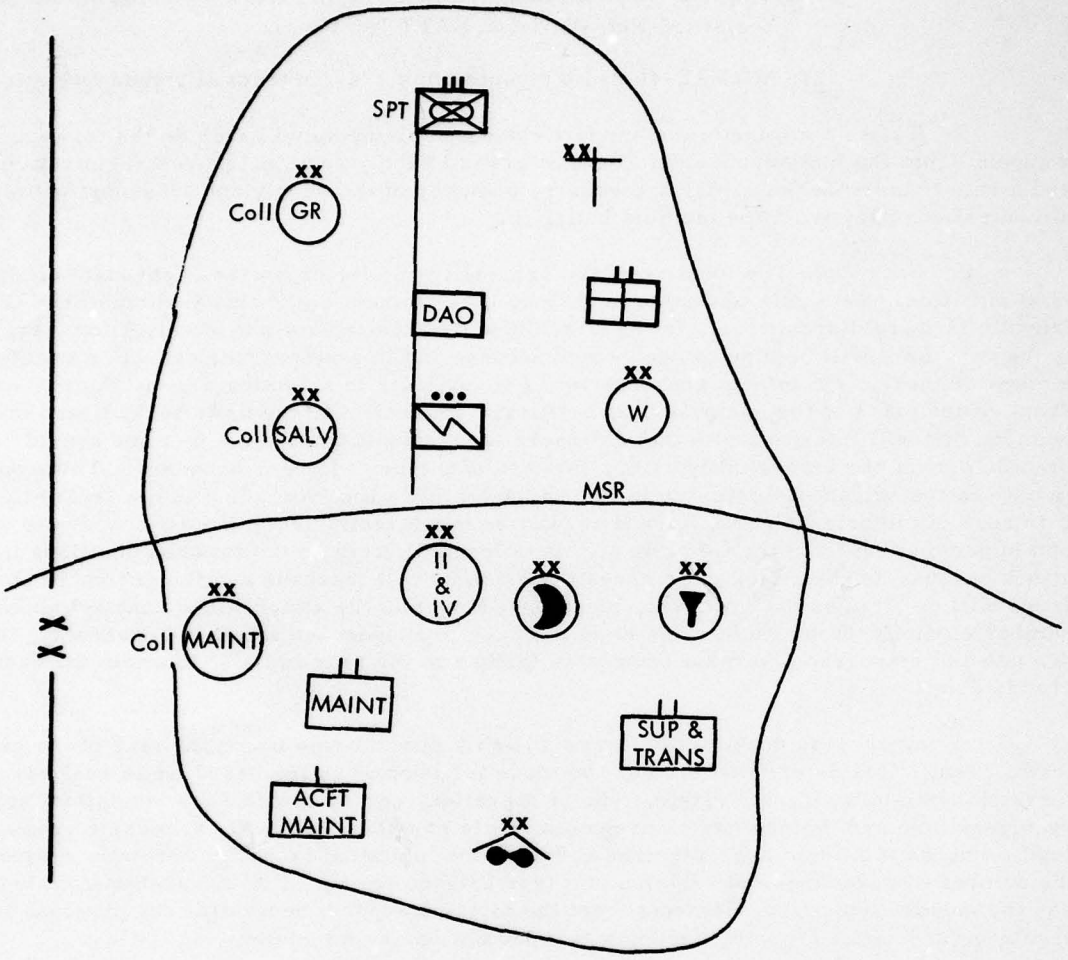



Figure 20. Division Support Area (Schematic).

b. Location. The location of the support command is based on (1) the ability to accomplish the mission (situation, available road net, etc), (2) dispersion and (3) defensibility. Desirably, it should be located well to the rear and centrally in the division area. It may range from twenty to fifty kilometers behind friendly dispositions, and even farther in retrograde operations.

CHAPTER 3

IMPLEMENTATION OF LOGISTICAL FUNCTIONS

Section I. SUPPLY

35. CLASSES OF SUPPLY.

a. General. To facilitate requisitioning, storage, and distribution procedures, supplies are categorized into five major classes and miscellaneous supplies.

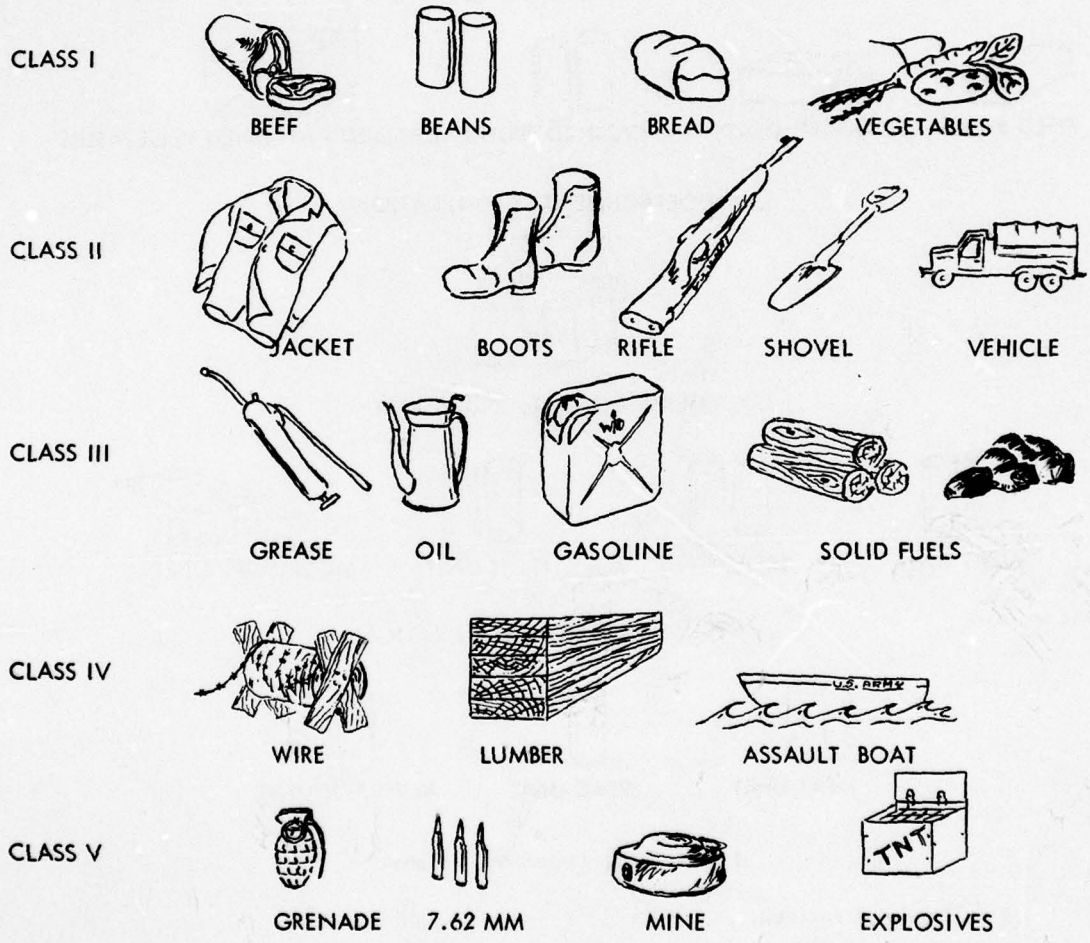



Figure 21. Classes of Supply.

b. Class I. Rations.

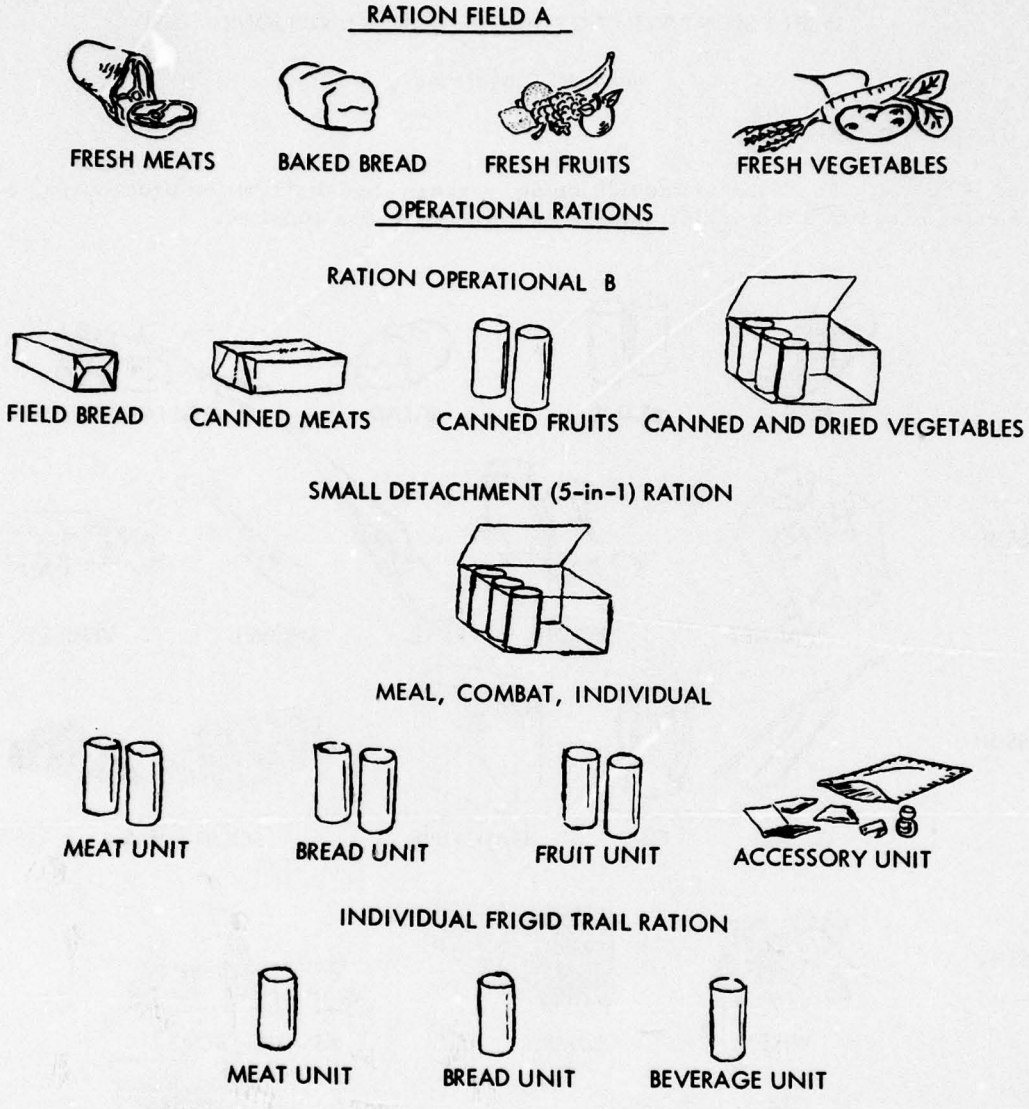



Figure 22. Types of Rations.

(1) Types of rations.

(a) Field Ration. The A ration is the basic field ration used in the army. Components of the A ration are predominantly perishable items such as fresh and frozen vegetables, meats and fruits. Whenever conditions permit, this ration is used in preference to other types.

(b) Operational Rations. Operational rations are prescribed for varying conditions including those where the provision of perishable foods is not possible; when organized

messing is impracticable but feeding in small groups is possible; where kitchen facilities are not available; and where messing in small groups is not feasible.

1. Ration, Operational B. Components of this ration correspond as nearly as practicable to those of field ration A, except that processed foods are substituted for fresh perishable foods. Representative components include: canned meats, cereals, fruits, and milk products, dehydrated fruits and vegetables, powdered milk and eggs. This ration is used when refrigeration facilities do not exist but cooking facilities are available.

2. Small Detachment (5-in-1) Ration. This ration is designed for feeding small groups when feeding from a unit kitchen is not practicable. It provides sufficient food for five men for one day. Components consist of canned items, similar to the B ration. This ration should be served hot and may be prepared with a cooking outfit or the standard field mess equipment.

3. Meal, Combat Individual ("C" Ration Type). This ration is intended for use when the tactical situation precludes feeding in small groups. It may be eaten hot or cold and is packaged in a unit small enough to be carried by the individual. The ration consists of precooked or prepared foods and is packaged in cans.

4. Individual Frigid Trail Ration. This ration is designed for use in extremely cold climates. It is issued to small patrols or trail teams which may be isolated for several days. All components of the ration, with the exception of soups and beverages, may be eaten without heating or cooking. The dehydrated and compressed articles in the ration provide three meals of high energy food. Instant beverages, candies and comfort items are included in an accessory packet.

(2) Ration Supplements. These items do not constitute a ration; they are designed as a supplement to the operational rations.

(a) Sundries Pack. The sundries pack is intended to serve the needs of 100 men for one day. It consists of tobacco, toilet articles, and confections. The purpose of the sundries pack is to provide for the issuance of these items when adequate exchange facilities are not available. The sundries pack is normally issued only with the B ration as the other operational rations have an accessory pack with sundries items.

(b) Kitchen Spice Pack. This supplement supplies spices, condiments, and leavening agents for 1,000 B rations.

(c) Aid Station Supplement. This supplement provides beverages for consumption by casualties who have been evacuated to forward aid stations. These beverages are designed to reduce shock and contribute to the comfort of the patients. Components include soluble coffee, tea, cocoa, and milk.

(3) Individual Assault Food Packet. This lightweight food packet is designed to provide personnel with food during the initial assault phase of an operation. It can be easily distributed to, and conveniently carried by, the individual soldier. Its use should be limited to maximum use of 30 hours. The individual assault food packet is not a ration, and is not chargeable as a ration. A typical packet may contain a canned meat item, bread type unit, and an accessory pack.

c. Class II. Minimum essential equipment required by a unit to accomplish its mission. Class II supplies are authorized by Department of Army in publications such as tables of organization and equipment (TOE), tables of allowance (TA) and other DA media. Examples are clothing, weapons, tools, and vehicles.

d. Class III. Fuels and lubricants for all purposes except for use in aircraft and weapons, such as flamethrowers. Examples are petroleum products such as gasoline, diesel oil, kerosene, fuel oil, lubricating oils and greases, as well as solid fuels (coal, coke, and wood).

e. Class IV. Materials in excess of Department of Army authorizations required for special missions, special purposes, and climatic conditions. Examples are fortification materials, additional weapons, special cold weather clothing, and special equipment for amphibious operations.

f. Class V. Ammunition and explosive materials of all types to include fuel used in flamethrowers.

g. Miscellaneous Supplies.

(1) Maps.

(2) Water.

(3) Salvage materiel.

(4) Captured enemy materiel.

36. SYSTEMS OF SUPPLY. A system of supply is the cyclic process beginning with the requisition of an item and ending with the distribution of it to the user. Any discussion of a system of supply involves consideration of the channels through which the requisition is transmitted and the procedures used to implement distribution of the item of supply. The following discussion regarding the system for each class of supply is focused at the combat battalion level, with consideration of the origin of need - the combat company.

37. CLASS I SYSTEM. (Fig 23).

a. Requisitioning. The unit commander seldom becomes involved in the requisitioning of rations; the exception is when he has a requirement for a specific type of ration for a portion or all of his unit. For example, if he is dispatching a patrol for a twenty-four hour period, he would make a request for "C" rations for these men. Under normal conditions, though, the battalion will know the strength of each of its companies and will know in advance of the companies the planned tactical situation, which in turn will determine the type of ration to be fed. As a general rule, the "A" or hot ration is fed for the breakfast and supper meal while the "C" ration is used for the noon meal. Normally, the ration request is initiated and prepared by the supply section of the support platoon, which is located in the battalion field trains. It is forwarded to the division supply office, and processed by the quartermaster section.

b. Distribution. Field army normally delivers rations to the division Class I distributing point in the division support area. Here they are separated, either by the unit or item pile methods, and located for delivery to the battalions. It is desirable to load by the unit pile method to preclude having to further separate and transload the rations in the brigade trains area. Assuming they are loaded by the unit pile method, they are checked at the forward Class I distributing point and delivered to the kitchen area in each of the battalion field trains. The

rations are then prepared by the mess section of the battalion support platoon and delivered to the forward companies in food containers employing unit or supply point distribution or a combination of the two.

c. Mess Management. (Though not a part of the Class I system, mess management is considered here to permit elaboration on the distribution aspects of the Class I system.)

(1) Organization. The battalion mess section is organized to provide a consolidated mess for the battalion or teams of cooks and kitchen equipment to support any or all companies of the battalion separately. Usually the mess section is located in the battalion field trains and operates under the supervision of the support platoon leader. His principal assistants are four mess stewards.

(2) Feeding Plan. Though not a formal, written plan, it is a set of instructions, usually disseminated by fragmentary orders, designed to provide information regarding the WHEN and HOW feeding will be effected within the battalion.

(a) Battalion Feeding Plan. The S4 or Support Platoon Leader disseminates feeding instructions as early as possible to facilitate the planning of unit commanders. These instructions may include all or part of the following:

1. Time and place of meal issue and methods for cleaning mess gear.
2. Location of kitchens.
3. Method of distribution and vehicles to be used for delivery.
4. Additional items of supply which are to be sent forward with the meal.
5. Time vehicles will leave (or report to) kitchen area.
6. Requirements for guides and designation of release point (RP).
7. Time vehicles are released to unit control, and time they revert to battalion control.
8. Any restrictions on movement.

(b) Unit Feeding Plan. Upon receipt of the battalion feeding plan, each unit commander will prepare a feeding plan. The unit feeding plan is based on the battalion feeding plan and includes all or part (as applicable) of the following information and instructions:

1. Type of ration to be fed.
2. Location of company mess area.
3. Arrangements for vehicles, guides, and carrying parties.
4. Release and return of vehicles.
5. Supervision of vehicles while under unit control.
6. Arrangements for feeding attached personnel.

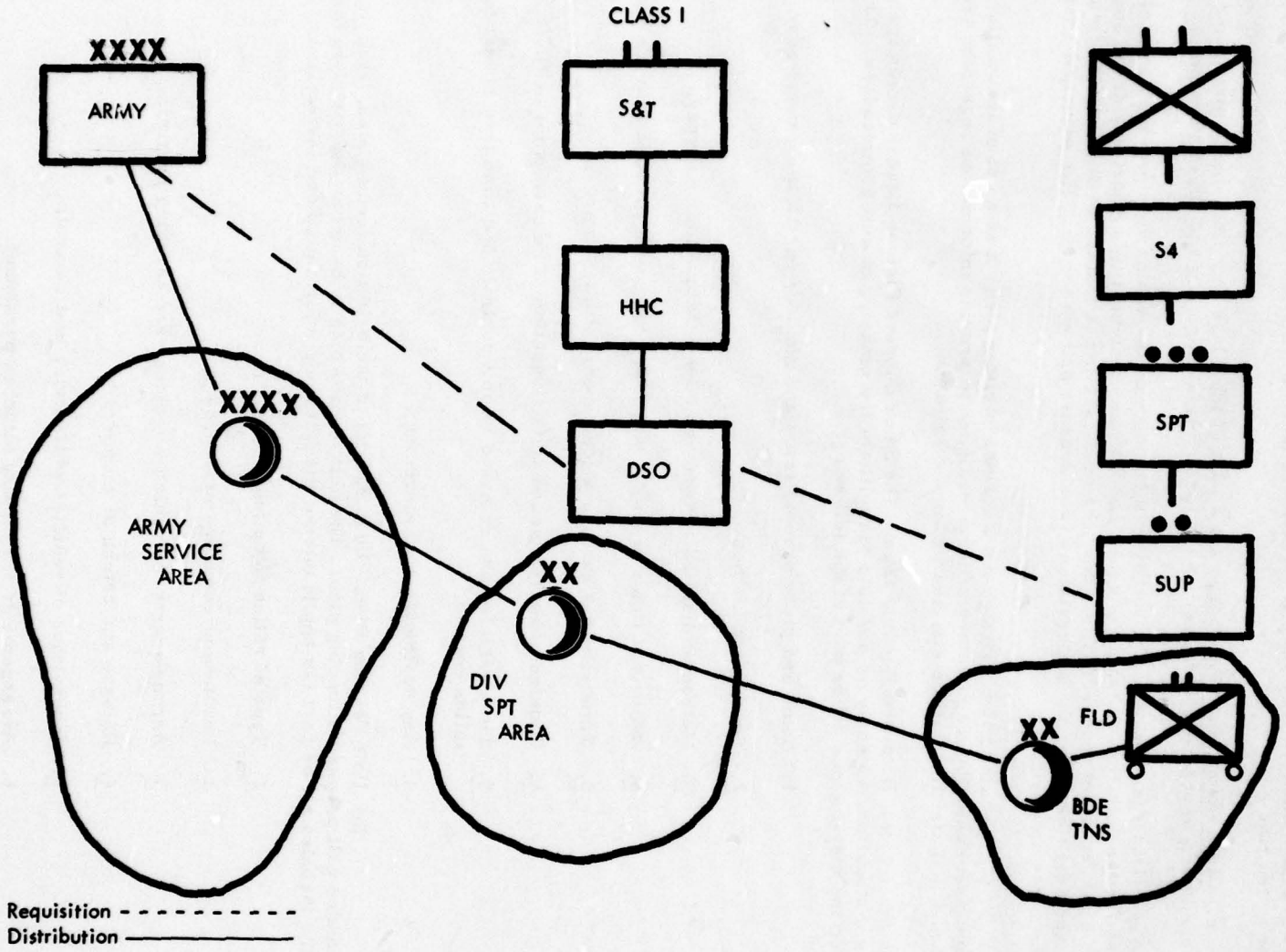



Figure 23. Class I System.

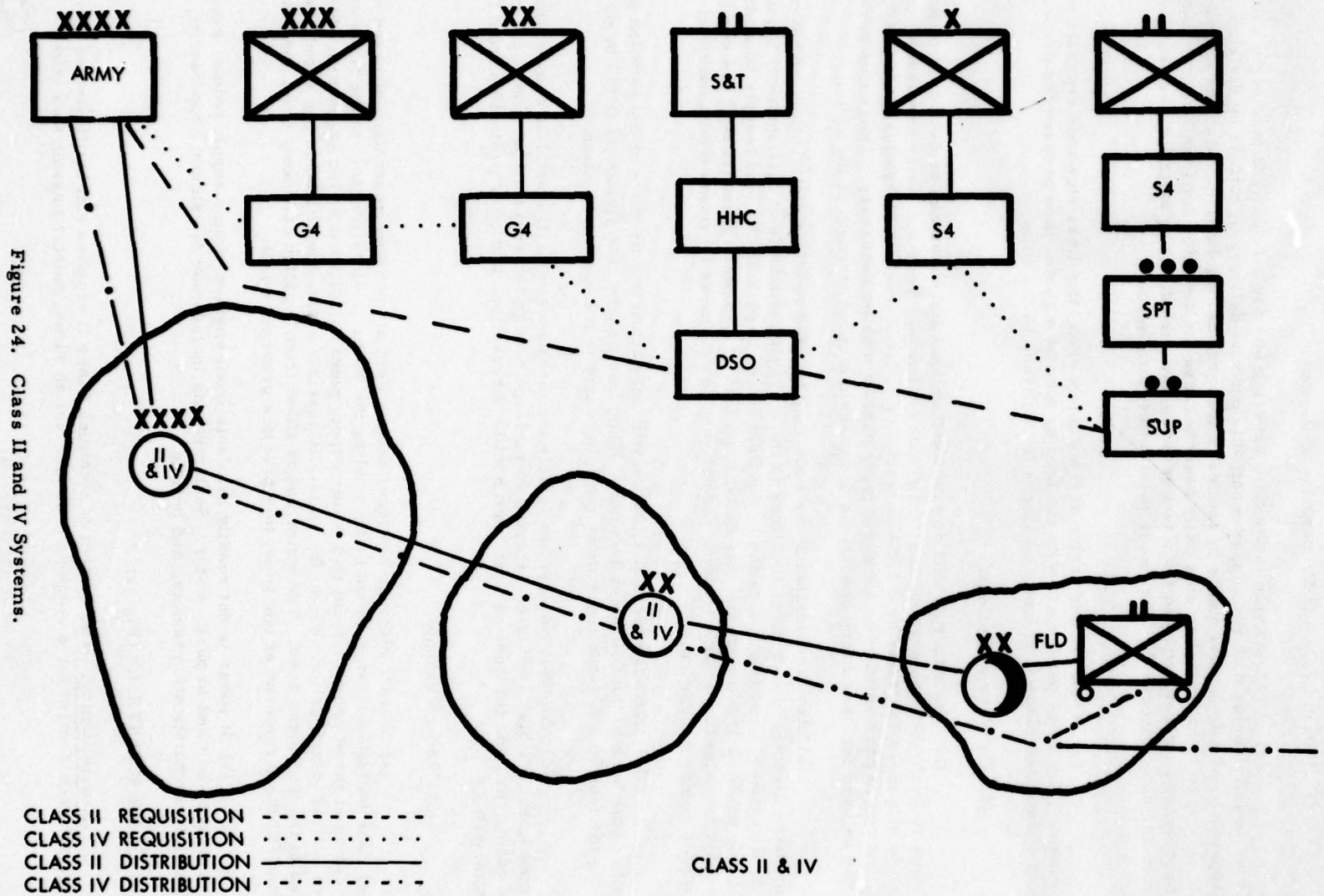



Figure 24. Class II and IV Systems.

(3) Ration Cycle and Preparation of Rations.

(a) A ration cycle is the time covering one day's ration. It may begin with any meal but usually begins with the supper meal; this permits delivery of rations by division and the separation of rations into meals by the mess stewards during daylight. Rations are normally delivered to the battalion on a daily basis because the battalion does not have the capability to transport the rations required for a two or three day period. (The battalion carries a minimum of one days reserve "C" rations to meet emergency needs.)

(b) When rations arrive at the kitchen area, the mess stewards separate them into meals. The mess personnel, with the feeding plan as a guide, then prepare the proper amount of food and place it in food containers for delivery to the units.

(4) Delivery of Rations.

(a) The situation will dictate whether food and water can be delivered to forward positions from the kitchen area during daylight or darkness. Food and water are usually transported to unit mess locations by 2 1/2-ton trucks or 1/4-ton trucks with trailers. In rough terrain, the use of pack animals or hand-carrying parties may be necessary. Indigenous personnel may be used for hand carry operations to maintain combat strength of the units.

(b) Any combination of methods may be used to effect distribution. Food may be delivered directly to unit mess locations in the 2 1/2-ton trucks (unit distribution); the units may be directed to send transportation to the field trains to pick up the food (supply point distribution); or the 2 1/2-ton trucks may deliver the food to a forward point (usually the combat trains) for transloading to unit vehicles for delivery to unit mess locations (combination of unit and supply point distribution).

(c) Often the tactical situation will not permit one or more of the forward platoons to come back to the unit mess location. When this occurs, the platoon(s) is fed by delivering the food in a 1/4-ton truck or by carrying party to the platoon position.

(d) The unit commander selects the mess location. It should be convenient to the troops, accessible to vehicles carrying food, large enough to permit dispersion of troops while eating, provide for concealment from hostile observation, and offer protection from flat trajectory fire.

(5) Water Resupply.

(a) Water, although a miscellaneous item of supply is generally delivered with meals. The battalion obtains its water by sending the water trailers (organic to the transportation section of the support platoon) to a water supply point established by the engineers. Water is then delivered in 5 gallon cans to the units. If possible a water purification bag should be located at the unit mess area. The water bag is filled from 5 gallon cans and, thus, several men can fill their canteens at one time; this practice prevents waste.

(b) If water is not readily available from engineer water supply points, several expedients may be used to purify water. Such methods include use of calcium hypochlorite, individual water purification tablets, and boiling.

38. CLASS II SYSTEM. (Fig 24).

a. Requisitioning. The system of obtaining Class II supplies can be illustrated by considering the requirement for a weapon. Assume that an 81mm mortar organic to a rifle

company has been destroyed by enemy action. The rifle company executive officer or supply sergeant makes an informal request by message, wire or radio to the supply section of the support platoon. This agency then prepares a requisition and submits it to the division supply office (Headquarters and Headquarters Company, Supply and Transport Battalion). From the accountability standpoint, the weapon must be turned in for salvage or, if this is not feasible, some action must be initiated to determine cause of loss. The tactical situation may not permit this action to be accomplished immediately; however, within a reasonable period of time, some form of accountability must be effected. One procedure that may be used to account for property loss in combat is the certificate of combat loss. This certificate is a statement by the unit commander verifying that the equipment has been lost, damaged or destroyed as a result of combat action. Upon receipt in the division supply office, the requisition is processed by the ordnance section and the requirement is submitted to the field army. For immediate response, there is an alternative and that is to issue the mortar from the division maintenance float, assuming the float contained mortars. However, the requisition is still submitted as the float must be replenished. (A maintenance float is a quantity of end items in excess of TOE. These items are stocked at units having field maintenance responsibility to provide immediate replacement for items turned in for repair. Normally, these items are only issued to replace items turned in for repair, but in an emergency can be used to replace items destroyed by enemy action.)

b. Distribution. Distribution of Class II items from field army will encompass both unit and supply point distribution. Generally, the division will pick up large items, such as vehicles, at the supply point, while smaller items will be delivered on any transportation going forward to the division area. From the division to the battalion field trains and from the field trains to the rifle companies, the same system is employed, with small items frequently being delivered from the field trains to the companies with the meals.

39. CLASS IV SYSTEM. (Fig 24)

a. Requisitioning. The system for Class IV supplies is the same as for Class II, with one exception. A requisition for Class IV supplies requires command authorization at each echelon to include the brigade. It is necessary for brigades to enter the requisitioning channel on Class IV supplies because items such as additional machineguns or radios may have implication on the tactical situation; accordingly, the brigade commander may desire to establish a priority of issue.

b. Distribution. Like requisitioning procedures, distribution procedures for Class IV supplies are the same as for Class II with one exception. Distribution of fortification materials is, almost without variance, accomplished by unit distribution. Once fortification materials arrive at the division support area, they are transported directly to the construction site without transloading. Because of the weight and bulk of these materials, transloading is uneconomical from the standpoint of both manpower and time.

40. CLASS III SYSTEM. (Fig 25) Requisitioning and Distribution. Inasmuch as the system for Class III supplies is considerably different from the Class I, II and IV systems, requisitioning and distribution procedures will be considered together. In the infantry battalion, there are two truck-mounted tank and pump units (each unit has a 1200 gallon fuel capacity) and two trailer-mounted tank units (each unit has a 600 gallon fuel capacity); each tank and pump unit is normally mounted on a 5-ton truck and each tank unit is normally mounted on a 1 1/2-ton cargo trailer. For the purpose of this discussion, assume there is one 5-ton fuel vehicle with trailer in the combat trains and one in the field trains (Fig 25). When the forward units require fuel, they notify the combat trains. The 5-ton fuel vehicle in the combat trains is sent forward to each company area, usually at night, to refuel the company vehicles. Of course supply point distribution may be employed should the tactical situation not permit movement of the 5-ton fuel vehicle in the forward area. (Another alternative is to refuel by using 5 gallon cans, employing

either unit or supply point distribution.) As the supply of fuel in the combat trains diminishes to the point that resupply is warranted, a full 5-ton fuel vehicle is dispatched from the field trains to the combat trains. The empty 5-ton fuel vehicle returns to the brigade trains and immediately goes to the division forward Class III distributing point operated by the forward supply section of the supply and transport battalion. At the forward Class III distributing point, there is a 5000-gallon fuel tanker or several 500 gallon collapsible tanks. The 5-ton fuel vehicle refuels and returns to the battalion field trains. As the supply of fuel at the forward Class III distributing point diminishes, the 5000-gallon fuel tanker returns to the division support area and a full tanker is dispatched to the brigade trains or a full tanker comes forward to refill the 500-gallon collapsible tanks. As the requirement for more fuel develops at division level, the 5000-gallon tankers are dispatched to the field army Class III supply point to refuel. Oil and lubricants are also stocked at the forward Class III distributing point in the brigade trains area. In effect, then, there is no requirement to requisition fuel at the battalion level; the system operates on a refill as required basis. Occasionally the battalion S4 may be required to submit a forecast of fuel requirements, but most of the time the division supply office, based on the planning of the G4, will be able to accurately estimate Class III requirements for the division without forecasts from the combat battalions. Though the discussion has been centered on the infantry battalion, the system for Class III supply is the same in the mechanized infantry and tank battalions.

41. CLASS V SYSTEM. (Fig 26)

a. Requisitioning and Distribution. The Class V system is different from the other systems and, again, requisitioning and distribution procedures will be considered together. The Infantry battalion has six 2 1/2-ton trucks and two 1 1/2-ton trailers to use for transporting ammunition. To illustrate the Class V system, assume a hypothetical situation wherein there are three ammunition vehicles in the combat trains and three in the field trains. When the forward companies require ammunition, they submit an informal request to the combat trains by type and amount. Ammunition will then be sent forward or the company will be directed to pick it up at the combat trains. In the defense, the battalion will usually employ supply point distribution; in the attack, it will normally employ unit distribution. As the stock at the combat trains is depleted, the ammunition will be consolidated on one vehicle and the remaining two will return to the field trains. Concurrently, two full vehicles are dispatched from the field trains to the combat trains. This procedure will preclude transloading and work effectively if ammunition vehicle loads are balanced. When the empty vehicles return to the battalion field trains, a formal requisition is prepared by the supply section of the support platoon in the form of a transportation order (DA Form 581) and the vehicles are dispatched to the field army ASP. En route a stop is made at the DAO to have the transportation order validated. By this procedure, the DAO administratively controls ammunition expenditures within the division. The normal authorization for ammunition is the replenishment of the basic load; however, if there is an ASR in effect (a restriction on ammunition allowances), the DAO insures that the battalion is not exceeding the ASR. Upon obtaining the ammunition at the army ASP, the vehicles return to the battalion field trains and the cycle is completed. It is apparent then that the division does not operate an ammunition distributing point nor carry a reserve of ammunition. There may be an exception to this procedure as in the case of a division involved in an exploitation operation. Under such circumstances, the turn-around time to the field army ASP may be prohibitive; therefore, army may establish a forward mobile ASP in the division support area. This variation in procedure is the exception rather than the rule. Though this discussion has been centered on the infantry battalion, the system for Class V supply is the same in the mechanized infantry and tank battalions.

b. Basic Load of Ammunition. A basic load is the prescribed amount of ammunition authorized to be in possession of a unit. It includes ammunition carried by the individual soldier, stowed in self-propelled weapons, carried on prime movers, and on vehicles in trains.

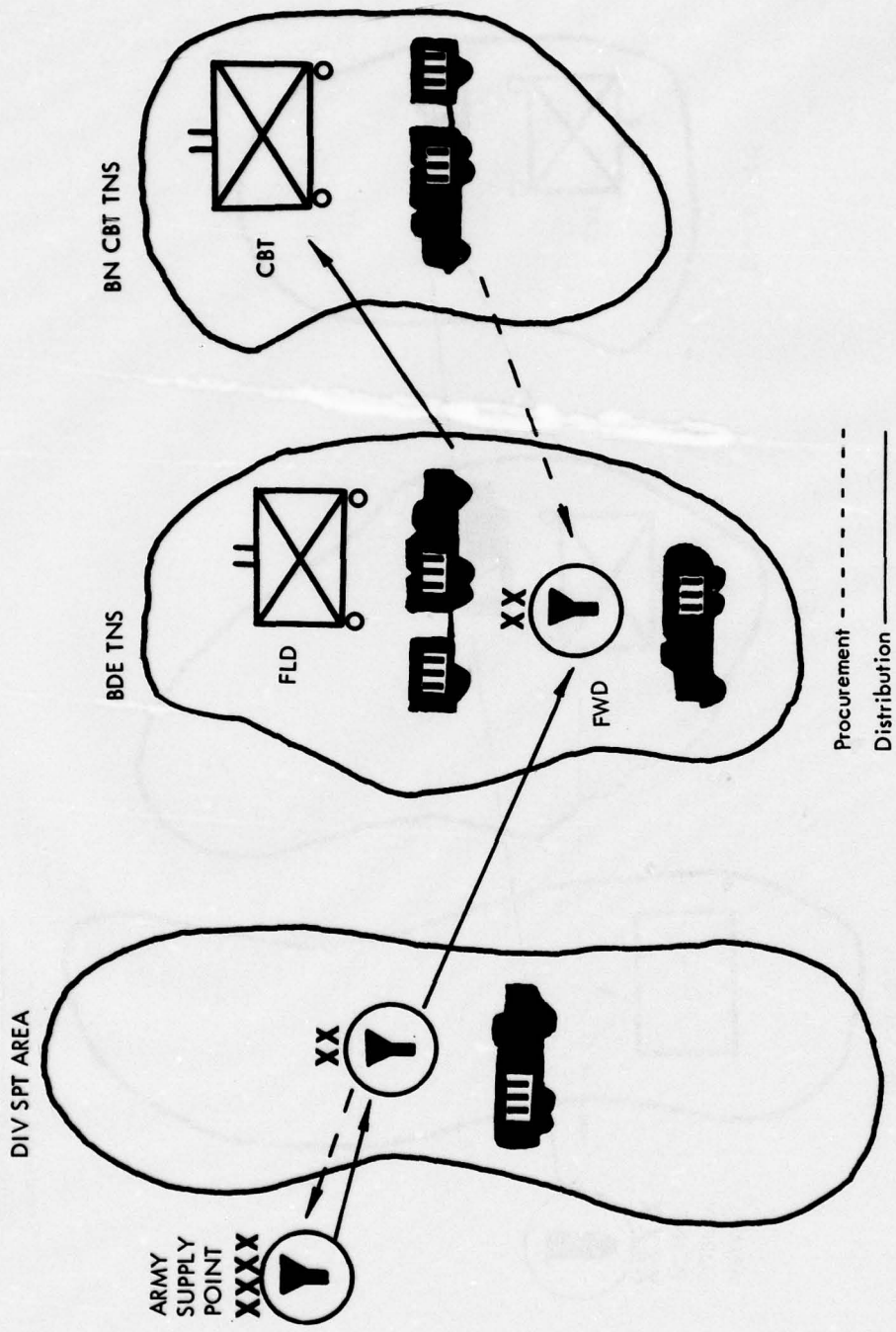



Figure 25. Class III System.

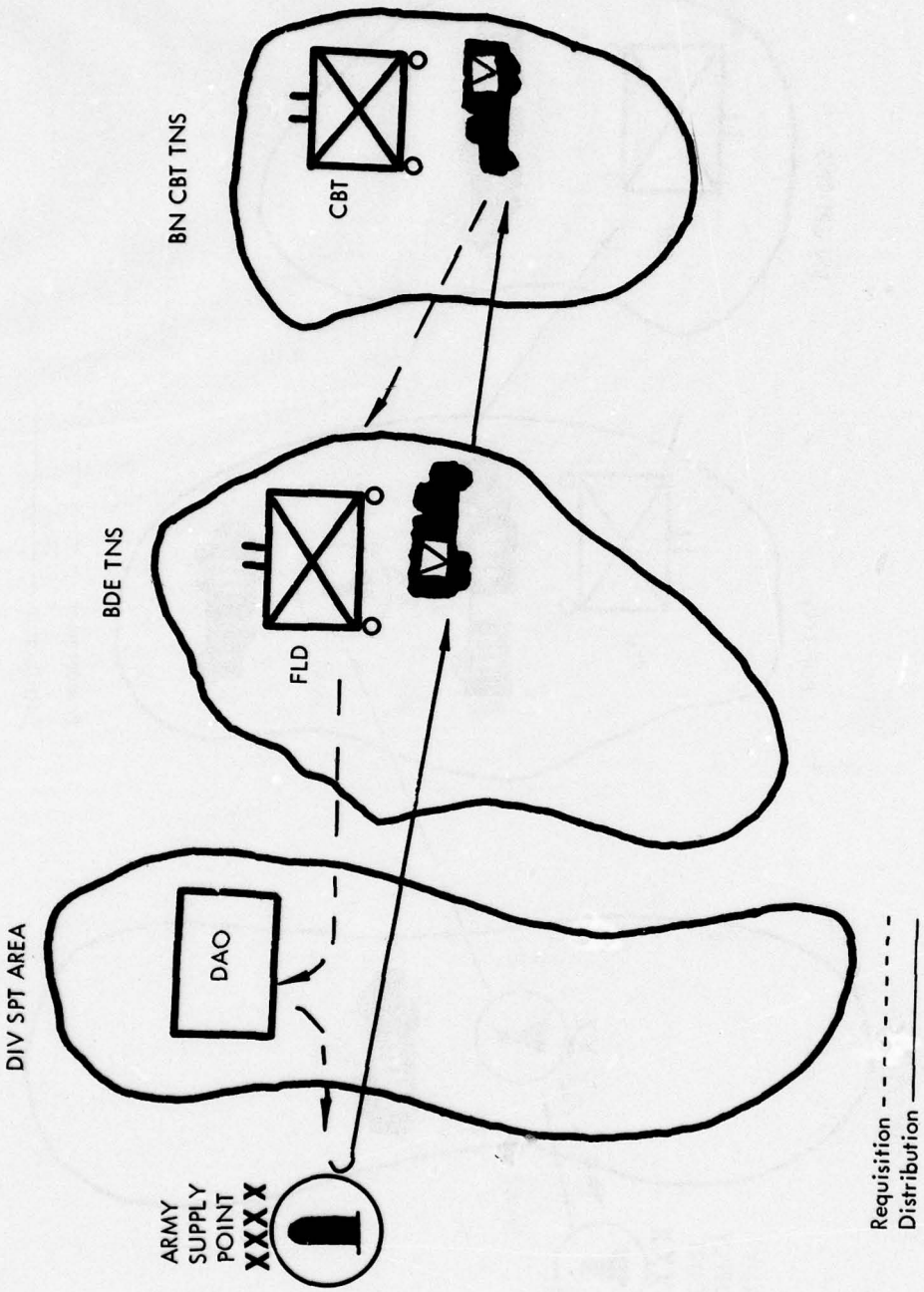



Figure 26. Class V System.

For ammunition items fired from weapons, the basic load is expressed in rounds per weapon. For ammunition items such as grenades, it is expressed in terms of units of measure as "each" or "pound." Although the basic load is fixed in terms of number of rounds per weapon, the unit commander may vary the proportion of each type requested based on the assigned mission. The basic load provides a unit sufficient ammunition to initiate combat and sustain itself until resupply can be effected. The key to ammunition resupply is to maintain the basic load at the authorized level.

c. Authority to Obtain Ammunition.

(1) Ammunition may be requested as expended, i.e., the basis is the need to replenish the basic load. This basis is the authority most frequently used.

(2) Ammunition may be requested in anticipation of expenditure; however, the amount of ammunition requested on this basis may not exceed that which is anticipated for use in a 24 hour period. This limitation is necessary to control stocking ammunition on position without specific authority. One reason for requesting ammunition in anticipation of use is to permit firing a preparation for an attack without seriously depleting the basic load.

d. Required Supply Rate. The RSR is an estimate of the amount of ammunition required to sustain combat operations of a particular unit for a specified period of time without restrictions. For ammunition items fired from weapons, the rate is expressed in rounds per weapon per day. For bulk allotment items, such as antitank mines, grenades, and explosives, it is expressed in appropriate units of measure per organization, individual or vehicle per day. Estimates of required supply rates are normally prepared at division level by the G4 in coordination with the G3. The combat battalion is seldom required to submit estimates for ammunition needs since gross requirements can be approximated with considerable accuracy at the division level. These estimates of ammunition requirements are the bases for higher headquarters to determine whether an ASR must be imposed.

e. Available Supply Rate.

(1) The rate of consumption of ammunition that can be sustained with available supplies. For weapons, the rate is expressed in rounds per weapon per day. For bulk allotment items, the rate is expressed in units of measure per organization, individual, or vehicle per day. Even with an ASR in effect, the commander retains a certain amount of flexibility in that the rate need not be applied equally to subordinate units. Essentially it is a control on the amount of ammunition that may be drawn and expended by a unit.

(2) To arrive at the available supply rate within a theater of operations, the theater commander continually reviews stocks of ammunition, to include scheduled arrivals of supply. From this study, the current tactical situation, and the required supply rates reported by the field armies, the theater commander determines whether requirements for all types of ammunition can be sustained. If the available supply is less than the required supply, he establishes an available supply rate for each major command in the theater. Normally this rate is announced by type of ammunition and for a specified period of time. Studies of the availability and requirements for ammunition are continuous; when the status of supply changes, the ASR is modified accordingly.

(3) At field army level, a comparison is made of available ammunition (as shown by available supply rates and stocks on hand) and required ammunition (as shown by required supply rates of subordinate elements). When requirements for a particular type of ammunition exceed the available stocks, the issue of this ammunition must be controlled or regulated. To accomplish this, an army available supply rate is announced. The ASR is a command restriction on

the number and type of rounds that may be expended by a unit. It is noted that when restrictions are necessary, the army commander may impose different restrictions on subordinate commands depending on the tactical mission assigned. Likewise, commanders at corps, division, brigade and battalion level may establish different restrictive rates on units of their command. They must not, however, exceed the ASR imposed on their command as a whole.

42. MAP SUPPLY.

a. Requisitioning. The requirement for maps at battalion level is determined by the S2. When maps are required, the S2 informs the S4 or the supply section of the support platoon directly. The supply section prepares the request and submits it to the division supply office. The supply and transport battalion of the division support command is responsible for procurement and distribution of maps based on policies established by the division G2. The supply and transport battalion obtains the maps from the field army.

b. Distribution. Maps are distributed in much the same manner as small items of Class II supplies. They are sent forward on available transportation to the battalion field trains. From the battalion field trains to the companies, the same procedure is used, unless the battalion S2 desires to hold the maps at the command post for security or other reasons; in such cases, the S2 would then make arrangements for distribution to the companies.

43. AERIAL RESUPPLY.

a. Requests and Requisitions. Aerial resupply requests and requisitions are submitted to the brigade S4. (The other times supply requisitions are submitted to the brigade S4 are when the brigade is operating independently and when Class IV items are requisitioned.)

b. Coordination. If the request for aerial resupply is approved by brigade, the brigade S4 effects the necessary action to obtain the supplies and the delivery means. This action may include:

(1) If the supplies are available in the field trains of the battalion making the request, he will obtain them there; if they are not available in the field trains, he will submit the request to the supply and transport battalion.

(2) If the light observation helicopters organic to the brigade are available and can carry the weight involved, he may use them as the delivery means; if it is not feasible to employ these helicopters, he will request aerial support from the division G4. The G4 will coordinate with the division aviation officer to obtain the delivery means. If the division aviation officer cannot support the mission from organic means, he will request assistance from Corps aviation units.

(3) Regardless of the source of the supplies and the delivery means, the brigade S4 will effect the necessary coordination to bring the supplies and the delivery means together and insure they are dispatched to the requesting unit.

c. Direct Delivery to Requesting Unit. If direct aerial delivery is requested, and if approved, the requesting unit must establish terminal guidance and recover its own supplies at the drop zone or aerial resupply point.

## Section II. MEDICAL SERVICE

44. GENERAL. Medical service within the division is focused on evacuation and provision of limited treatment by a company aidman, at the battalion aid station, and at the division

clearing station. There are no hospital facilities organic to the division; hospitalization is a function of the field army and higher commands.

45. COMBAT BATTALION LEVEL.

a. Treatment.

(1) Company Level. Normally the first treatment a wounded man receives is from himself or his fellow soldiers; this treatment is checked or supplemented by the company aidman. There are usually four aidmen attached to each rifle company; one per rifle platoon and one to operate the company aid post. (The tank company differs in that it does not have any dismounted aidmen. It has, instead, two aidmen and an ambulance attached.) Duties of all company aidmen include:

(a) Providing emergency medical care to casualties.

(b) Returning to duty those casualties requiring no further treatment.

(c) Directing to the company aid post those casualties who require further attention but are capable of walking or riding general purpose vehicles.

(d) Arranging medical evacuation for litter patients.

(e) Initiating emergency medical tags for the sick, injured, and wounded casualties that they treat.

(f) Initiating emergency medical tags for the dead, time permitting.

(2) Battalion Level. The battalion aid station, which is usually located in the battalion combat trains area, is the first echelon at which professional medical treatment is available. Here, only those essential medical procedures are performed which are necessary to preserve life or limb, or which will sustain the casualty sufficiently so that he can be moved safely to a supporting medical facility. Functions of the aid station include:

(a) Receiving and recording patients.

(b) Examining and sorting patients and returning those physically fit to duty.

(c) Giving emergency medical treatment and preparing patients for further evacuation.

(d) Monitoring personnel, when indicated by the situation, for the presence of radiological contamination prior to medical treatment.

(e) Notifying the battalion S1 of all patients processed through the aid station, giving identification and dispositions as directed by unit SOP.

(f) Initiating emergency medical tags for those patients not previously tagged.

(g) Verifying information contained on all emergency medical tags or patients evacuated to the aid station.

(h) Removing equipment from patients who are being evacuation further to the rear. The battalion support platoon will pick up this equipment for appropriate disposition.

b. Evacuation (Fig 27).

(1) Company Level. The combat company has no specific responsibility for medical evacuation; however, it does have a moral responsibility and a long, proud tradition of assisting in the evacuation of its wounded. Litters, issue or improvised, may be used to evacuate patients on organic company vehicles. Additionally, should the circumstances dictate, walking wounded may have to walk to the company aid post, which is a collecting point for wounded, or to the battalion aid station.

(2) Battalion Level. The six 1/4-ton frontline ambulances in the infantry battalion medical platoon evacuate from the companies to the battalion aid station. When feasible, evacuation vehicles will go directly to the site to pick up wounded. If the tactical situation does not permit this and the wounded man cannot walk to the company aid post, he will be moved to the nearest pickup point by the litter team. These litter teams may be composed of walking wounded, indigenous personnel, personnel from the reserve platoon or members of the wounded man's squad or platoon.

NOTE: The treatment and evacuation procedures are the same in the mechanized infantry and tank battalions; however, there is a difference in the type of evacuation vehicles. There are three armored personnel carriers and three 1/4-ton field ambulances in the mechanized infantry and tank battalions instead of six 1/4-ton ambulances.

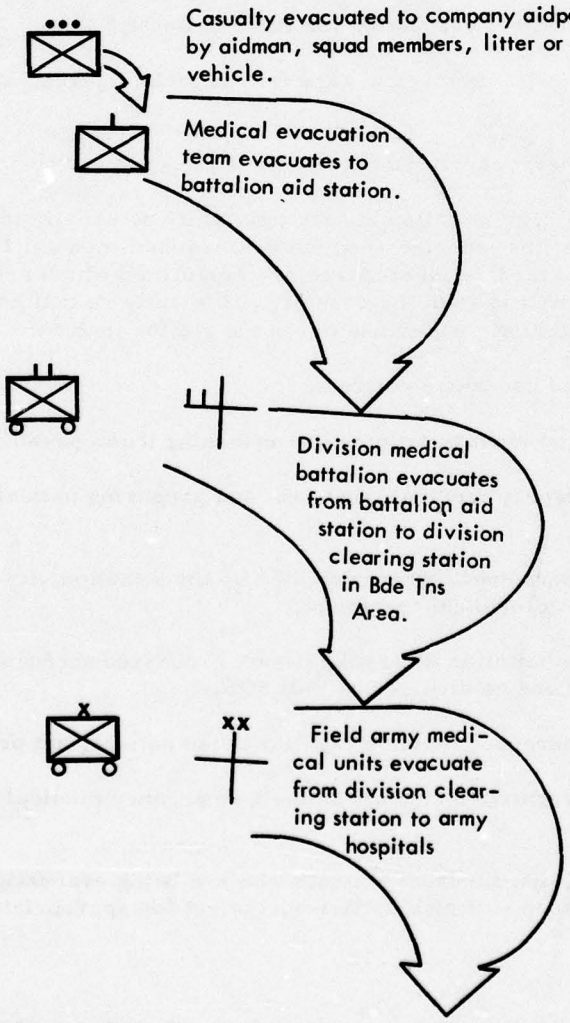



Figure 27. Ground Evacuation of Personnel Casualties.

46. DIVISION LEVEL.

a. General. Habitually a medical company from the division medical battalion is placed in support of each brigade and is located in the brigade trains area. This company operates a division clearing station and effects evacuation from the combat battalion aid stations to the clearing station. Field army medical units are responsible for evacuation from division to field hospital facilities.

b. Treatment. The clearing platoon of the medical company operates the clearing station in the brigade trains area. The clearing station has a normal capacity of 80 patients but can expand to accommodate 120 for short periods. The clearing platoon provides emergency medical and dental treatment, psychiatric treatment, resuscitative treatment to all categories of patients who must be evacuated beyond the division, and definitive treatment to patients who can be returned to duty in a short time. It can establish two identical clearing stations for displacement and short duration operations.

c. Evacuation (Fig 27). The ambulance platoon consists of twelve 3/4-ton ambulances and has the capability to provide 24 hour a day evacuation service from the combat battalion aid stations to the division clearing station, except under conditions involving mass casualties. The platoon maintains close contact with combat battalion surgeons.

## Section III. TRANSPORTATION

47. GENERAL. The function of Transportation embodies the provision of transport for men and materiel. While transporting personnel and units is of significant import on an army-wide basis, the emphasis on transport within the ROAD division is placed on the transport required for logistical support operations. For considerations of movement planning and the characteristics of modes of transportation, see Appendix VI. Also included in the function of Transportation is the establishment of traffic regulation and control, though this aspect has only limited application at the combat battalion level.

48. COMBAT BATTALION AND BRIGADE LEVEL.

a. Transport for Logistical Support Operations. The brigade, being a tactical headquarters, does not have organic transport for logistical support operations. The transport in the combat battalion is found in the support, maintenance, and medical platoons of the battalion headquarters and headquarters company. (For number and type of vehicles, see Chapter 2, Section III.)

b. Traffic Control. At the brigade and battalion level, this aspect of transportation is implemented by posting directional and directive type signs, and exercising operational control over unit convoys. The brigade does receive some support in this matter from the division military police company. Normally, a military police platoon is placed in support of each brigade to provide assistance in traffic control and to operate a division forward prisoner of war collecting point. The battalion S4's principal assistant in this area is the motor officer.

49. DIVISION LEVEL.

a. Transport for Logistical Support Operations. The source of transport for these operations is the division support command; specifically, the medical, supply and transport, and maintenance battalions. Transport for the movement of cargo and fuel is organic to the transportation motor transport company of the supply and transport battalion.

b. Traffic Control. Traffic regulation and control is a general staff responsibility of the division G4. To implement action in this area, he frequently establishes a division traffic

headquarters under the supervision of the division transportation officer. This headquarters includes representatives of the division engineer and provost marshal, and may include a representative of the division G5 (for advice on civil affairs), the division signal officer (to provide communications for the traffic headquarters), and the division support command (for coordination of vehicle recovery and evacuation). The division engineer provides technical advice on route classification and the provost marshal makes recommendations on traffic control. To obtain maximum use of available roads and bridges and to provide definitive instructions to subordinate units, division prepares and publishes a division traffic circulation and control plan.

## Section IV. MAINTENANCE

### 50. MAINTENANCE OPERATIONS.

a. To delineate responsibilities and facilitate support operations, maintenance service is classified by category as depicted in Figure 28.

b. Company.

(1) Infantry Rifle Company. This unit is responsible for organizational maintenance on all of its equipment (subject to restrictions imposed by the Army Materiel Command) and for evacuation to battalion of equipment beyond its capability to repair, except for evacuation of vehicles. The infantry rifle company has no recovery vehicle, and its vehicular maintenance capability is limited to cleaning, servicing, lubricating, and adjusting actions.

(2) Mechanized Infantry Rifle Company. Like the infantry rifle company, it is responsible for organizational maintenance on all of its equipment and for evacuation to battalion of equipment beyond its capability to repair, including evacuation of vehicles. By virtue of having a maintenance section, the mechanized infantry rifle company has a significantly greater number of vehicles and radios to service and repair. Its capability includes cleaning, servicing, lubricating, and adjusting actions and extends to replacing certain parts and testing of equipment. It is responsible for evacuation of vehicles because it has an M578 recovery vehicle in its maintenance section.

c. Combat Battalion.

(1) Maintenance Platoon. This platoon is responsible for detailed organizational vehicular maintenance for all vehicles in the battalion. This responsiblity includes the periodic scheduled services required for vehicles and backup support for the companies. It also is responsible for evacuating vehicles requiring direct support maintenance to the forward support company.

(2) Communication Platoon. This platoon is responsible for the detailed organizational maintenance for communication equipment in the battalion. It, too, is responsible for evacuation to the forward support company of equipment requiring direct support maintenance, except for cryptographic equipment which is sent to the signal battalion.

(3) Medical Platoon. This platoon is responsible for limited organizational maintenance of medical equipment. It performs mainly cleaning, servicing, and adjusting actions on medical equipment. It evacuates to the medical battalion equipment requiring detailed organizational maintenance.

(4) Other Maintanance. Equipment, other than vehicular and signal, requiring organizational repair beyond the capability of the rifle companies is evacuated through the maintenance platoon to the forward support company.

| CATEGORY | ORGANIZATIONAL | | DIRECT SUPPORT | GENERAL SUPPORT | DEPOT |
|---|---|---|---|---|---|
| WHO<br><br>WHERE | USER<br>WEARER<br>OPERATOR<br>UNIT | USING<br>UNIT<br><br>ORGAN-<br>IZATION | DIVISION<br>UNITS<br><br>MOBILE<br>SHOPS | ARMY<br>UNITS<br><br>SEMI-FIXED<br>SHOPS | LOGISTICAL<br>COMD<br>LEVEL<br>DEPOT |
| WHAT AND HOW | MINOR REPAIR<br>RETAIN | | REPAIR OF END ITEMS OF UNSERV-ICEABLE ASSEMBLIES ON A RETURN TO USER BASIS | REPAIR OR OVERHAUL MATERIEL FOR READY TO ISSUE CONDITION | REPAIR OR OVERHAUL FOR STOCK |
| WHY | TO INSURE COMBAT EFFECTIVENESS<br>AND<br>SERVICEABILITY | | | | TO RETAIN IN GOVERN-MENT USE |
| | | | | | |

Figure 28. Categories of Maintenance Service.

d. Division. The maintenance battalion of the division support command is responsible for providing direct support maintenance service for all equipment in the division, except medical (performed at field army level), signal cryptographic (performed by the signal battalion) and electrical accounting machine (performed by the administration company). It also provides repair parts for the equipment it maintains and conducts recovery and evacuation operations. Implementation of maintenance operations at this level is accomplished by placing a forward support company in support of each brigade. Normally, this company is physically located in the brigade trains area. It concentrates its direct support efforts on engineers, ordnance, and signal equipment; other equipment is sent to the headquarters and main support company of the maintenance battalion in the division support area.

e. Maintenance in Operation. Most of the maintenance effort in the battalion is directed at vehicular maintenance; therefore, this aspect of maintenance will be used to illustrate how the maintenance system actually operates in a combat environment. Assume a 3/4-ton truck in an infantry rifle company is inoperable and requires repair that cannot be accomplished by the driver. If the repair is organizational level maintenance, a contact team would be dispatched (desirably with a 5-ton wrecker) from the combat trains to examine the vehicle and effect the repair on-site. If the vehicle cannot be repaired on-site, it will be evacuated to the field trains by battalion; there may be exceptions, however, wherein with more time and certain repair parts, the repair could be effected at the combat trains. If this vehicle were organic to a mechanized infantry rifle company, it is unlikely that a contact team could effect the repair if the company maintenance section could not; thus, action would be taken to evacuate it direct to the field trains. In either instance, if the repair required is direct support maintenance, a request would be made to the forward support company to dispatch a work party (similar to a battalion contact team) to perform on-site maintenance. If the repair could not be effected on-site by the work party, the vehicle would be evacuated to the forward support company by the battalion. Evacuation of damaged vehicles and equipment is a basic responsibility of the using unit; however, this does not mean that a vehicle must be evacuated all of the way to the forward support company if it is infeasible to do so because of the tactical situation. In such instances, the vehicle can be evacuated to a maintenance collecting point. For example, in the attack several of these maintenance collecting points may be established along the route of supply and evacuation. The vehicle would then be picked up by the forward support company, either as it moves forward or by sending recovery vehicles to the collecting points on a periodic basis. Allied to maintenance is the provision of repair parts. Much of this service is accomplished on a direct exchange basis and is another example of how service is facilitated by the location of both the forward support company and the battalion field trains in the brigade trains area. This discussion of maintenance in operation applies equally to the mechanized infantry battalion and the tank battalion.

## Section V. OTHER SERVICES

### 51. GENERAL.

a. Provision of graves registration, bath, and food service are the divisions of the major area of Other Services.

b. At both division and combat battalion level, graves registration service is a staff responsibility of the G1/S1 because the evacuation policy has a direct bearing on morale which is also a G1/S1 function. However, since logistical vehicles are used extensively for evacuating the dead from battalion to the collecting point in the brigade trains, the S4 is involved in the implementation of this service.

c. The combat battalion has no organic capability to provide bath service. This service is provided by the bath section which is an augmentation to the supply and service company of the

supply and transport battalion. Normally, there is at least one bath team in or near each brigade trains area. A bath schedule is announced and personnel from the combat battalions are sent to the brigade trains area in accordance with this schedule.

d. Food service is an important function during combat operations. At the combat battalion level, implementation of this service may be restricted to insuring that sanitary measures in preparing and serving food, and cleaning mess gear are enforced. Similarly, at division level, implementation may be restricted (when compared with garrison operations), but action, such as obtaining ration supplements, e.g., increased coffee issue, may be possible. There is a warrant officer in the headquarters and headquarters company of the supply and transport battalion (and also one in each brigade headquarters) whose function it is to supervise food service in the division. He assists the battalion mess sections by providing advice to mess stewards on techniques of food preparation. Since food service affects not only the physical but also the emotional well-being of the soldier, it must receive a high degree of command emphasis, particularly at the combat battalion level.

52. GRAVES REGISTRATION.

a. Combat Battalion.

(1) Organic Personnel. There are no personnel in the combat battalion whose specific function is graves registration and there is no graves registration collecting point in the battalion combat or field trains.

(2) Evacuation. Evacuation of the dead is a unit responsibility. The rifle company evacuates its dead on available transportation to the battalion combat trains. At this location, the dead are transloaded into battalion vehicles (usually empty ammunition trucks) and immediately evacuated to the division collecting point in the brigade trains area.

b. Division.

(1) Organic Personnel. There are no personnel organic to the division to perform this service, but, in combat, a graves registration platoon from a field army graves registration company normally is attached to the supply and service company of the supply and transport battalion. This platoon, consisting of a collecting, identification and evacuation section and three collecting and evacuation sections, provides graves registration service for the division. The collecting, identification, and evacuation section operates the main division graves registration collecting point located in the division support area. A collecting and evacuation section is placed in support of each brigade and operates a division collecting point in the brigade trains area.

(2) Evacuation. When the battalions deliver their dead to the collecting point in the brigade trains area, the collecting and evacuation section transports them to the main collecting point in the division support area. At this location, identification and effects specialists and technicians take and record fingerprints, take all steps to identify or verify identification of remains, establish and maintain a register of remains, assign evacuation numbers, inventory personal effects, and prepare remains for evacuation to field army facilities. Field army graves registration units are responsible for evacuation of the dead from division to army cemeteries.

## Section VI. MISCELLANEOUS RELATED ACTIVITIES

53. GENERAL. Miscellaneous Related Activities embodies the staff responsibilities associated with the logistics officer's role as a planner. Logistical estimates, administrative plans, preparation of standing operating procedures (SOP), planning for the establishment of

trains, preparing and publishing administrative orders, and the planning (within the scope of the logistics officer's staff responsibility) for rear area security and area damage control are all included in this important logistical function. The logistics officer has prime staff responsibility for actions under this function, even though other staff officers contribute to its accomplishment.

54. LOGISTICAL PLANNING.

a. Logistical Estimate. A sound logistical plan is based upon and is initiated with a sound logistical estimate. The logistical estimate is accomplished by taking a problem (Mission), listing the facts (Situation and Considerations), considering the options (Analysis), applying the logic (Comparison) to arrive at a solution (Conclusions). The underlined words in parentheses are the main paragraph headings of the logistical estimate. The conclusions are presented to the commander to assist him in arriving at a decision for the employment of the command as a whole. Commanders and staff officers continually are engaged in making estimates, a process which facilitates the concentrated effort required to produce accurate estimates for a specific operation. See Appendix VII for the complete format of a logistical estimate. The logistical estimate uses the estimate of the situation format modified as necessary to fit the problem being solved.

(1) Combat Battalion and Brigade Level. At battalion and brigade level, the logistical estimate is rarely, if ever, reduced to writing. At these levels it is a mental process supplemented by work sheets or notes. The basic function of the logistical estimate is to insure an orderly, logical consideration of all logistical factors having a possible impact on the success of the unit's mission, and which course of action being considered can be supported best from a logistical viewpoint. Other uses and applications, however, are direct results of the logistical estimate process. Because the other staff officers and the commander are engaged concurrently in making their estimates, the logistical estimate insures that an accurate logistical "picture" is developed to meet the needs of their estimates. While the S2 may have little or no need for this information, it may have significant impact on the S1 considerations in the personnel estimate. It is significant habitually in the "own situation" subparagraph of the operations and commander's estimates. The logistical estimate may identify and/or isolate major logistical deficiencies which the S4 early realizes will have significant impact on the operation pending or at least on one of the courses of action being considered. This type of information must be brought to the attention of the other staff members and the commander immediately to insure it receives proper consideration in the development of their estimates. Frequently, a problem may arise in the logistical estimate process which requires decision or action by the commander to obtain a solution; the estimate process insures that the recommendation concerning such a problem is developed and refined. It is apparent, then, that staff estimates are not made in isolation. Conversely, exchange of information and coordination is a continuous process among staff officers. At battalion and brigade level, this exchange of information and coordination is oral and usually brief. In essence each staff officer is a source of essential information to the other staff members. For example, when the S4 obtains from the S3 the friendly courses of action under consideration, a short discussion may ensue regarding the extent to which the S3 may have developed the scheme of maneuver (even though it may be tentative at this point), especially to include the S3's thoughts on the number of supporting attack(s) and units that may be required in support of a particular course of action. This information permits the S4 more accurately to determine logistical support requirements. Similarly, the S3 may be developing unusually heavy fire support requirements (e.g., a lengthy preparation before an attack), and may want to have information concerning the availability of ammunition in the types and amounts required to support this initial, and subsequent, fire support requirement. The following discussion reflects specific considerations for making a logistical estimate.

(a) Paragraph 1 of the logistical estimate, MISSION, is deduced from the mission assigned to the battalion.

(b) Sources (and the type information they provide) from which the battalion S4 obtains data contained in paragraph 2, SITUATION AND CONSIDERATIONS, are listed below:

1. From the brigade S4, he obtains any special logistical support requirements, and information pertaining to displacement of brigade trains.

2. The S1 furnishes information about scheduled replacements, proposed location of command post and PW collecting point, and graves registration activities.

3. The S2 furnishes information about the weather, enemy and terrain.

4. The S3 provides information about friendly courses of action being considered, data concerning the required supply rate (RSR), detachments and attachments of units, and civil affairs.

5. Commanders of attached units are contacted, as necessary, to determine the logistical status of their units.

6. The support platoon leader (Asst S4) provides the status of equipment and supplies (particularly Class I, III, V), and the capability of the field trains to provide back-up support for the combat trains.

7. The motor officer provides the status of vehicles of both organic and attached units, the status of maintenance, and additionally, recommendations concerning traffic circulation and location and displacement of the combat trains.

8. The battalion surgeon provides information regarding current evacuation capability, plans to support the operation, and any shortages of equipment or medical supplies.

9. The communication officer provides the status of signal maintenance and signal supplies in the communication platoon.

10. The division administrative order provides information concerning the logistical support being provided by the division support command and the engineer battalion (water supply points).

(c) In paragraph 3, ANALYSIS, of the logistical estimate, a very simple sequence - requirements/problem areas, availability/capability (logistical means), deficiencies - is used to isolate any logistical shortcomings, either existing or anticipated. This sequence can be depicted as follows:

| |
|---|
| REQUIREMENTS/PROBLEM AREAS |
| AVAILABILITY/CAPABILITY |
| DEFICIENCY |

1. The logistics officer (estimator) analyzes proposed courses of action to determine requirements/problem areas, availability or capability,

and deficiencies in the areas of supply, transportation, medical service, maintenance and other services. Requirements are the logistical needs. They can be measured in such units as rounds of ammunition, gallons of fuel, or numbers of rations. The availability factor reflects the quantities of supplies or repair parts on hand or readily available and any restrictions imposed on the quantities of supplies or repair parts that may be obtained. The capability factor reflects the status of organic logistical means to provide the required support, e.g., capability of maintenance platoon to effect actual and anticipated evacuation and/or repair of equipment, capability of support platoon to transport supplies, capability of medical platoon to evacuate casualties.

2. The battalion S4 in his ANALYSIS must visualize each course of action to determine the logistical requirements to determine either that what is required is available or that the requirement is within the capability of a battalion logistical element (e.g., Maintenance Platoon). In the ANALYSIS, the S4 must concentrate on determining the logistical requirements necessary to insure the tactical operation does not suffer because of any logistical shortcomings. When he has determined the requirements, he checks them against the availability and/or capability of the battalion's logistical elements. If the availability/capability factor equals or exceeds the requirements, there is no logistical deficiency. If, however, the availability/capability factor is less than the requirements, there emerges a deficiency. When this situation occurs, the S4 immediately attempts to reduce, within his own resources or channels, the deficiency below levels of significance in relation to its impact on the success of the mission. This early attempt to reduce a logistical deficiency is an integral part of the analysis process. Methods for reducing the level of significance include taking specific actions such as establishing maintenance priorities, increasing the size of the combat trains, prepositioning ammunition, requesting increase of the prescribed load list (PLL), and requesting additional support, e.g., organizational maintenance assistance from the forward support company or engineer support to open a supply route. If a deficiency cannot be reduced readily by actions within the battalion S4's field of influence, it becomes an overriding consideration and is selected for and used in the COMPARISON step of the estimate process.

3. The brigade S4 analyzes in a manner similar to the battalion S4 with one important variation. Because the brigade has no logistical means to provide logistical support, the brigade S4, after determining requirements, bases his analytical considerations mainly on his knowledge of the capabilities of the attached battalions' and the division's logistical units to satisfy logistical support requirements.

(d) In paragraph 4, COMPARISON, the logistics officer evaluates overriding considerations in relation to each course of action being considered to determine which course of action can be supported best logistically. He also considers, as appropriate, methods of overcoming deficiencies to better evaluate the effect the adoption of a particular course of action may have on logistical requirements. In light of the overriding considerations involved, he reaches a subconclusion. He repeats this process for each overriding consideration selected after completing his ANALYSIS.

1. Based on the subconclusions reached by the procedure described above, the logistics officer arrives at an overall conclusion as to the course of action which can be supported best logistically. There is no magic formula or rule to insure that the overall conclusion reached is correct. The logical, orderly consideration of all logistical factors involved, however, complemented by the logistical knowledge and experience, and degree of judgment possessed by the logistics officer, substantially increases the probability that the conclusion is accurate.

2 While the ultimate objective of the COMPARISON step is to determine which course of action can be supported best logistically, it is important to remember that at the battalion level logistical considerations will only infrequently have significant influence on the commander's selection of a tactical course of action.

3. From a logistical viewpoint advantages or disadvantages in a course of action emerge from the ease versus restriction in providing effective, continuous logistical support. Advantages or disadvantages may also emerge from an evaluation of the degree of restriction which will be placed on a logistical function. While methods to overcome restrictions or deficiencies in providing logistical support must also be considered, care must be exercised to insure that the methods in themselves do not burden present or anticipated logistical support functions. When a course of action can be supported within the battalion logistical capabilities without having to resort to special measures to overcome a restriction, the advantages are apparent.

4. Generally the preceding discussion applies equally to battalion or brigade level. However, the number of battalions or other units attached to a brigade and the possibility of more complex schemes of maneuver at that level increases the probability that logistical considerations could exert more influence on the selection of a tactical course of action.

(d) The final step in the logistical estimate process is to arrive at CONCLUSIONS. The logistical estimate format which has universal application lists four subheadings under CONCLUSIONS. At battalion level only two are used normally in the logistical estimate; which course of action can be supported best logistically (5b), and major logistical, or controlling limiting, features which must be brought to the attention of the commander, and, as appropriate, recommendations pertaining to the logistical area (5d). If appropriate, logistical deficiencies for other courses of action are indicated (5c). Whether or not the operation can be supported logistically (5a) is rarely in doubt at battalion level. When a battalion is given a mission, the means to perform the mission habitually are provided. Based upon his conclusions, the S4 discusses with the S3 the logistical capability to support the operation, to include any deficiency having significant impact on the operation. The S3 uses this information (as facts bearing on the problem, par 2, Operations Estimate) in developing his recommendation. (Similarly, the S4 provides the conclusions of his estimate, as appropriate, to the commander.) The commander must know all significant factors regarding the impending operation before he can make a sound decision. But, in presenting information to the commander, it is imperative that only significant items are presented so as not to burden him with unnecessary details. Remember that a summary of the logistical situation normally is presented before or during the mission analysis.

(2) Division Level. The procedures and processes involved in making a logistical estimate at battalion and brigade are the same at division level, except that the estimate may be written, particularly for deliberately planned operations.

b. Administrative Plan. Essentially, this plan consists of a logistical support plan, personnel plan, and a civil affairs plan. The logistics officer has staff responsibility for its preparation, even though his primary concern is the logistical support plan or the logistical portion of the administrative plan. He discharges his responsibility for preparation of the administrative plan by coordinating with the personnel and operations officers to assemble information for the personnel and civil affairs "plans" or portions of the overall plan. See Appendix VIII for the format of the Administrative Plan.

(1) Combat Battalion and Brigade Level. As with the logistical estimate, neither the administrative plan nor its component plans is a written document at battalion and brigade level. The logistical support plan consists of paragraph 3a (General), 3b (Materiel and Services), 3c (Medical Evacuation and Hospitalization), and 3f (Miscellaneous) of the administrative plan. The logistical support plan is the organization of varied items the S4 has assembled in note form or by mental process, and the paragraphs of the administrative plan noted above provide the S4 with a check list or guide to insure a logical, complete plan for logistical support. Since the S4's principal logistical concern is with materiel and services, this paragraph, 3b of the administrative plan, contains the bulk of the logistical support plan. In preparing his plan, the S4 obtains information from the requirements developed in the Analysis step of the logistical estimate, by contact and/or coordination with the assistant S4, motor officer, surgeon, and the logistics officer at the next higher headquarters. He also obtains information from the division administrative order or annex. Many of the items he considers in developing the logistical support plan, particularly the materiel and services portion, may be in the battalion Standing Operating Procedures (SOP); he merely checks these off and they serve to remind him of some of the areas he must check as part of his staff supervision responsibilities.

(2) Division Level. The techniques, procedures and format for the administrative plan are the same at division level; however, the plan often may be produced in written form.

55. ADMINISTRATIVE INSTRUCTIONS.

a. General. The dissemination of administrative instructions for the provision of combat service support is the transition from the estimating and planning phase to the execution phase. Administrative instructions may be written or depicted graphically on overlays. The following criteria are used in preparing administrative instructions.

(1) Bases for determining what information should be included in the instructions.

(a) Who needs the information?

(b) How many units or agencies need the information?

(c) Do they need it now?

(2) Information is depicted graphically if it can be done without loss of clarity; information not suitable for graphic representation is presented in writing. If an item is depicted graphically, it is not repeated in writing.

(3) SOP items normally are not included in administrative instructions. The mechanized infantry division, however, frequently receives attachments from corps and army in the middle of an operation and on short notice; consequently, these units do not have time to become familiar with the division SOP and, thus, it may be necessary for units engaged in fluid, fast-moving operations to include some SOP items in administrative instructions.

b. Combat Battalion and Brigade Level.

(1) Responsibility. The S4 is responsible for the dissemination of administrative instructions, in coordination with the S1, S3, Surgeon, and other staff officers as appropriate.

(2) Methods of dissemination. There are four primary methods by which administrative instructions may be disseminated: fragmentary orders, standing operating procedures (SOP), paragraph 4 of operation orders, and the Administrative Order. The same format or sequence is always followed in preparing administrative instructions, regardless of the method employed in dissemination. This sequence is followed because -

(a) Agreements have been made with NATO forces and the armed forces of the United Kingdom and Canada to standardize the format.

(b) The recipient can easily locate information when it is in the same sequence.

(c) An established sequence serves as a check system for the originator and insures completeness.

(3) Fragmentary Orders. Fragmentary orders may be issued orally or in writing and may pertain to one or all subordinate units. They are issued to initiate or direct action before and/or implement changes after the dissemination of instructions by one of the primary methods.

(4) Standing Operating Procedures (SOP). A properly prepared SOP contributes substantially to efficient logistical operations. It eliminates excessive writing and is used in the absence of other orders. An SOP should be brief and concise. It should not attempt to cover any and all situations, but should be limited to the general or routine aspects of logistical operations. The SOP should be in written form so that new personnel can become acquainted with procedures. To be effective, it must reflect current procedures.

(5) Paragraph 4 of the Operation Order. Paragraph 4 of the operation order is normally used at battalion and brigade level to disseminate administrative instructions. Exceptions to this procedure may occur as noted in the discussion under administrative orders below.

(6) Administrative Order. The S4, coordinating with other interested staff officers, is responsible for preparation of the administrative order. The S1 prepares paragraph 4 and the S3 prepares paragraph 5 of the administrative order and submit them to the S4 for inclusion. At battalion and brigade level the administrative order may be used when operating in an area for the first time, operating independently, or preparing for a special operation. The administrative order may be issued as an annex to an operation order or as a separate order. Usually a separate order is issued when it applies to more than one operation, and an annex to an operation order is issued when it is for the support of a single operation. Depending on how it is issued, it may appear in the following forms:

(a) As a separate written order, with or without an overlay; if an overlay is used, it is attached as an annex.

(b) As a separate overlay type order.

(c) As written instructions in the form of an annex to an operation order, with or without an overlay; if an overlay is used, it is attached as an appendix.

(d) As an overlay type annex to an operation order.

b. Division Level. Any of the dissemination methods discussed above may be used at division level. Habitually, however, an administrative order is issued by division. In relatively

stable situations, it may remain in force through one or more new operation orders. See Appendixes IX and X for format and example of the Administrative Order.

56. REAR AREA SECURITY AND AREA DAMAGE CONTROL.

a. General.

(1) Rear area security measures are actions taken to prevent or neutralize enemy threats to units, activities, and installations in the rear area, except active air defense operations or actions against enemy threats large enough to endanger the command. A large scale enemy penetration or vertical envelopment of the rear becomes a part of the main battle and, thus, becomes an operational matter.

(2) Area damage control consists of the preventive and control measures taken prior to, during, and after an enemy nuclear, chemical or biological attack or natural disaster to minimize the effect on combat service support.

(3) The logistics officer at each echelon that has a trains is responsible for the implementation of rear area security measures in the area occupied by the unit's trains. Planning for, and implementation of, rear area security measures for the remainder of the unit's rear or reserve area is an operational function of the G3/S3. Area damage control, on the other hand, because it is the action taken to minimize damage in the rear area, is solely the staff responsibility of the logistics officer at each echelon.

b. Rear Area Security.

(1) Combat Battalion and Brigade Level. The battalion and brigade S4 discharge their responsibility for rear area security of the trains by:

(a) Locating logistical facilities where they can provide mutual support.

(b) Establishing a security plan for the trains area.

(c) Enforcing camouflage and light discipline.

(d) Employing obstacles.

(e) Using armed convoys.

(f) Coordinating the security plan with reserve elements located in proximity to the trains. If the threat of guerrilla and infiltration action is of a magnitude that renders the security capability of logistical support units ineffective, combat units may be assigned specific security missions to insure continuation of logistical support operations.

(2) Division Level. Since the division G4 is a planner and is not directly responsible for operation of the division support area, he does not become involved in the matter of rear area security. At this level, it is the division support command commander who is responsible for rear area security of the division support area. The means to accomplish this function at the division level are the same as for the combat battalion and brigade trains areas.

b. Area Damage Control. Area damage control operations are conducted in two phases. Phase I includes actions taken to avoid or minimize the effects of enemy mass destruction attacks or natural disasters, and the action to prepare for implementation of active area damage control measures following an attack or natural disaster. Phase II includes the active measures taken to restore control.

(1) Phase I Actions.

(a) The most significant preventive measures are:

1. Dispersion of combat service support units consistent with the accomplishment of the mission.

2. Locating logistical facilities to capitalize on the protective characteristics of the terrain, such as caves and tunnels, and subsurface manmade structures. (This measure has more application at division and higher levels because of the relative stability of logistical facilities at these levels as compared to the frequent displacement of trains at the combat battalion and brigade level.)

3. Establishing an adequate warning or alert system.

4. Locating logistical facilities to take advantage of natural concealment and enforcing light and camouflage discipline.

(b) Readiness measures include:

1. Establishing unit area damage control standing operating procedures.

2. Designating unit area damage control teams (if not included in the SOP).

3. Training area damage control teams to include integration with tactical training.

(2) Phase II Actions.

(a) Dispatching an area damage control team(s) to the site of the attack or disaster.

(b) Damage assessment of both personnel and materiel.

(c) Providing medical evacuation for personnel of the affected unit(s).

(d) Performing radiological monitoring and survey when mass destruction is the result of a nuclear weapon.

(e) Restoration of control to include communications in the affected unit or, if appropriate, assumption of control by the area damage control team.

(3) Combat Battalion Level.

(a) The teams formed at this level to execute area damage control operations are a control and assessment team (CAT), one rescue squad per company, and one decontamination squad per company. The control and assessment team is organized mainly from the resources in the battalion headquarters and headquarters company since its functions require personnel not found at the rifle company level. The control and assessment team is employed to establish/restore control and assess damage resulting from mass destruction means in both combat (rifle companies) and combat service support (trains) units within the battalion. When employed to establish control and assess damage in combat units, this team is performing an operational mission, i.e., a mission related to the tactical situation. When employed in combat

service support units, it is performing an area damage control mission. The same considerations apply to the rescue and decontamination squads. The battalion S3 is responsible for the organization and training of the control and assessment team; the battalion S4 is responsible for the organization and training of the light rescue and the decontamination squads.

(b) The battalion S4 is responsible for area damage control operations in the battalion rear area. In discharging his responsibilities, he -

1. Determines the number of light rescue and decontamination squads to be employed.

2. Directs when and where the light rescue and decontamination squads will report and supervises their operation.

3. Provides for emergency food, clothing and water for personnel in the affected area.

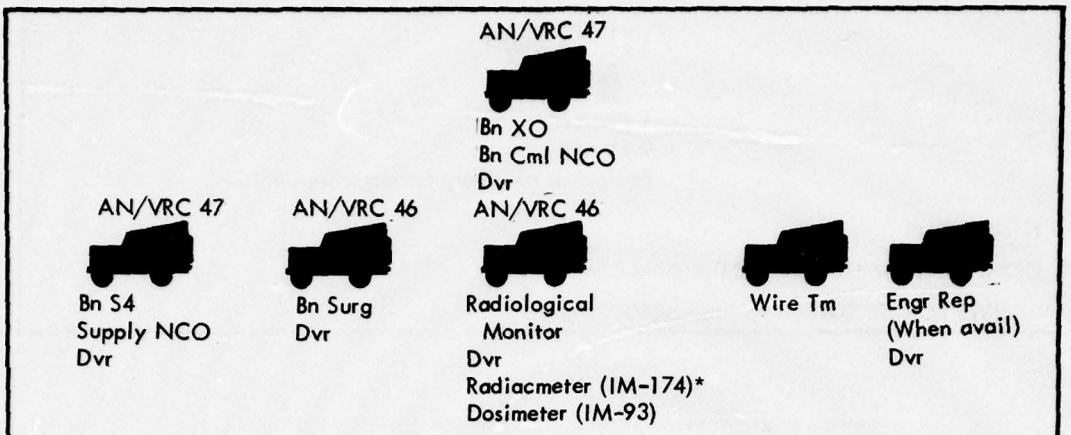
4. Provides for emergency medical treatment and evacuation of personnel in the affected area.

5. Provides for traffic control in the affected area.

(c) For organization, to include major items of equipment, and functions of a type control and assessment team, type light rescue squad and type decontamination squad, see Figures 29, 30 and 31, respectively.

(4) Brigade Level. A control and assessment team is formed at this level from the resources in the brigade headquarters and headquarters company; its composition and functions are basically the same as those shown in Figure 29 for a combat battalion. The brigade does not form light rescue and decontamination squads because it has no organic units other than the headquarters and headquarters company. The brigade S4 does, however, direct the rescue and decontamination squads of one battalion to assist another when the magnitude of destruction is beyond the scope of such teams in the affected battalion.

(5) Division Level. The division G4 has primary general staff responsibility for area damage control. The division support command commander is responsible for implementing area damage control in the division rear area. While restoration of combat service support is not included in the scope of area damage control, the support command commander, in planning and supervising area damage control, places priority on actions which preclude or reduce the interruption of division logistical operations. The principal means available to the division support command commander for area damage control are the personnel and equipment of combat service support units operating in the division rear area. A control and assessment team is formed in the support command headquarters. In addition, the support command commander designates units of the command to furnish firefighting, damage clearance, decontamination, rescue, food service, medical, and repair teams. Each combat service support unit is directed to furnish teams appropriate to its skills and equipment.




FUNCTIONS

MOVES TO DAMAGE AREA ON ORDER, WITHOUT DELAY

ESTABLISHES CONTROL AND ASSESSMENT COMMAND POST

DETERMINES AND REPORTS EFFECTIVENESS OF UNITS.

ASSUMES CONTROL OF UNITS IN AFFECTED AREA

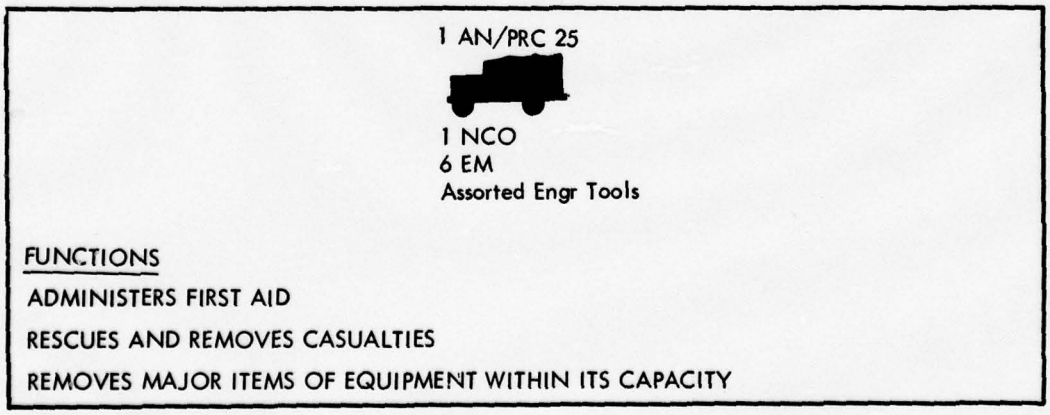
RELEASES COMBAT EFFECTIVE UNITS TO TACTICAL COMMANDERS

REQUESTS REQUIRED COMBAT SERVICE SUPPORT

DIRECTS AND CONTROLS THE OPERATION OF RESCUE AND DECONTAMINATION SQUADS

*The IM-174 replaces the IM-108.

Figure 29. Type Combat Battalion Control and Assessment Team.




FUNCTIONS

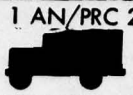
ADMINISTERS FIRST AID

RESCUES AND REMOVES CASUALTIES

REMOVES MAJOR ITEMS OF EQUIPMENT WITHIN ITS CAPACITY

Figure 30. Type Light Rescue Squad.

1 AN/PRC 25



1 CBR NCO
9 EM
Equipment necessary for decontamination

FUNCTIONS

CONDUCTS LIMITED DECONTAMINATION

ASSISTS RESCUE SQUAD AS REQUIRED

Figure 31. Type Decontamination Squad.

## Appendix I

## 1. DUTIES OF KEY LOGISTICS PERSONNEL, INFANTRY BATTALION.

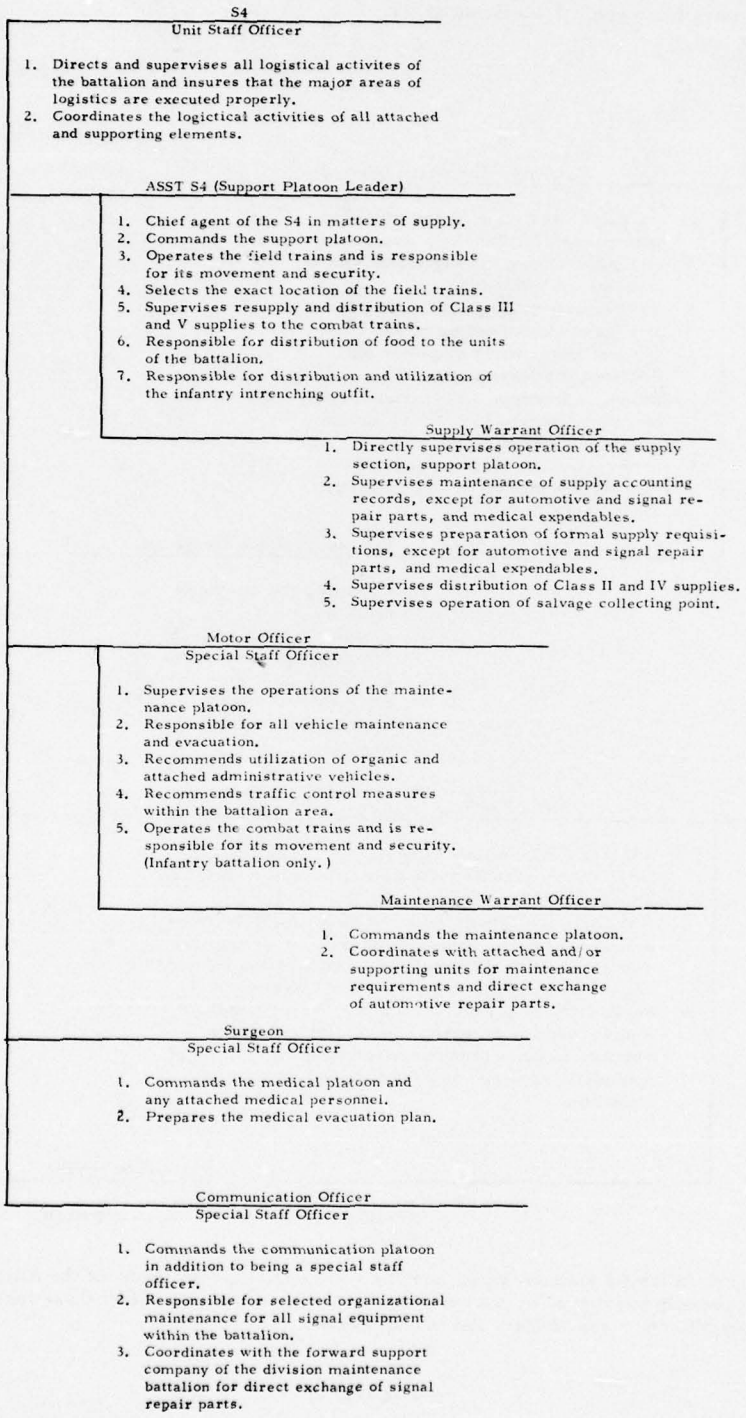



**Figure 1.**

## 2. DUTIES OF LOGISTICS PERSONNEL, INFANTRY RIFLE COMPANY.

**Rifle Company Commander**

Responsible for planning, organizing and supervising the logistical operation of his unit.

**Company Executive Officer**

1. Principal assistant to the company commander in planning, organizing, and supervising the logistical operations of the company.
2. Prepares the company feeding plan and supervises feeding of the unit.
3. Insures that timely requests are initiated for fuel, ammunition, water, and replacement TOE items, and that distribution of fuel and ammunition functions properly.
4. Supervises the supply sergeant and the operations of the company trains area.

**Company Supply Sergeant**

1. Operates the company trains.
2. In coordination with the weapons platoon sergeant, he supervises the use of company vehicles to obtain ammunition and other supplies.

**Rifle Platoon Leader**

1. Assists the company commander in the field of logistics by planning and supervising the logistical operation of his platoon.
2. The logistical operations for which he is responsible consist of: insuring his men properly use and maintain their equipment, submitting informal requests for replacement items of equipment as needed; making timely requests for ammunition and water; and insuring the available medical support is functioning properly and evacuation of wounded personnel is implemented as soon as possible.

**Platoon Sergeant**

Assists the platoon leader as directed.

NOTE: In garrison a rifle platoon leader may be detailed to perform some of the duties which are normally performed by the company executive officer in combat; these include: supply officer, mess officer, and motor officer.

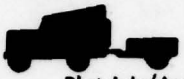
Figure 2.

Appendix II

## DETAILED ORGANIZATION OF THE INFANTRY BATTALION SUPPORT PLATOON

**Platoon Headquarters**

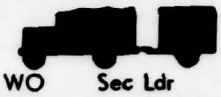
AN/VRC - 47



| | |
|---|---|
| 1 Lt | Plat Ldr/Asst S4 |
| 1 PFC | Lt Trk Dvr |

**Supply Section**

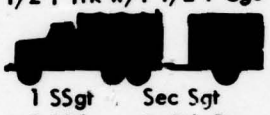
AN/VRC - 46



| | |
|---|---|
| 1 WO | Sec Ldr |
| 1 SFC | Supply Sgt |
| 1 SSgt | Asst Supply Sgt |
| 2 SP4 | Gen Supply SP |
| 2 PFC | Supply Clk |

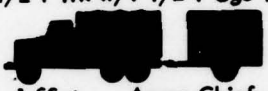
**Transportation Section**

2 1/2 T Trk w/1 1/2 T Cgo Tlr



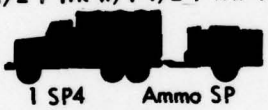
| | |
|---|---|
| 1 SSgt | Sec Sgt |
| 1 SP4 | Sr Trk Dvr |

2 1/2 T Trk w/1 1/2 T Cgo Tlr



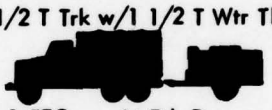
| | |
|---|---|
| 1 SSgt | Ammo Chief |
| 1 PFC | Lt Trk Dvr |

2 1/2 T Trk w/1 1/2 T Wtr Tlr



| | |
|---|---|
| 1 SP4 | Ammo SP |
| 1 PFC | Lt Trk Dvr |

2 1/2 T Trk w/1 1/2 T Wtr Tlr

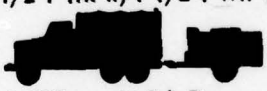


| | |
|---|---|
| 1 PFC | Lt Trk Dvr |
| 1 PVT | Asst Lt Trk Dvr |

2 1/2 T Trk w/1 1/2 T Wtr Tlr

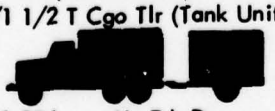
| | |
|---|---|
| 1 PFC | Lt Trk Dvr |
| 1 PVT | Asst Lt Trk Dvr |

2 1/2 T Trk w/1 1/2 T Wtr Tlr



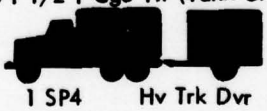
| | |
|---|---|
| 1 PFC | Lt Trk Dvr |
| 1 PVT | Asst Lt Trk Dvr |

1 5 T Trk (Tank & Pump Unit) w/1 1/2 T Cgo Tlr (Tank Unit)



| | |
|---|---|
| 1 SP4 | Hv Trk Dvr |
| 1 PFC | Asst Hv Trk Dvr |

1 5 T Trk (Tank & Pump Unit) w/1 1/2 T Cgo Tlr (Tank Unit)



| | |
|---|---|
| 1 SP4 | Hv Trk Dvr |

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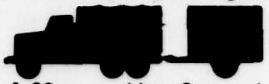
## Mess Section

### Headquarters Co Mess Team

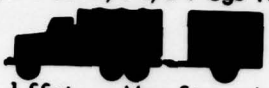
2 1/2 T Trk w/1 1/2 T Cgo Tlr



| | |
|---|---|
| 1 SSgt | Mess Steward |
| 3 SP5 | First Cook |
| 3 SP4 | Cook |
| 1 PFC | Cooks Hlpr |

### Rifle Co Mess Team (3)

2 1/2 T Trk w/1 1/2 T Cgo Tlr



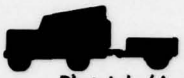
| | |
|---|---|
| 1 SSgt | Mess Steward |
| 3 SP5 | First Cook |
| 2 SP4 | Cook |
| 1 PFC | Cooks Hlpr |

Appendix III

## DETAILED ORGANIZATION OF THE MECH INFANTRY BATTALION SUPPORT PLATOON

### Platoon Headquarters

AN/VRC-47



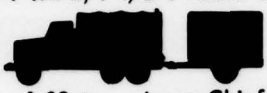
1 Lt — Plat Ldr (Asst S4)
1 PFC — Lt Trk Dvr

### Supply Section

1 WO — Sec Ldr
1 SFC — Supply Sgt
1 SSgt — Asst Supply Sgt
2 SP4 — Gen Supply Sp

### Transportation Section

5-T Trk w/1 1/2-T Ammo Tlr

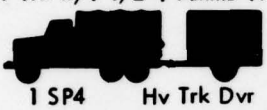


1 SSgt — Ammo Chief
1 SP4 — Hv Trk Dvr

5-T Trk w/1 1/2-T Ammo Tlr

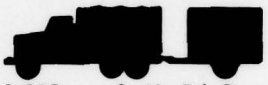
1 SP4 — Hv Trk Dvr
1 PFC — Ammo Handler

5-T Trk w/1 1/2-T Ammo Tlr



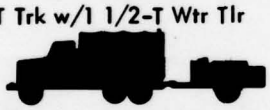
1 SP4 — Hv Trk Dvr
1 PFC — Ammo Handler

5-T Trk w/1 1/2-T Ammo Tlr



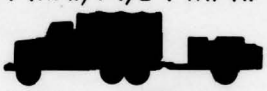
1 SP5 — Sr Hv Trk Dvr
1 PFC — Ammo Handler

5-T Trk w/1 1/2-T Wtr Tlr



1 Sgt — Sqd Ldr
1 SP4 — Hv Trk Dvr

5-T Trk w/1 1/2-T Wtr Tlr

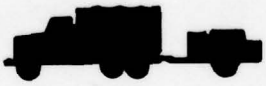


1 SP4 — Hv Trk Dvr
1 PFC — Asst Hv Trk Dvr

5-T Trk w/ 1/2-T Wtr Tlr

1 SP4 — Hv Trk Dvr
1 PFC — Asst Hv Trk Dvr

5-T Trk w1 1/2-T Wtr Tlr



1 SP4 — Hv Trk Dvr
1 PFC — Asst Hv Trk Dvr

5-T Trk

1 SP4 — Hv Trk Dvr
1 PFC — Asst Hv Trk Dvr

5-T Trk

1 SP5 — Sr Hv Trk Dvr
1 PFC — Asst Hv Trk Dvr

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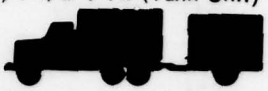
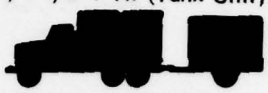
Detailed Organization of Mech Inf Bn Spt Plat Continued:

5-T Trk (Tank & Pump Unit)
w/1 1/2-T Tlr (Tank Unit)



1 Sgt Sqd Ldr
1 SP4 Hv Trk Dvr

5-T Trk (Tank & Pump Unit)
w/1 1/2-T Tlr (Tank Unit)

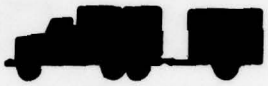


1 SP4 Hv Trk Dvr
1 PFC Asst Hv Trk Dvr

5-T Trk (Tank & Pump Unit)
w/1 1/2-T Tlr (Tank Unit)

1 SP4 Hv Trk Dvr
1 PFC Asst Hv Trk Dvr

5-T Trk (Tank & Pump Unit)
w/1 1/2-T Tlr (Tank Unit)



1 SP5 Sr Hv Trk Dvr

Mess Section

Headquarters Co Mess Team

2 1/2-T Trk w/1 1/2-T Cgo Tlr

1 SSgt Mess Steward
3 SP5 First Cook
3 SP4 Cook
1 PFC Cooks Helper

Rifle Co Mess Team (3)

2 1/2-T Trk w/1 1/2-T Cgo Tlr

1 SSgt Mess Steward
3 SP5 First Cook
2 SP4 Cook
1 PFC Cooks Helper

NOTES: 1. All 2 1/2-T Trucks and 12 5-T Trucks are equipped with ring mounts for Cal .50 MG's.
2. Eight 5-T Trucks are equipped with winches.

Appendix IV

## DETAILED ORGANIZATION OF THE INFANTRY BATTALION MAINTENANCE PLATOON

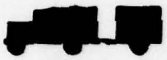
AN/VRC - 46

| | |
|---|---|
| *1 Capt | Bn Mtr Off |
| 1 PFC | Wh Veh Mech Hlpr (Dvr) |

3/4-T Trk w/Tlr

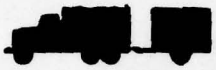
| | |
|---|---|
| 1 WO | Autmv Maint Tech (Plat Ldr) |
| 1 PFC | Wh Veh Mech Hlpr (Dvr) |

3/4-T Trk w/Tlr



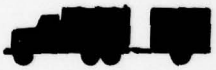
| | |
|---|---|
| 1 MSGT | Mtr Maint Sgt |
| 1 SP4 | Shop Clk |
| 1 SP4 | Ord Sup Sp (Dvr) |

2 1/2-T Trk w/1 1/2-T Cgo Tlr



| | |
|---|---|
| 1 SP5 | Sr Wh Veh Mech |
| 2 SP4 | Wh Veh Mech |
| 1 SP4 | Welder |
| 1 PFC | Wh Veh Mech Hlpr (Dvr) |

2 1/2-T Trk w/1 1/2-T Cgo Tlr



| | |
|---|---|
| 1 SP5 | Sr Wh Veh Mech |
| 2 SP4 | Wh Veh Mech |
| 1 SP4 | Powerman |
| **2 PFC | Wh Veh Mech Hlpr |

2 1/2-T Trk w/1 1/2-T Cgo Tlr

| | |
|---|---|
| 1 SP5 | Sr Wh Veh Mech |
| 2 SP4 | Wh Veh Mech |
| **2 PFC | Wh Veh Mech Hlpr |

5-T Wkr

| | |
|---|---|
| 1 SP4 | Wkr Opr (Dvr) |
| 1 SP4 | Wh Veh Mech |

*Mtr Off assigned to Bn Hq
**One drives the vehicle

Appendix V

## DETAILED ORGANIZATION OF THE MECH INFANTRY BATTALION MAINTENANCE PLATOON

3/4-T Trk w/Tlr
AN/VRC-46

| | |
|---|---|
| *1 Capt | Mtr Off |
| 1 SP5 | Sr Track Veh Mech |
| 1 PFC | Mech Helper (Dvr) |

3/4-T Trk w/Tlr

| | |
|---|---|
| 1 WO | Auto Maint Tech (Plat Ldr) |
| 1 SP4 | Track Veh Mech |
| 1 PFC | Mech Helper (Dvr) |

2 1/2-T Shop Van w/1 1/2-T Tlr

| | |
|---|---|
| 1 MSgt | Motor Maint Sgt |
| 2 SP5 | Sr Track Veh Mech |
| 5 SP4 | Track Veh Mech |
| 1 SP4 | Powerman |
| 1 PFC | Mech Helper |
| 1 SP4 | Shop Clerk |
| 1 PFC | Supply Clerk |

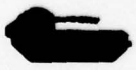
2 1/2-T Shop Van w/1 1/2-T Tlr

| | |
|---|---|
| 1 SFC | Asst Motor Maint Sgt |
| 3 SP5 | Sr Track Veh Mech |
| 5 SP4 | Track Veh Mech |
| 1 SP5 | Sr Welder |
| 1 SP4 | Welder |
| 1 SP4 | Ord Supply SP |

5-T Wkr

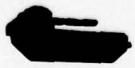
| | |
|---|---|
| 1 SP5 | Sr Track Veh Mech |
| 1 SP4 | Track Veh Mech |

Med Recov Vehicle
AN/VRC-46



| | |
|---|---|
| 1 SP5 | Sr Recov Mech |
| 1 SP4 | Recov Mech |
| 1 SP4 | Track Veh Mech |
| 1 PFC | Mech Helper |

Med Recov Vehicle
AN/VRC-46



| | |
|---|---|
| 1 SP5 | Sr Recov Mech |
| 1 SP4 | Recov Mech |
| 1 SP4 | Track Veh Mech |
| 1 PFC | Mech Helper |

*Mtr Off assigned to Bn Hq

## Appendix VI

## MOVEMENT PLANNING

1. MOVEMENT PLANNING. Movement planning is an element of movement control just as logistical planning is a means to accomplish the control and coordination of the other areas of logistics. The principles discussed below are general in nature, interdependent, and apply to administrative or tactical movements by all modes of transportation--water, rail, highway, and air.

a. Principles.

(1) Maximum utilization of transportation equipment. Transportation services are utilized to their maximum when the turn-around time of equipment is rapid, when equipment is loaded to full capacity, when the flow of movements is continuous, and a uniform rate of speed is maintained. Economical loads for the various types of transportation equipment will vary in accordance with the conditions under which being transported. Overloading will result in loss of speed, excessive wear and tear, and eventual breakdown of the equipment. Failure to utilize available capacity is uneconomical. In many cases proper loading will be determined by the bulk rather than the weight of the cargo. Every effort must be made to load all transport equipment to maximum capacity consistent with operating conditions. In short, good judgment will dictate the best payload. Loading transportation with supplies or personnel for more than one destination normally requires rehandling en route, movement of equipment over a portion of the route with uneconomical loads, and results in uncertainty as to time of arrival at destination.

(2) Reduce turn-around time to minimum. The time required for transportation equipment to pick up a load, deliver it to destination, unload and return to the initial loading point, is a determining factor in the movement capacity. A reduction in turn-around time will effect a greater volume of movement, consequently, less equipment will be required to move a given amount of supplies, troops, or material. In other words, reduction of the time element increases movement capacity. To achieve this reduction in time, transport equipment must be promptly released at destination. It is imperative that adequate equipment and personnel be available at both points of origin and destination in order to expedite loading and unloading.

(3) Maintain unit integrity. This principle means that troops with their equipment are loaded as a unit; therefore, space must be provided for such equipment. Personnel without equipment lose their identity and ability to function as a unit. This type loading permits the delivery of troops and equipment into the objective area organized, intact, and ready to fight. Furthermore, elements of the transportation equipment may become detached or separated from the main force. If this occurs, organized troops with their equipment and assigned leaders stand a much better chance of survival and of eventually rejoining the main body. This principle is particularly important in planning movements into a combat objective area.

(4) Centralized control. Centralized control over all available transportation is established to obtain the greatest possible movement capacity. Independent utilization of transportation is not efficient. Although this principle is primarily applicable to levels of command exercising control over several modes of transportation (e.g., Communications Zone), it can be applied at battalion level. Centralized control or pooling of the cargo vehicles under the battalion S4, when and wherever possible, increases flexibility and insures maximum utilization of transport. Transportation equipment and facilities must be distributed to meet the requirements of all agencies of the command. The commander and staff must know at all times the movement requirements within the command and the capabilities and limitation of available transport. Such knowledge is a requisite of successful movement planning.

(5) Flexibility. Changes in the tactical situation and revision of transportation allocations make it imperative that our movement plans be flexible. This is particularly important in planning airborne movements, as a change in the type aircraft allocated may necessitate a revision of the air loading table. This is also true in rail movements where the capacity of rolling stock varies. Military operations require an even and continuous flow of men and material to the forward areas with sufficient flexibility to permit emergency movement.

b. The principles of movement planning are interdependent. Flexibility and maximum utilization of transportation equipment are contingent upon centralized control. Maximum utilization of transport facilities is impossible without prompt loading and unloading of transportation equipment, which reduces turn-around time. Adherence to all principles of movement planning is required to provide combat elements with the maximum transportation support - the ultimate aim of movement control.

c. Movement plans are simplified and the efficiency with which movements are conducted are greatly increased through the development of a unit SOP. The SOP should cover organization for movement, type-loads for given vehicles, and detailed stowage plans for each organic vehicle. Additionally, it should outline the duties of all echelons of command, to include the squad leader, relative to the preparation for and conduct of the move with respect to all anticipated modes of transportation.

2. CHARACTERISTICS OF THE MODES OF TRANSPORTATION. While the selection of the mode of transportation to accomplish troop movements is normally a function of the higher levels of command (e. g., Division, Corps, or Army); it is essential that movement planners at brigade and battalion level be familiar with the inherent advantages and disadvantages of each mode. This knowledge will permit the planner on these levels to anticipate the most logical type of movement since the characteristics of the various modes are the governing factors in the final selection. In addition, this information is necessary if the principles of movement planning outlined above are to be effectively applied. The modes of transportation are characterized as follows and are discussed in their relative order of importance to the infantry officer.

a. Highway transportation is characterized by its flexibility and adaptability to changing tactical situations. It can readily be employed in combination with other modes of transportation, and is well suited for short haul and distribution activities. An assessment of the advantages and disadvantages of the highway mode of transportation should include the following considerations:

(1) The ability of highway transportation to reach an infinite number of points which cannot be serviced by rail, water, or fixed-wing air transport is an outstanding advantage. This advantage is limited by the type of roads available and/or the nature of the terrain which must be negotiated in cross-country operations. It is unequalled for rapid improvisation of a land transport system, an important consideration in military operations.

(2) The capability of trucks and trailers to transport bulky and heavy items has increased in recent years with the development of special purpose type vehicles. However, the capability of the highway mode is limited in this respect by the capability of roads and bridges to bear such traffic.

(3) Highway transport does not require elaborate terminal facilities; thus fast pick-up and delivery service can be furnished. This in turn eliminates the necessity to pack and crate as strongly as is required when shipping by rail or water.

(4) Highway transport is most economically utilized for short hauls, and for pick-up and delivery service in conjunction with other modes of transportation. However, efficient truck operations can be conducted over long distances. Long distance trucking operations tend to become less economical than rail movements, except for specialized cargo which would require extensive packaging, crating, or special handling if moved by rail.

(5) Because of its more simple and direct routes and circumvention of terminal and freight handling bottlenecks, highway transport renders relatively fast service. While the miles-per-hour speed in transit is relatively high, the speed of service attributed to highway transport is more applicable from the point of view of elapsed time between shipper and receiver.

(6) Highway transportation is less dependable than rail. Mechanical failure, weather, traffic congestion, and driver fatigue pose greater problems in highway operations than in rail operations.

b. Air transportation is characterized by high speed and freedom of movement over terrain obstacles. New developments and technological improvements in the design and construction of all types of aircraft continue to expand the fields in which this mode may be used. However, the high cost and maintenance problems continue to be a major obstacle to its employment in the movement of mass tonnages. Principal considerations in the assessment of the air mode of transportation include the following:

(1) Aircraft are not hampered by topography and easily overcome most natural obstacles and barriers which so definitely hamper other modes of transportation.

(2) Due to its speed, air transport is particularly well adapted to the movement of high priority cargo in small quantities over long distances. Because of the location of airports, the need for supporting mode of ground transportation, and the extra handling involved, the speed obtainable by the air mode is not significant for short hauls.

(3) Air transportation is highly flexible. Equipment can readily be shifted from one place to another to meet peak loads or new transport requirements. The same type of equipment can be used on long or short hauls with reasonable efficiency, and, with minor modifications, the same equipment can be used for both passenger and freight hauls. The availability of airports and the supporting facilities of air terminals is a limiting factor to the flexibility of air transport.

(4) Commodities shipped by air require a minimum of packing and crating. Because of the small amount of freight that can be carried in each plane load, there is no necessity for accumulating loads at the terminal, and little loss of time for interchange at junction points.

(5) Air transport is vulnerable to enemy ground and air attack, and is subject to weather conditions, especially snow, fog, and high winds.

c. Rail transportation is characterized by its capability of handling large volumes of traffic over long distances at relatively rapid speed. A brief analysis of the advantages and disadvantages of this mode of transportation includes the following considerations:

(1) Dependability is an especially important advantage of rail transportation. The railroads are relatively unaffected by weather conditions and have equipment to quickly combat delays occasioned by washouts or heavy snowfall. For long hauls, the arrival time of freight shipped by rail is consistently predictable.

(2) Railroads can move large volumes over long distances at low ton-mile costs but are not economical for short hauls. It is more economical to move small amounts of freight by some other means, even over long distances; this is especially true of very costly or fragile items.

(3) The railroads can move practically any type of cargo, regardless of size or weight. Clearance along the right-of-way, capacity of bridges and trestles, and steep grades are definite limitations. Except for unusually wide cargoes, the railroads are ofen able by circuitous routing to surmount many of these limitations.

(4) As it is confined to a fixed route, rail service is inflexible. It usually must be augmented by other modes of transportation. As a result, the railroads have numerous and convenient terminal facilities. While this is an advantage, in one respect, it is also a disadvantage especially for short hauls. There is much time expended in delivery and pickup service, as well as processing and handling at the terminals.

(5) Because their route and right-of-way is fixed, railroads are vulnerable to enemy action. While the tracks themselves can be quickly repaired, the destruction of terminals or key structures can materially affect the capability of railroads to furnish adequate service.

d. Water transportation includes ocean, coastal, and inland waterway shipping. This mode is characterized by its ability to transport large volumes of traffic at low per unit cost over great distances at slow speeds. Included in an evaluation of this mode of transport are the following considerations:

(1) Water transportation is low cost transportation. It can carry any caro that can be transported; it provides ample capacity for tremendous tonnages of bulk or packaged freight.

(2) Within its operating medium, it is extremely flexible; it can reach any part of the world that has harbors or water ports, and can readily change port of call. On the other hand, instances are few in which transfer of freight to some other mode is not required.

(3) An additional limitation to the flexibility of water transport lies in the facilities of ports. Berthing and channel depths, as well as the capacity and versatility of freight handling equipment must be considered.

(4) Water transportation is the slowest of the transport modes.

(5) Water transport service is seasonal in many parts of the world. Flood and drought conditions affect the capacity of rivers and inland waterways to handle different vessels of varying drafts. Winter weather curtails, and in many cases renders impossible, the operation of ports and waterways. Proper transportation planning will offset many of these limitations due to weather, but delays or losses due to unpredictable weather must always be considered in advance.

(6) Water transportation equipment is vulnerable to enemy air attack, as are port and harbor facilities.

3. ACTIONS BY AGENCIES UTILIZING TRANSPORTATION. In order to obtain the maximum use of transportation, users must accomplish the following:

a. Shippers:

(1) Prepare estimates of future movement requirements, eliminating all unessential moves so that plans will be valid.

(2) Assemble, in advance of the arrival of transportation equipment, personnel and equipment required to accomplish loading.

(3) Identify shipments properly and adequately to facilitate movement by transportation personnel.

(4) Prepare required documentation carefully.

(5) Load transportation equipment rapidly and in accordance with the requirements of the shipments and of the transport services concerned.

(6) Whenever possible, confine loads to one commodity consigned to one destination. This should be done not only with individual units of transportation equipment, but also with groups or convoys.

(7) Load transportation equipment to capacity consistent with operating conditions.

b. Receivers:

(1) Provide, promptly upon the arrival of transportation equipment, required personnel and equipment to accomplish unloading.

(2) Unload and release transportation equipment as rapidly as possible.

(3) Accomplish required documentation.

Appendix VII

FORMAT: LOGISTICAL ESTIMATE

(CLASSIFICATION)

Issuing Section and Headquarters
Place
Time

LOGISTICAL ESTIMATE NO ____

Reference: Maps or Charts

1. MISSION
   Statement of the mission assigned or contemplated.

2. SITUATION AND CONSIDERATIONS
   a. Intelligence.
   b. Tactical.
   c. Personnel.
   d. Civil Affairs.
   e. Assumptions.
   f. Logistical.

3. ANALYSIS
   Analyze each proposed course of action considering supply, transportation, medical service, other services required, and location of logistical installations to determine requirements, availability or capability, and indicate any limiting features.

NOTE: Certain limiting features may be indicated in any given tactical situation. These limiting features may concern: ammunition resupply; supply and evacuation routes; time distance factors; maintenance requirements; friendly tactical dispositions; and location of logistical installations. Seldom will all of these limiting features have significant application to a specific situation, especially at battalion or brigade level. At this level, after completing the ANALYSIS, the S4 selects and retains for consideration in the COMPARISON those limiting features having impact on the successful accomplishment of the mission, those retained are referred to as CONTROLLING limiting features.

4. COMPARISON
   Evaluate each controlling limiting feature in respect to the accomplishment of the mission. Compare proposed courses of action in relation to each controlling limiting feature to determine which course of action can best be supported from a logistical viewpoint. Consider methods of overcoming controlling limiting features.

5. CONCLUSIONS
   a. *Indicate whether mission can be supported.
   b. Indicate which course of action can best be supported logistically.
   c. Indicate, if appropriate, the logistical deficiencies in course(s) of action not listed in subparagraph b above.

(CLASSIFICATION)

(CLASSIFICATION)

d. Indicate other specific items that should be brought to the commander's attention.

/s/_____
S4

Annexes

(CLASSIFICATION)

*The mission can usually be supported at battalion and brigade level.

NOTE: The logistical estimate is not written at battalion and brigade levels. This format may be used to assist in developing a rapid, orderly mental logistical estimate.

Appendix VIII

FORMAT: ADMINISTRATIVE PLAN

(CLASSIFICATION)

Copy Number
Issuing Section and Headquarters
Place
Time

ADMINISTRATIVE PLAN (Number) ____

Reference: Maps or Charts

1. SITUATION
   a. Enemy
      (Obtained from S2)
   b. Friendly
      (Obtained from S3)
   c. Assumptions
      (Use when required as a basis for initiating a plan for an impending operation; unnecessary when factual data or planning guidance is available)
      (1) Tactical
          (To be furnished by S3)
      (2) Personnel
          (To be furnished by S1)
      (3) Logistical
          (Obtained from Div Admin Plan)
      (4) Civil Affairs
          (To be furnished by S3)

2. MISSION
   To provide combat service support for (unit) vic (location)

3. EXECUTION
   a. General
   b. Materiel and Services
   c. Medical Evacuation and Hospitalization
   d. Personnel
      (Furnished by the S1)
   e. Civil Affairs
      (Furnished by the S3)
   f. Miscellaneous

4. MISCELLANEOUS
   (Includes matters not covered above and a statement as to when plan is to become effective)

COMMANDER

Original signed by the commander

Acknowledgment Instructions

Annexes or Appendixes

Distribution

Authentication

S4

(CLASSIFICATION)

Appendix IX

FORMAT: ADMINISTRATIVE ORDER

CLASSIFICATION

Copy Number
Issuing Section and Headquarters
Place
Time

ADMINISTRATIVE ORDER (NUMBER)

REFERENCE: Map or charts.

1. GENERAL.
   a. Purpose of the administrative order.
   b. Traffic circulation plan.

2. MATERIEL AND SERVICES.
   a. Supplies by classes to include miscellaneous supplies.
      (1) Class I.
      (2) Class II and IV..
      (3) Class III.
      (4) Class V.
      (5) Salvage.
   b. Transportation.
      (1) Control.
      (2) Route priorities and limitations.
   c. Service.
      (1) Organization of trains.
         (a) Combat trains.
         (b) Field trains.
      (2) Technical services.
   d. Labor. Policies pertaining to labor supporting logistical organizations.

3. MEDICAL EVACUATION AND HOSPITALIZATION.
   a. Present location of aid stations.
   b. Future location of aid stations.
   c. Allocation of aidmen.
   d. Allocation of evacuation teams.
   e. Evacuation routes.

4. PERSONNEL.
   a. Strengths.
      (1) Strength reports.
      (2) Replacements.
   b. Personnel Management.
      (1) Personnel procedures.
      (2) Civilian personnel.
      (3) Prisoners of war.
   c. Development and Maintenance of Morale.
      (1) Morale and personnel services.
      (2) Graves registration.

CLASSIFICATION

CLASSIFICATION

d. Maintenance of Discipline, Law, and Order.
e. Headquarters Management.
f. Miscellaneous.

5. CIVIL AFFAIRS.
Covers the allocation of civil affairs units, control of refugees, and the feeding and treatment of the civilian population.

6. MISCELLANEOUS.
Special instructions not covered above to include location of headquarters, protection, special reports and other administrative matters.

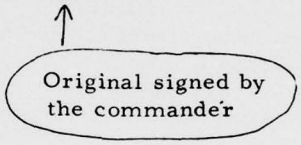
Acknowledgement Instructions

Annexes or Appendixes

Distribution

Authentication
S4

COMMANDER




CLASSIFICATION

Appendix X

EXAMPLE: ADMINISTRATIVE ORDER (OVERLAY TYPE)

(Classification)

(No change from oral orders except paragraph 2a(3)(a))

Copy No 2
TF 2/76
731342
251000 Jun 19__
S14

ADMINO 10

Reference: Map, ITALY, 1:50,000, MARCONI Sheet.

1. GENERAL.
This order provides for the combat service support of TF 2/76 vicinity RIVA (7236).

2. MATERIEL AND SERVICES.
a. Supply:
(1) Class I. One meal, combat, individual issued with breakfast meal 26 Jun for consumption at noon meal 26 Jun.
(2) Class III.
(a) Army Supply Point FIELDSBURG (7111).
(b) Div Distributing Point vic Bde Tns (7434).
(3) Class V.
(a) ASR: 25-27 Jun.
105mm tank gun: 50.
All other types: No restrictions.
(b) SAL: DC/ALFA/.5 KT: 6.
(c) Army ASP 658 vic TOGA (7010).
(d) Army SASP 659 vic TOGA (7010).
(e) DAO vic VICENZO (7126).
(4) Water. Water Supply Point No 3 (737288).
b. Transportation: Transportation for movement of captured materiel beyond capability of units to evacuate requested from S4.

3. MEDICAL EVACUATION AND HOSPITALIZATION.
A2/76 and Tm BRAVO each initially supported with one 1/4-ton and one APC ambulance.

4. PERSONNEL.
a. Strengths.
(1) Reports. Daily strength message as of 1600 hours submitted by 2000 hours.
(2) Replacements:
(a) Members of four-man replacement teams assigned same plat.
(b) Unit commanders orient replacements on PW handling procedures.
b. Civilian personnel. No civilian laborers forward of fld tns.
c. Personnel Services. Mail delivered with evening meal.
d. Discipline, Law and Order. Armored vests will be worn by all personnel.

(Classification)



44316 Pg 84 App X Foldout

5. CIVIL AFFAIRS.
*Maximum assistance feasible afforded civilian evacuation of area.*

6. MISCELLANEOUS.
a. Boundaries: Div rear boundary is div light line.
b. Protection: Tm STRIKE furnish protection for cbt tns until committed.

Acknowledge

BROWN
Lt Col

Distribution: A

OFFICIAL:

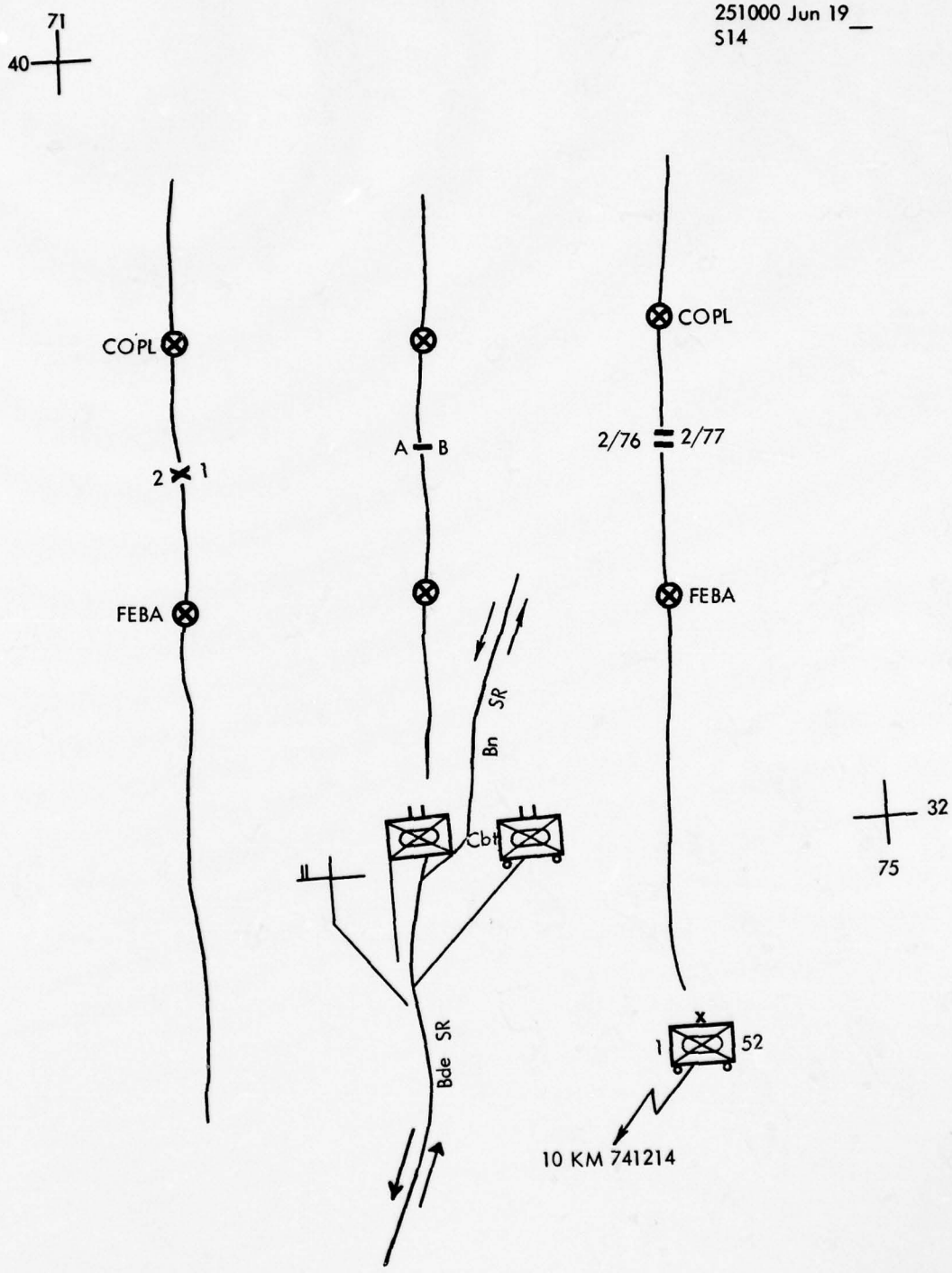
Algood
ALGOOD
S4

(Classification)

tion of area.

t tns until committed.

Copy No 2
TF 2/76
731342
251000 Jun 19__
S14



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